IMPLICATIONS OF RESPONSIBILITY CENTERS FOR SUCCESSFUL IMPLEMENTATION OF THE DEPARTMENT OF DEFENSE RESOURCE MANAGEMENT SYSTEMS

Thesis for the Degree of Ph. D.
MICHIGAN STATE UNIVERSITY
ADRIAN LEO KLINE
LT. COLONEL, USAF
1970

ESIS

LIBRARY
Michigan State
University

This is to certify that the

thesis entitled

Implications of Responsibility Centers for Successful Implementation of the Department of Defense Resource Management Systems

presented by

Adrian Leo Kline
Lt. Colonel, USAF

has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Business Administration

Gardner B. Jones
Major professor

Date February 19, 1970

O-169

BINDING BY
HOAG & SONS'
BOOK BINDERY INC.
LIBRARY BINDERS
SPRINGPORT, MICHIGAN

ABSTRACT

IMPLICATIONS OF RESPONSIBILITY CENTERS FOR
SUCCESSFUL IMPLEMENTATION OF THE DEPARTMENT
OF DEFENSE RESOURCE MANAGEMENT SYSTEMS

by

Adrian Leo Kline
Lt. Colonel, USAF

On July 1, 1968 the Department of Defense (DoD) officially launched an ambitious program called PRIME (an acronym for PRIority Management Effort) to install a responsibility accounting system which is expected to revolutionize the management of resources by DoD components. The responsibility accounting system is based upon the establishment of responsibility centers at the lowest level of military operating management, and the measurement of resource consumption by those centers in relation to their outputs (accomplishment of assigned missions). This dissertation concerns the problems inherent in implementing this responsibility accounting system.

This study advanced three basic propositions:

1) The full benefits generally associated with responsibility center management have not as yet been attained.

2) Assuming 1) is true, a set of viable concepts for the establishment and operation of responsibility centers

would enhance the attainment of these benefits.

3) Assuming 1) and 2) are true, it is both feasible and desirable to develop such a set of viable concepts.

Although these concepts are often associated with the civilian environment, they are adaptable to the military environment. My research was directed toward confirmation or refutation of each of these propositions. Although the obtainable evidence was not of such nature as to "prove" that a proposition was true or not true, the preponderance of evidence was sufficient support to accept each proposition. How was this feat accomplished? The methodology was fairly simple: the three propositions were related to the important issues in Parts II and III (Chapters IV through XII) which resulted in a set of viable concepts (Chapter XIII, Summary of Concepts).

The central issues involved in Chapters IV through XII are: Distributing service unit costs (IV), developing output measure (V), performance reports (VI), internal audit support of PRIME (VII), indoctrination, training, and education (VIII), the budget process (IX), controllability of costs (X), motivation, rewards, and sanctions (XI), and PRIME 70 (XII).

The balance of the study is comprised of: an INTRODUCTION which provides an overview of the dissertation and the environment in which the research took place; a BACKGROUND (Chapters I, II, and III) which discusses the system's origin and the military environment within which

the new accounting system is expected to foster improved management practices; and, CONCLUSIONS (Chapters XIII and XIV): evidence is drawn from Chapters IV through XII to accept the basic propositions and assemble a set of concepts to improve responsibility center management (XIII) and finally, a managerial control device is offered which may prove useful to facilitate the implementation of Resource Management Systems (XIV)--an Operational Readiness Inspection for Resource Management Systems (an ORI for RMS).

In brief, the research methodology was as follows: correspondence, transcripts of meetings and speeches, Department of Defense (DoD) and Air Force directives, and selected books were read to gain useful information; a trip was made to the Pentagon and to the Air Force Institute of Technology to obtain permission to proceed with field trips; and finally, operating officials were interviewed at 10 bases in 7 different major commands. From all this information, eight of the most important problem areas which were detracting from effective responsibility center operations became the central issues for Chapters IV through XI.

A summary of the concepts developed from these eight chapters (IV through XI) is as follows:

IV. - The potential for more efficient use of resources appears to justify the early implementation of a program to distribute service unit costs.

V. - An Output Measurement Program appears to be justified by the vital role output measures play in enhancing the

usefulness of cost data and adding credence to the much desired shift of managers' focus from financial inputs to performance outputs.

VI. - Since expense based performance reports serve an important purpose as control devices in the financial management process, advantage should be taken of these benefits by improving the initial, basic performance reporting system.

VII. - As a valuable contribution to the control element of the basic management process, internal audit support should emphasize systems weaknesses and critical issues (such as identified in this study). The depth and duration of audit support accorded RMS should be commensurate with the vital role RMS can play in lending credence to Air Force efforts to upgrade efficiency into perspective with effectiveness as managerial objectives.

VIII. - A vastly improved Indoctrination/Training/Education program is needed to support the PRIME implementation because: deeply ingrained thought and action patterns of certain financial managers should be changed; significant personnel turnover is a continuous problem; complex, integrated systems characterize Air Force operations; and, the need for increased efficiency in the use of scarce resources is becoming intensified.

IX. - There are several important changes necessary to instill credibility in the budget process and reasonableness in the operating budgets so that budgeting can become a powerful motivator of financial managers instead of an

effective demotivator.

X. - Significant benefits can be gained by solving the problems associated with cost controllability because it appears to be the key issue in upgrading efficiency as a dual objective (with effectiveness) for financial managers.

XI. - It behooves the Air Force to strive continually to improve its motivational systems since such systems are essential to efficient use of the most important scarce resource--man himself.

IMPLICATIONS OF RESPONSIBILITY CENTERS FOR SUCCESSFUL IMPLEMENTATION OF THE DEPARTMENT OF DEFENSE RESOURCE MANAGEMENT SYSTEMS

by

Adrian Leo Kline
Lt. Colonel, USAF

A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Accounting and
Financial Administration

1970

G62806
7-1-70

To my father and mother, Berger and Maxie Kline, who endowed me with the set of genes that sustained the educational effort culminating in this dissertation and a Ph.D.

ACKNOWLEDGMENTS

Dr. Gardner Jones has been "Mr. Everything" to me--advisor, Chairman of the Dissertation Committee, chaplain in time of need, motivator to greater achievement, and friend. Other members of the dissertation committee, Dr. Harold Sollenberger and Dr. Bruce Coleman, not only made helpful suggestions but also caused the writing of this dissertation to be a valuable learning experience. Dr. Herman Struck triggered a sustained effort to upgrade my rhetoric with his inspirational writing course for Ph.D. candidates.

Dr. James Don Edwards, Chairman of the Department of Accounting and Finance, deserves plaudits for his exemplary leadership during the year he was Director of Doctoral Programs. The changes made in the doctoral program during his tenure had a positive effect on my program and will be of even greater benefit to fellow officers in future years.

Drs. Roland F. Salmonson and Floyd Windal provided valuable advice, counsel and encouragement in the accounting and quantitative analysis fields, as did Dr. R. Winston Oberg in the management field. Dr. Salmonson's support during the crucial dissertation proposal stage was particularly beneficial.

The sincere interest, depth of understanding, and monetary support provided by Major Walter B. Timberlake, Jr. Program Monitor, Air Force Institute of Technology, helped me over several rough spots and greatly facilitated the research effort. Another Air Force-type that helped me significantly during the research phase was Mr. Michael E. Simon, Deputy Assistant Comptroller of the Air Force for Accounting and Finance.

The old adage that "a friend in need---" certainly applies during the trials and tribulations involved in getting a Ph.D. Lt. Colonel Charles Coen, Major Joseph McHugh, and Mr. Lou Jacoby proved to be friends I could depend upon in time of need.

And finally, the most important support one can have was not lacking for me during this difficult period: My wife, Alverda, not only managed our home in her usual capable manner but also did a fine job of typing my papers, correspondence, and this dissertation. That Alverda and my daughter Adria were able to survive my irascible moments is a tribute to their understanding and patience. My son-in-law Charles Wood, daughter Sharyn, and grandson "Little Wes" provided a strong source of support and encouragement--I certainly didn't want my grandson to grow up thinking grandpa was a failure.

TABLE OF CONTENTS

	Page
LIST OF TABLES	xi
LIST OF FIGURES	xi
LIST OF SYMBOLS, ABBREVIATIONS, OR NOMENCLATURE	xii
INTRODUCTION	
General Information	1
Dissertation Mechanics	5
Research Environment	16
PART I -- BACKGROUND	27
Chapter	
I. PROJECT PRIME AND THE USAF	28
Introduction	28
The Origins of PRIME	28
Congressional Setback	31
Comptroller General Approval	33
Congressional Acquiescence	35
The PRIME System	36
Relationship of PRIME to "PPBS"	36
II. SOME PROBLEMS IN COMMUNICATION	38
Introduction	38
Communicating the Purpose	40

Chapter		Page
	The Concept of Expenses.....	42
	Pay As You Go.....	43
	Stock Funds.....	44
	Complexity of Accounting.....	45
	Possible Solutions.....	46
	Conclusion.....	46
III.	THE MILITARY ENVIRONMENT.....	48
	Introduction.....	48
	Command & Control Over Military Operations.....	49
	Resource Requirements, Procurement, & Allocation.....	50
	Management Information & Control Systems Design.....	50
	Base Level Environment - Effect of Centralization.....	51
	Summary.....	52
	PART II -- PRIME 69.....	54
IV.	DISTRIBUTING SERVICE UNIT COSTS.....	55
	Purpose of Chapter.....	55
	Introduction.....	55
	Centralization.....	60
	Administrative Costs.....	60
	Test Results.....	61
	Programming Implications.....	65

Chapter | Page

Consumers' Choice, Measurability, & Benefiting Service..... 67

Managerial Motivation..... 68

Summary..... 71

V. DEVELOPING OUTPUT MEASURES..... 73

Purpose of Chapter..... 73

Introduction..... 73

Centralized Control & Test Results.... 76

Output Measurement Selection Criteria. 82

Programming Implications..... 84

Managerial Motivation..... 86

Managerial Expertise..... 89

Operational Alternatives..... 91

Follow On Improvements..... 93

Chapter Summary..... 95

VI. PERFORMANCE REPORTS..... 97

Purpose of Chapter..... 97

Introduction..... 97

Desired Features..... 100

Centralized Control..... 105

Manpower Requirements..... 110

Managerial Expertise..... 111

Chapter Summary..... 114

Chapter		Page
VII.	INTERNAL AUDIT SUPPORT OF PRIME.....	116
	Introduction.....	116
	Background.....	117
	Audit Support Policy.....	121
	Audit Support Rendered.....	123
	Chapter Summary.....	134
VIII.	INDOCTRINATION, TRAINING, AND EDUCATION.....	136
	Purpose of Chapter.....	136
	Introduction.....	136
	Planning.....	138
	Content.....	143
	Continuity.....	149
	Direction.....	151
	Chapter Summary.....	153
IX.	THE BUDGET PROCESS.....	155
	Introduction.....	155
	Sponsorship & Participation.....	160
	Controllability of Costs.....	165
	Continuous Education.....	166
	Credibility & Attainability of Goals...	168
	Budget vis-à-vis Accounting.....	178
	Cost.....	180
	Review.....	181
	Approval.....	182
	Chapter Summary.....	183

Chapter		Page
X.	CONTROLLABILITY OF COSTS.....	186
	Purpose of Chapter.....	186
	Introduction.....	187
	Degree of Centralization.....	190
	Managerial Motivation.....	199
	Systems Support.....	208
	Chapter Summary.....	210
XI.	MOTIVATION, REWARDS & SANCTIONS.....	211
	Purpose of the Chapter.....	211
	Introduction.....	213
	Conceptual Theories.....	217
	Research Observations.....	233
	Chapter Summary.....	238
	PART III -- PRIME 70.....	242
XII.	PRIME 70.....	243
	Purpose of Chapter.....	243
	FY 70 In Brief.....	243
	Conclusions.....	246
	PART IV -- CONCLUSIONS.....	247
XIII.	SUMMARY OF CONCEPTS.....	248
	Purpose of Chapter.....	248
	Introduction.....	248
	Set of Concepts.....	249

Chapter Page

General Concept..... 255

XIV. OPERATIONAL READINESS INSPECTION FOR RESOURCE MANAGEMENT SYSTEMS (ORI for RMS). 256

Purpose of the Chapter..... 256

Introduction..... 256

ORI Methodology..... 258

Summary..... 261

APPENDIX

A. BUDGETING FOR AIR FORCE NEEDS..... 263

Purpose of the Appendix..... 263

Air Force Budget Implications..... 264

OSD Budget Implications..... 273

Budget Implications of PRIME..... 279

B. FIVE-YEAR DEFENSE PROGRAM (FYDP)..... 284

Introduction..... 284

Description of FYDP..... 285

Accounting System for Operations..... 290

Conclusion..... 291

C. RESEARCH METHODOLOGY..... 293

Interviews..... 293

Interview Guide..... 293

Interview Checklist..... 294

LIST OF REFERENCES..... 298

LIST OF TABLES

Table		Page
1.	LOCAL AUDIT REPORTS ISSUED IN SUPPORT OF PRIME	127
2.	CENTRALLY DIRECTED SUMMARY REPORTS ISSUED IN SUPPORT OF PRIME	128

LIST OF FIGURES

In The Chapters

Figure		Page
1.	SIMPLIFIED BASE LEVEL ORGANIZATION	17
2.	CLOSED LOOP SYSTEM	22
3.	SERVICE UNIT CONCEPT	57
4.	SHIFT OF MANAGER'S CONCERN	75
5.	OUTPUT MEASUREMENT CONCEPT	76
6.	ACCOUNTING FRAMEWORK FOR PLANNING AND CONTROLLING	99
7.	PERFORMANCE REPORTS	99
8.	INTERNAL AUDIT SUPPORT	117
9.	INDOCTRINATION, TRAINING, AND EDUCATION	139
10.	THE BUDGET PROCESS	160
11.	COST CONTROLLABILITY	191
12.	GENERAL CONCEPT	249

In Appendix A

1. DEPARTMENT OF THE AIR FORCE BOARD STRUCTURE..... 267

2. COMMITTEES AND PANELS..... 268

3. THE BUDGET PROCESS..... 269

4. FORCE DEFINITION..... 270

5. BUDGET FORMULATION..... 271

LIST OF SYMBOLS, ABBREVIATIONS, AND NOMENCLATURE

AF--Air Force

AFLC--Air Force Logistics Command

ATC--Air Training Command

BoB--Bureau of the Budget

CC--Cost Center (See p. 18)

CO--Commanding Officer

C/S--Chief of Staff, United States Air Force

CY--Calendar Year

DoD--Department of Defense

EDP--Electronic Data Processing

FC--Functional Category (See App. B)

FIRM--An acronym for Financial Information for Resource Management (See p. 3)

FY--Fiscal Year

FYDP--Five Year Defense Program (See App. B)

GAO--General Accounting Office

Hq or HQ--Headquarters

IT&E--Indoctrination/Training/Education (See Chapter VIII)

JCS--Joint Chiefs of Staff

MEP--Management Engineering Program (See p. 194)

MFP--Major Force Program (See App. B)

MRS--Motivation/Rewards/Sanctions (See Chapter XI)

NCO--Noncommissioned Officer

OJT--On-the-Job-Training

O&M Funds--Operations and Maintenance Funds (See p. 15)

ORI for RMS--Operational Readiness Inspection for Resource Management Systems (See Chapter XIV)

OSD--Office of Secretary of Defense

PE--Program Element (See App. B)

P.L.--Public Law

POL--Petroleum, Oil, and Lubricants

PPBS--Planning-Programming-Budgeting System

PR--Purchase Request

PRIME--an acronym for PRIority Management Effort (See p. 21)

RA--Resource Advisor (See p. 19)

RC--Responsibility Center (See p. 18)

Recce--Reconnaisance

RMS--Resource Management Systems (See p. 4)

R.S.--Revised Statutes

RUI--Resource Utilization Inspection (See Chapter XIV)

SECDEF--Secretary of Defense

TDY--Temporary Duty

UOO--Undelivered Orders Outstanding

USAF--United States Air Force

USC--United States Code

INTRODUCTION

General Information

Purpose of this Chapter

The initial chapter is divided into three sections to introduce the reader to the dissertation:

1) This General Information section provides an overview of the dissertation and the environment in which the research took place. Certain key terminology is defined to facilitate understanding of the research environment. And lastly, the reader is given initial exposure to the three basic propositions which are keystones to the dissertation.

2) The Dissertation Mechanics section gives the reader a roadmap to lead him through the entire dissertation to include: a discussion of the dissertation structure; a detailed presentation illustrating how the causal relationships of research data are presented; a discussion of how research data were gathered; and, a listing of dissertation parameters and assumptions.

3) The Dissertation Environment section is divided into three parts: the first part focuses on base level operations by providing a general description which includes a discussion of how base level operations were affected by the Secretary of Defense's decision to implement the new expense

based management accounting system (PRIME--an acronym for PRIority Management Effort). In the second part desired base level operations are discussed in the context of the Office of Secretary of Defense (OSD) goals and aspirations associated with PRIME and related procedures. And, the third part includes a brief discussion of some of the problems encountered during the early stages of implementing PRIME, and also suggests approaches to solving these problems.

Overview

On July 1, 1968 the Department of Defense (DoD) officially launched an ambitious program to install a responsibility accounting system which is expected to revolutionize the management of resources by DoD components. The responsibility accounting system is based upon the establishment of responsibility centers at the lowest level of military operating management, and the measurement of resource consumption by those centers in relation to their outputs (accomplishment of assigned missions). This dissertation concerns the problems inherent in implementing this responsibility accounting system. The end-product of the dissertation effort is to be a set of workable concepts for establishing and operating responsibility centers in a large, complex, interdependent organization--the US Air Force (USAF). These concepts should assist in making broad DoD objectives operational at the responsibility center level in the Air Force.

Since the Air Force is sponsoring my Ph.D. program, this dissertation is, of necessity, oriented to military needs.

However, the concepts which emerge from this study should generally be applicable in complex, interdependent, hierarchical civilian organizations.

Pertinent Definitions/Explanations

There are a few definitions and explanations that are prerequisites for understanding the balance of this chapter.

Project Definitions. - The mechanisms established by OSD to operationalize their short-range goals included a series of projects:

1) Project FIRM (an acronym for Financial Information for Resource Management) was a 1965-66 USAF effort to develop, test, and evaluate a wing base level financial information system to determine the feasibility and merit of basing financial planning and control for operations primarily on expense data.

2) PRIME 69 included the FY 1969 goals which were generally limited to establishing: a rudimentary structure of responsibility centers (RCs) and cost centers (CCs), a workable cost accounting system to generate expense data originating from the cost center level, and a system of management reports to serve all managers from the cost centers to the Office of the Secretary of Defense (OSD).

3) PRIME 70 includes the FY 1970 goals of significantly improving upon the RC/CC structure, the accounting system, and related reports as well as making an effort to overcome certain communication and attitudinal barriers which prevent managers from achieving the full benefits of RMS.

Resource Management Systems (RMS). - The long-range goals to improve operations at all levels are embodied in the following definition of RMS (DoD Directive 7000.1, August 22, 1966): "RMS includes all procedures for collecting and processing recurring quantitative information that relate to resources and are for the use of management. Also included are procedures which are closely related to quantitative systems even though the systems themselves may not be primarily quantitative. Resources are men, materials (i.e., real and personal property), services, and money."

These resource management systems capture data in the lowest denominator required to satisfy multiple reporting requirements. From this initial data base, information is automatically summarized as required by the various organization levels for internal as well as external purposes. Producing such an all-encompassing system may very well take many years.

Three Basic Propositions

The following three basic propositions are advanced which relate directly to Project PRIME:

1) The full benefits generally associated with responsibility center management have not as yet been attained.

2) Assuming 1) is true, a set of viable concepts for the establishment and operation of responsibility centers would enhance the attainment of these benefits.

3) Assuming 1) and 2) are true, it is both feasible and desirable to develop such a set of viable concepts.

Although these concepts are often associated with the civilian environment they are adaptable to the military environment. My research was directed toward confirmation or refutation of each of these propositions. Although the obtainable evidence was not of such nature as to "prove" that a proposition was true or not true, the preponderance of evidence was sufficient support to accept or reject each proposition. How was this feat accomplished? The methodology was fairly simple: the three propositions were related to the important issues in Parts II and III (Chapter IV through XII) which resulted in a set of viable concepts (Chapter XIII, Summary of Concepts). The important issues which were evaluated in relationship to the propositions are portrayed pictorially in a schematic on page11. The subsection on Methodology, of which this schematic is the capstone, should do much to reinforce this initial reference to the three basic propositions and how they will be used throughout the dissertation to develop a set of viable concepts to facilitate the implementation of PRIME.

Dissertation Mechanics

This section should provide the reader a roadmap to lead him through the balance of the dissertation to include insight into structure, content, and methodology.

Dissertation Structure

The dissertation is comprised of an INTRODUCTION and four parts: BACKGROUND (I), PRIME 69 (II), PRIME 70 (III),

and CONCLUSIONS (IV).

BACKGROUND (Chapters I-III). - An examination of the three basic research propositions must necessarily be prefaced by a considerable discussion of the military environment within which RMS hopes to foster improved effectiveness and efficiency of management practices. Although there are significant differences between the operational goals of military versus civilian organizations, the accounting and managerial means of achieving these goals vary much less significantly. Because the responsibility accounting concepts associated with Project PRIME (in a military environment) generally originated within the civilian environment, it is important that I spend considerable time carefully delineating the environment within which the military manager operates.

PRIME 69 (Chapters IV-XI). - These chapters deal with the first hectic (often chaotic) year of implementing Project PRIME which began on July 1, 1968. Important deficiencies and accomplishments were examined; causal relationships involving these deficiencies and accomplishments are described in terms of independent and dependent variables. In certain instances observed practices were contrasted with generally accepted practices and concepts as described by academic authorities. In other instances it was feasible to show that practice deviated from top-level DoD guidance. Also it was possible to offer criteria which should enable managers to narrow a currently unacceptably wide range of

practices. However, in each instance my modus operandi involved the three basic propositions. The overall product should be a set of viable concepts which will enhance the managers' chances of attaining the benefits generally associated with responsibility accounting and enlightened resource management.

PRIME 70 (Chapter XII). - This chapter covers the shift of managerial emphasis during the second fiscal year of implementing PRIME:

1) During FY 69 a new accounting structure and related reporting was established. So, in FY 70 some managers started reaping benefits, for example, from using the base level reports.

2) Certain of the mistakes made during the initial implementation in FY 69 were corrected in FY 70.

3) Gradual progress was made in developing some of the more complex ramifications of responsibility accounting such as output measures which should eventually facilitate cost and variance analysis.

CONCLUSIONS (Chapters XIII & XIV). - By weighing evidence drawn from the three preceding parts of the text, I will accept or reject the three basic dissertation propositions (Chapter XIII). In addition (assuming acceptance of them) I will recommend a method for managers to maximize their utilization of these concepts (Chapter XIV).

Relationship of the Dissertation to Project PRIME

Three Basic Propositions. - The three basic propositions discussed on page 4 tie this dissertation to Project PRIME.

Objectives of the Research. - My main objectives were to gather relevant data and present these data in an orderly form to: 1) test my three propositions, 2) facilitate further study in depth by other managers, and, 3) foster understanding of the barriers to achieving full benefits of responsibility center management envisaged by Project PRIME--because the first step toward a solution involves gaining a full understanding of the problem.

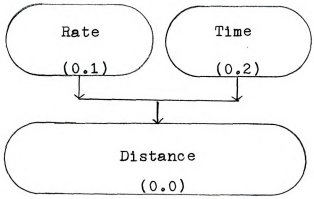
Methodology. - The most difficult step was identifying the important problem areas which were detracting from effective operation of responsibility centers. Generally the broad problem areas have been identified as chapters in Part II (PRIME 69) and Part III (PRIME 70).

The main thrust of Parts II and III developed some of the causal relationships associated with failures to attain desired benefits associated with Project PRIME. Near the beginning of most chapters of Parts II and III I give the reader an overview of the chapter depicted by means of a figure. First, the figure includes a schematic showing a dependent variable which identifies the aspect of responsibility center management whose benefits were not being fully attained. Second, the schematic shows independent variables that were influencing the failure to achieve full benefits. The numbered variables become subheadings and the

chapter proceeds by a discussion of the relationships of variables.

The relationship of variables state the dependence of one variable on one or more other (independent) variables. The variables are presented in the familiar "y is a function of x" form, where the term "function" is used in its mathematical sense.[1] For example, the formula for distance (dependent variable) is rate (first independent variable) times time (second independent variable) or, stated as an equation, d=rt. I will present such information in two other ways (in addition to verbalizing) in the chapters that follow:

1)



DISTANCE CONCEPT

Figure 0

2) $\underset{\text{dependent variable}}{\underset{\downarrow}{(0,0}} : \underset{\text{independent variables}}{0,1, 0,2)}$

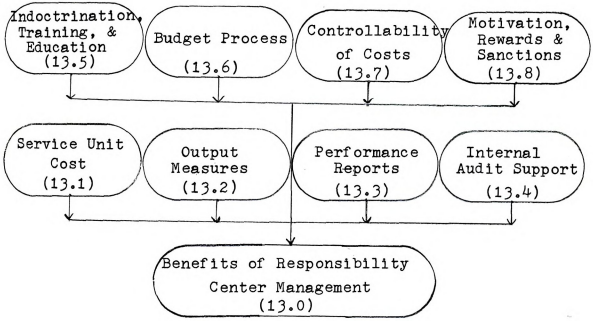
The distinction between dependent and independent variables are assertions about the direction of the causal relationship (just follow the arrows). In the example above, (in both 1) and 2)), I am stating a relationship among the

variables in which the independent variables (0.1 and 0.2) influence the dependent variable (0.0). With regard to the numbers used in the schematics, the number to the left of the decimal point will be aligned with the chapter number. The number to the right of the decimal point will be used consecutively beginning with 0 for the dependent variable and proceeding consecutively through the independent variables.

This method should enable the reader to objectively evaluate my three propositions as he reads each of the chapters--building block by building block. For example (reference Figure 3, page 57), one of the benefits associated with responsibility center management involves distributing service unit costs (this becomes the dependent variable--4.0). The factors that influence achievement of the desired benefits of distributing service unit costs are the independent variables (numbered 4.1 through 4.8). By studying the sections devoted to these independent variables, the reader should be able to evaluate my three propositions and understand the concepts developed from the discussions.

In addition, this methodology of presentation with its roadmap of figures and numbered relationships should provide an acceptable level of cohesion which might not otherwise be achieved. For example, in Part IV, Chapter XIII, Summary of Concepts, this same methodology is used to assimilate the results from Chapters IV through XI. However, in this case the dependent variables from the chapters became the independent variables in the summary--independent variables which

affected the dependent variable "Achievement of Full Benefits Associated With Responsibility Center Management." The reader might find it helpful to keep this schematic in mind when he reads each chapter and decides whether the three basic propositions are substantiated or refuted:



General Chapter Format. - A fixed chapter format was not used, but there is a marked similarity of presentation among the chapters in Part II. As described in the preceding subsection, the chapter framework is embodied in a schematic which is placed near the beginning of most chapters in Part II. Academic and military authorities are quoted to describe the environment and provide relevant information regarding the central issue of each chapter. Research data gathered during the interview sessions are woven into the chapter contents

to modify the authoritative quotations--"to tell it like it is." Since the principal objective of the dissertation is to test the three basic propositions, each chapter contributes to this goal by testing these propositions against the central issue of the chapter. The following outline may be helpful to the reader in visualizing these chapters:

1) Purpose of Chapter
2) Introductory Quotations
3) Schematic
4) Body of Chapter--comprised of sections related to the schematic
5) Chapter Summary--individual chapter contributions to a set of viable concepts to be included in Chapter XIII, Summary of Concepts

Research Approach

My initial interest in RMS was kindled in 1966-67 by correspondence we received at USAF Auditor General headquarters--correspondence which provided a basis for general information, advanced planning, and necessary action. After becoming a doctoral student in mid-1967, discussions with former comptroller personnel (by then students at Michigan State University) who had been working at base level during the early stages of the PRIME implementation provided useful information. But it was information colored by: the narrowness of positions held, understandable confusion encountered during the first year of implementing Project PRIME, and varying degrees of acceptance of abrupt change by prominent

operating officials.

One of the earliest major research efforts involved a thorough reading of papers, transcripts of meetings and speeches, DoD directives, and books pertaining to responsibility center concepts. The general ideas, the broad policies, and the environmental flavor were supplied by these readings as well as some insight into the thinking that led to the decision by OSD to implement PRIME. This library aspect of the research completed a solid basis for submitting a research proposal. The proposal was sufficiently convincing to elicit a positive response from my major professor. A trip to my immediate command headquarters (the Air Force Institute of Technology at Wright-Patterson AFB, Ohio) and to the USAF control point for RMS in the Pentagon produced the final prerequisite approvals to proceed with the research.

An understanding in depth of the problems faced by responsibility center managers required personal probing into specific responsibility center situations. This probing could best be accomplished by extracting experience from those who had been intimately involved in those situations. Of necessity then, direct, intensive interviewing was deemed the most reliable, most viable means of gathering experiential data to supplement the volume of written words on the PRIME implementation.

Receipt of the necessary approvals to proceed with the research triggered a series of trips; I conducted interviews both at policy levels (the Pentagon) and at base operating

levels--with preponderant emphasis at the latter level since my primary interest is concentrated on responsibility centers. A couple of trips sufficed to establish clearly that there was generally a considerable variance among the conceptions of Project PRIME at the Pentagon and out in the field at Air Force installations. Also there were significant variances in understanding and acceptance of RMS among the major commands. So, to obtain an appropriate representation of experience, I visited a wide-range of major command installations (10 installations in 7 major commands).

Throughout the first year (FY 69), the major commands, numbered Air Forces and Air Force installations developed implementing directives of their own which gradually built up the written word at progressively lower levels. I read many of these interpretations to learn how the broad OSD objectives were translated.

Since RMS is quite an extensive, complex and controversial endeavor, my research involved a considerable learning process--especially during the initial trips to the field. At no time did I feel sufficiently expert to derive a list of questions that would dissect RMS/PRIME and pinpoint the problem areas. However, I did learn enough to take advantage of the considerable knowledge, experience, expertise that resource managers possess to test my three basic propositions. The interview pattern, guide, and checklist appear in Appendix C.

Research Parameters

I did not attempt to prove that the responsibility accounting system being installed was or was not effective, nor to evaluate the underlying assumptions upon which DoD policy-level planners made the decision to install the system. Instead, I examined the process of developing and installing the system itself, given that the policy decision had been made. Although the idea of such a responsibility accounting system had been well described in broad terms by Dr. Anthony (Assistant Secretary of Defense, Comptroller, 1965-1968) and others at the policy level, the detailed problems of implementation at the operating level were many and substantial. It was these problems that were of concern to me, and to both operating managers and Air Force comptrollers.

My principal concern was confined to operations and maintenance (O&M) funds--rather than the full-range of funds required to support a base level operation. In general, accounting and decision-making associated with capital investment was not covered by this dissertation.

Also, in order to narrow the subject to manageable proportions, I have concentrated on a full-range of responsibility center oriented problems--rather than one or a few problems. For example, the subject of budgeting alone (investigated in depth) may have provided sufficient grist for a dissertation.

Dissertation Assumption

An assumption underlying PRIME is that the benefits associated with responsibility accounting in the civilian environment are generally achievable in the military environment. But in individual circumstances one must temper acceptance of this assumption based upon a knowledge of the effects of an often significantly different military environment. Chapter III is devoted to discussing the military environment. In fact, all of Part I (BACKGROUND) should help the reader envision the military resource manager's environment.

Also, as stated in the preceding subsection (Research Parameters), I do not propose to test the above assumption; it is inherent in the OSD policy decision to undertake the development and implementation of PRIME.

Research Environment

Subsections are provided to explain the research environment:

1) Base Level Operations illustrates a simplified organization and explains the basic functions that were affected by PRIME.

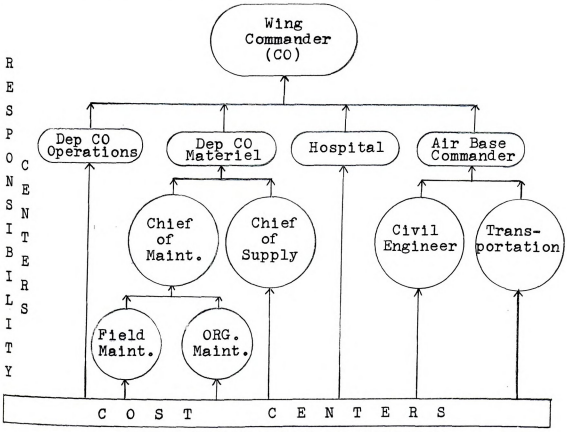
2) Desired Base Level Operations describes the ups and downs of PRIME from OSD's concepts to reality.

3) How to Achieve Desired Base Level Operations discusses some of the problems encountered and offers possible approaches to solutions.

Base Level Operations

The operating (functional) activities at individual air bases were the lowest level of Air Force management. The Air Force's new responsibility accounting system was directed toward the management of resource usages at base level. But base level operations were conducted within the context of broad objectives, policies, and resource deployment decisions made at higher levels (Congress, President, Secretary of Defense, and Chiefs of Staff), as implemented downward through intermediate echelons.

Figure 1 illustrates the operating (functional) activities of a simplified base level organization.



SIMPLIFIED BASE LEVEL ORGANIZATION

Figure 1

The PRIME system was designed to accumulate cost data for all users starting with the cost centers at base level. In the simplified base level organization illustrated by Figure 1 the materiel function was extended through various responsibility centers to the cost center level. In reverse order let's make an examination of the CO's materiel function:

1) The lowest subordinate organizational level for gathering expense data involved the cost centers. Organizationally in Figure 1 these cost centers were units subordinate to the lowest level of responsibility centers--Field Maintenance and Organizational Maintenance. Since cost centers were the building blocks of the accounting system, cost data by element of expense (e.g., military pay, civilian pay, travel, supplies, etc.) were aggregated up through the chain of command to arrive at organizational costs; these costs were also translatable (at the Pentagon level) through the computerized system into Secretary of Defense program terminology as well as into the Congressional appropriation structure. Appendices A and B include further information on this process. Expenses could have been budgeted for at the cost center level but usually they were not.

2) The successively higher organization levels above the cost centers as illustrated in Figure 1 were called responsibility centers. In the illustration, the Field Maintenance and Organizational Maintenance Squadron costs would be aggregated first for the Chief of Maintenance and second with the Chief of Supply for the Deputy Commander, Materiel

responsibility center. Although wide variations in practice did exist, budgeting normally took place at this level--the second-level responsibility centers. The costs and budgets of all the second-level responsibility centers (Operations, Materiel, Hospital, and Air Base) aggregated to form the first-level responsibility center report of the Wing Commander (CO).

The reader should remember that the official in charge of each organizational unit designated as a responsibility center (RC) has an option normally: he can handle the financial management responsibilities himself or he can delegate them; if he delegates this financial management responsibility the incumbent so designated is called a Resource Advisor (RA).

Prior to the "new" expense-oriented responsibility accounting system, base operations were accounted for on an appropriations (obligation) basis--essentially a cash basis. The question may be raised validly: why had the Air Force taken so long to base its management processes on accrued expense information? An answer was given by Major General George E. Brown, USAF Auditor General (at the time a Brigadier General and the USAF Director of Accounting and Finance):

> A piece of the answer is visible when one looks at the world through the eyes of a wing commander. His is an important viewpoint because it is his organization that carries out the mission of the Air Force. All other Air Force activity has no purpose but to help that wing commander do his job well--and that includes accounting system design activity.
>
> The wing commander "owns" and operates an entity of considerable economic dimension. His plant and equipment represent an investment of several hundreds of millions of dollars. His annual operating costs run into

> tens of millions of dollars. Certainly resource values of such imposing proportions deserve the most sophisticated management attention--supported by the most timely, accurate, and meaningful financial information. And certainly the wing commander is interested in seeing to it that these resources are employed efficiently to produce effective results. But many of our financial conventions and non-financial preoccupations stimulate other important interests which can blur his concepts of efficiency. The separate ideas of "efficiency" and "effectiveness" tend to merge. Other goals seem to compete.
>
> The wing commander's dominant, overriding goal is to get and keep his wing ready to perform its military mission without flaw. His report card reflects his boss's judgment of how well he does this primary job. His professional future rests heavily on this report card. He will not ignore the economic efficiency with which his outfit achieves combat readiness, but his attention may be tunneled elsewhere by the compulsion for combat readiness no-matter-what. If it costs X to get 99% combat ready and would cost .5X more to get 100% combat ready, his motivations are such that he would readily spend the additional .5X (if he had it and if the authority were his). And if that remaining percentage point meant the difference between success or failure in combat, let's not be too hasty in judging his action.[2]

Traditionally, Congress provided the USAF large sums of money which were segmentally delimited in amount and purpose. Then, top Air Force officials took these lump sum appropriations and further delimited them at successive levels to support lower level managers' needs.

The traditional accounting system warned the manager when a contemplated financial transaction would cause his obligation authority to be "overdrawn," and continuously apprised him of funds available for obligation.

But base level managers received far less money than the cost of resources consumed. For example, military personnel salaries, aviation petroleum, oil and lubricants (POL), and centrally planned and performed weapons systems maintenance

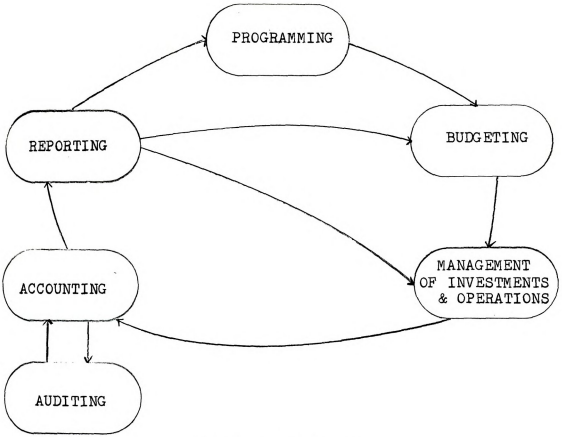
and components were not incorporated in the base level accounting system. Instead, these resources were funded separately and managed centrally; they were "free" goods to the base level managers. So, financial management at base level consisted mainly of funds management--control of limited resource inputs--rather than management associated with outputs and related costs.

From the foregoing one can easily deduce that the traditional accounting system did not: first, provide a closed loop between management accounting data generated by base level managers and the planning, programming, and budgeting activities of top-level managers; or second, facilitate holding base level managers responsible for the resources used to achieve desired output levels. Figure 2 illustrates the skeletal closed loop DoD management process which was envisioned as being appropriate for managing military resources.

Desired Base Level Operations

Project PRIME Goals. - The impetus for improved management at base level came from the highest OSD level in the form of a long-range Resource Management System (RMS) program and a short-range project dubbed PRIME; Project PRIME goals included:

1) Getting managers to focus on operating resources instead of investment; changing managers' thought processes from concern for obligating Congressionally authorized funds to incurrence of expenses to reach established objectives. When achieved, Air Force managers will be on their way to a



CLOSED LOOP SYSTEM

Figure 2

contemporary footing with managers in the civilian environment.

2) Integrating programming, budgeting, and management accounting to achieve a closed loop financial information system. The successful development and operation of the proposed resource management systems depend upon programming, budgeting, and accounting premises which reflect realities and provide a practical management philosophy within the limitations of appropriation restrictions.

3) Changing the accounting and reporting functions to focus on expenses (resource usages) rather than on appropriations--with the long-range goal of charging an operating unit with 100% of measurable expenses. Then Air Force managers can use contemporary management accounting and related analyses as tools to improve their effectiveness and efficiency.

Nature of PRIME. - Chapters I and II of Part I (BACKGROUND) relate the historical beginnings and the ups and downs of PRIME from concept to reality. At this point it suffices to describe the basic nature of PRIME as explained to a Federal Government Accountants Symposium by Dr. Anthony in June 1967:

> You have asked me to describe Project PRIME, and this I can do in one sentence: Project PRIME involves the development and installation of expense accounting for operating activities in the Department of Defense. Really, for an audience of professionals such as this is, that is all I need to say.
>
> I need not add that the system associates expenses with the managers responsible for incurring them, for any good expense accounting system does that.
>
> Nor need I add that the expenses are related to work performed; and that the accounting system is integrated with the programming and budgeting systems; and that expenses are separated from asset acquisitions; and that the transactions are under debit-and-credit control and hence auditable--for these are all perfectly obvious characteristics. In fact, Project PRIME is a quite ordinary kind of expense accounting system; there are no sophisticated techniques or new accounting breakthroughs that we can claim for it.
>
> I could take you down to another level of detail and describe some of the knotty technical problems that had to be solved, and the long and often painful process that we have been through to resolve these detailed problems. ---

So, PRIME was designed to overcome certain of the deficiencies existent in the traditional Air Force accounting

system.

Reaction to FIRM. - But Air Force personnel charged with converting OSD's broad objectives to operational terms at base level found many of the problems of communications and acceptance that could be expected with such a major change. For example Brig. Gen. Brown commented in the January 1966 issue of The Armed Forces Comptroller magazine:

> The launching of Project FIRM was not attended by spontaneous shouts of joy throughout the Air Force. Reactions ranged from here-we-go-again resignation to articulate opposition. In some non-comptroller circles, it was interpreted immediately as another accountant bid for a place in the sun. A good bit of the protest comes from sincere, knowledgeable, practical professionals. They observe that, while accrued expense information is indispensable to successful commercial operations, it is virtually useless in military operations because we simply don't manage our resources that way! So what must change? The way we manage our resources, that's what.[3]

How to Achieve Desired Base Level Operations

But, as Dr. Anthony reported to the June 14, 1967 Federal Government Accountants Association Symposium, the technical aspects of Project PRIME were over-shadowed in importance by problems associated with communications: How to get across a few very fundamental facts; how to identify and correct prevalent misunderstandings; how to get managers interested in--even excited about--the new tools they will be provided. He cited a discouraging comment he heard from the top manager of a large operating activity who said, "I am willing to have you install your accounting system if it doesn't interfere with the system I need in order to manage properly."

These and other critical problems had been foreseen and expressed by some key top-level people. For example, Brig. Gen. Brown stated in 1965:

> After we have designed, installed, debugged, operated and proved an accrued expense system which meets the criteria listed above (plus a long list of others); after this system has been blessed by OSD and GAO; after it has been applauded by the House Committee on Government Operations, then we can begin work on the really challenging part of the job. Getting to this point requires no frontiersmanship, no state-of-the-art advances. It is a complex and tedious task but the techniques have already been invented. The truly monumental task remaining is to install the approved system Air Force-wide and to teach resource managers how to use the powerful data then available to them; to influence their attitudes; to motivate them; to broaden their authority so they can use these data effectively. We must develop objective standards of economic efficiency; measure performance against those standards; reward the efficient manager; snarl at the inefficient. We must do all these things without, in any way, tarnishing the cardinal goal of maximum combat effectiveness.
>
> It doesn't take a very broad perspective to see that efficiency and effectiveness are not inversely related. Indeed, by definition, in an environment of economic scarcity, overall effectiveness varies directly with efficiency. We are sure that all Air Force managers recognize this at the intellectual level. Our task is to achieve this recognition at the action level. Comprehensive accrued expense information makes this possible but it does not make it happen.[4]

In spite of the problems involved during implementation, PRIME was installed and put into operation. The USAF Associate Director of Budget had this to say about PRIME in the spring of 1969--after somewhat more than a half year of implementation: "---although this was not done without considerable strain and pain, and even a certain amount of grumbling, it is a fact that the Air Force today is operating the PRIME system." He was referring to operations at most stateside Air Force bases and certain overseas bases outside the combat areas.

But the long-range RMS goals have by no means been achieved. Logically there will be steady incremental gains made through establishment and achievement of further limited goals in FY 71, 72, etc. Brig. Gen. Brown did an exceptional job of foreseeing in 1965 what is still ahead of us today (more than five years later) when he said that the truly monumental task is to:

> ---teach resource managers how to use the powerful data then available to them; to influence their attitudes; to motivate them; to broaden their authority so they can use these data effectively. ---develop objective standards of economic efficiency; measure performance against those standards; reward the efficient managers; snarl at the inefficient. ---do all these things without, in any way, tarnishing the cardinal goal of maximum combat effectiveness.[4]

---

1. This method of presentation is similar to the one used in an organization theory book: James G. March and Herbert A. Simon, Organizations, John Wiley and Sons, Inc., New York, 1958, pp. 7-9.

2. Brig. Gen. George E. Brown, "Financial Information for Resource Management," The Armed Forces Comptroller, January, 1966, p. 1.

3. Ibid., p. 4.

4. Ibid.

PART I. BACKGROUND

Chapter		Page
I.	PROJECT PRIME AND THE USAF.....	28
II.	SOME PROBLEMS IN COMMUNICATION.....	38
III.	THE MILITARY ENVIRONMENT.....	48

PART I was provided to furnish the reader with an appropriate background knowledge of PRIME to include: historical development of PRIME (Chapter I); initial exposure to some of the problems encountered during the testing and initial implementation of PRIME (Chapter II); and the pervasiveness of centralization and its effects in the military environment (Chapter III).

CHAPTER I

PROJECT PRIME AND THE USAF

Introduction

This chapter presents historical perspective. For much of the material I am indebted to Mr. Michael E. Simon, Deputy Assistant Comptroller of the Air Force for Accounting and Finance. Mr. Simon has been at the hub of the PRIME program since it was announced. In early September 1969 he was preparing an article to examine the PRIME program to date. The draft copy he gave me proved to be an invaluable source for this chapter.[1]

The Origins of PRIME

PRIME is actually one part of the Federal Government's continuing effort to improve financial management. The Budget and Accounting Procedures Act of 1950 and Public Law 84-863 of 1956 require financial management improvements which have yet to be fully implemented. P.L. 84-863, for example, provides for: synchronization between budget and accounting classifications and organizational structure as well as support of budget justification with performance and program costs by organizational units. The Budget and Accounting Procedures Act of 1950 requires Executive Agencies to use accounting

systems that are in accord with the principles, standards and related accounting requirements prescribed by the Comptroller General of the United States.

In May 1966 President Johnson took note of the progress which had been made over the years, but observed that much more was necessary if we were to discharge the responsibility placed upon us by the Budget and Accounting Procedures Act of 1950. He asked the head of each Executive Department and Agency to take immediate action which would get us closer to the goal of using the best business practices in the day-to-day management of our Government:

> I want every manager to think of his part of the total Government in terms of everything he owns, everything he owes and the full cost of doing every job in relation to the products resulting from these costs. I want him to think of minimal costs and cost reduction as profit. And I want him to think in terms of his profit as a result of how he uses all the resources entrusted to him. These goals cannot be fully achieved without sound financial management practices.
>
> Lyndon B. Johnson
> May 24, 1966

In June 1966 the Secretary of Defense (SECDEF) advised the DoD components of changes proposed for the near-term which would implement the President's instructions:

> I recognize that the Military Departments and Defense Agencies have a formidable task in developing and implementing the necessary changes in their own systems, and an equally great challenge in educating managers at all levels in how to use the new tools. Indeed, these tasks are never ending. I do expect that enough of these improvements will be accomplished by July 1, 1967, so that our emphasis can then be shifted to expense accounting in terms of organizational responsibility and program elements.
>
> Robert S. McNamara
> June 13, 1966

The SECDEF accounced a new accounting structure with accounts arranged so that they would provide information in the form needed for programming, budgeting, and assisting operational managers. The focus was on outputs and on resources consumed--in other words, expenses. This would require that costs financed separately from the military personnel and operations/maintenance appropriations be merged for DoD management purposes, although the separate identity of these appropriations would be maintained so as to meet external requirements--until the Congress permits their merger. Shifts between appropriations were to take place so that all consumable items would be funded from the operating appropriations, and investment items would be funded from procurement appropriations. Extensive use of stock funds would permit holding resources in suspense between the time and place of acquisition and the time and place of consumption. Management reports would be structured in terms of organizational responsibility and would relate actual performance to planned performance and actual expenses to planned expenses.

Shortly thereafter, in August 1966, a formal directive was published (DoD Directive 7000.1) entitled "Resource Management Systems of the Department of Defense." This directive established the objectives and basic policies for the improvement of DoD resource management systems. These systems were defined to include all procedures for collecting and processing recurring quantitative information that relates to resources and is for the use of managers. And the

definition included non-financial as well as financial data.

The directive addressed itself to several categories of resource management systems, e.g., systems for (1) Programming, Budgeting and Accounting, (2) Management of Resources for Operating Activities, (3) Management of Inventory and Similar Assets, and (4) Management of Acquisition, Use and Disposition of Capital Assets. The overall program to implement improvements of these systems became known as RMS. The portion of the program slated for early implementation, in accord with the SECDEF's June 1966 memorandum, was termed Project PRIME. PRIME required improvements in the programming, budgeting and accounting system and the system for management of resources for operating activities to be implemented on July 1, 1967.

Congressional Setback

In the ten months available for the effort, the Air Force designed a new budgeting and accounting system for Air Force-wide implementation, issued printed instructions to the field, and attempted to train the technicians who would operate the system. The limitations of the new system were reflected in its appellation: It was invariably referred to as the "interim" system. Three weeks before Project PRIME was scheduled to be implemented, on June 9, 1967, the House Appropriations Committee submitted its report on the Defense Appropriation Bill for FY 1968. The Committee described Project PRIME as a case of "too much too soon" as follows:

1) The Committee evidently thought PRIME represented

a massive change in the DoD budgeting and accounting system which would temporarily diminish Congressional control and which appeared to be proposed for at least partial initiation without due regard for Congressional expression.

2) They directed that there be no such change in the DoD budgeting and accounting system preparatory to the formulation of the FY 1969 budget presentation.

3) The Committee said it would not object to a further test of the proposed new system provided the test did not exceed one major command per military service.

4) They stated that with a year's test experience on a larger and uniform sample, DoD would be better equipped to justify a change if such were to be proposed in the budget for, but not earlier than FY 1970.

5) The Committee deleted more than $52 million of O&M funds which had been identified in the President's budget for implementing RMS.

In August 1967 the Senate Appropriations Committee concurred in the House Report. In September 1967 the DoD Appropriations Act of 1968 became law--including Section 640(b) pertaining to RMS. Section 640(b) stated that:

> During the current fiscal year (FY 1968) none of the funds available to the Department of Defense may be used to install or utilize any new "cost-based" or "expense-based" system or systems for accounting . . . until 45 days after the Comptroller General of the United States (after consultation with the Director of the Bureau of the Budget) has reported to the Congress that in his opinion such system or systems are designed to: (1) meet the requirements of all applicable laws governing budgeting, accounting, and the administration of public funds and the standard procedures established

pursuant thereto; (2) provide for uniform application to the extent practicable throughout the Department of Defense; and (3) prevent violations of the Antideficiency Statute (RS 3679; 31 USC 665).

This section of the Act is significant in several ways. Manifest approval by the Comptroller General and the Director of the Bureau of the Budget and tacit approval by the Congress became prerequisites to implementing PRIME throughout the DoD. While barring DoD-wide implementation of PRIME in FY 1968, the Act did provide a method by which PRIME could be implemented in FY 1969, provided that the necessary approvals were secured.

The Congressional actions had authorized tests of PRIME in FY 1968, and the SECDEF ordered the Air Force to proceed with its test. The Air Training Command was selected to test the "interim" system--the system which was to have been implemented Air Force-wide in FY 1968. The postponement of Air Force-wide implementation gave the Air Force an opportunity to develop a vastly improved accounting system to replace the "interim" system. The new system, dubbed PRIME 69, was tested at Randolph AFB, Texas during the closing months of FY 1968 and, after the events described below, was implemented Air Force-wide in FY 1969.

Comptroller General Approval

All during the test period, the Comptroller General was acting to discharge his responsibilities under Section 640(b) by reviewing the system being developed and tested. On April 12, 1968, the Comptroller General submitted to the Congress his report required by Section 640(b) on the proposed

new budgetin

reported tha

ents of Sec

Bureau of th

offer severa

following:

. .

be usef
those c
while s
current

. .

quality
the Cong
an impro

. .

testing
ation of
features
be worke

. .

take sev
As might
updating
personne
Departme

On April

to the Secret

of the Joint

Defense Agenc

DDR SECDEF ob

to the Congres

new system for

had been under

letter stated:

July 1, 1968,

new budgeting and accounting system for operations. He reported that the new system was designed to meet the requirements of Section 640(b), a view shared by the Director of the Bureau of the Budget. The Comptroller General went on to offer several additional opinions, chief among which are the following:

> . . . the operations of the proposed system would be useful in providing information and controls beyond those currently available in the management process, while still maintaining the extent and validity of data currently provided to the committees of the Congress.
>
> . . . there would be no initial decrease in the quality of information furnished to the committees of the Congress and over a period of time there should be an improvement in the quality of information.
>
> . . . those features of the system subjected to testing are workable, and, on the basis of our evaluation of the system's design, we believe that those features which were not included in the tests would be workable.
>
> . . . implementation of the proposed system will take several years to attain complete effectiveness. As might be expected with any new system, continued updating of techniques, procedures, and training of personnel will be required, regardless of when the Department of Defense is permitted to proceed.

On April 24, 1968, the Deputy Secretary of Defense wrote to the Secretaries of the Military Departments, the Chairman of the Joint Chiefs of Staff, and the Directors of the Defense Agencies regarding implementation of PRIME 69. The DEP SECDEF observed that the Comptroller General's report to the Congress under Section 640(b) strongly supported the new system for budgeting and accounting for operations which had been under development for more than two years. His letter stated: "Therefore, we will install the system on July 1, 1968, subject to the provisions of Section 640(b)."

The latter

after the C

the new syst

the Chairma

approved by

to implement

appeared the

On June

tation of PR

on June 19,

curred. Sen

of Defe
referre
The comm
of this
followi

the

the
be

sys

This con

Senate Confer

Supplemental

DoD should p

accounting pr

the restrictio

day, July 1, 1

The latter referred to the fact that 45 days had to elapse after the Comptroller General's report to the Congress before the new system could be installed. A vigorous rebuttal by the Chairman of the Joint Chiefs of Staff was quickly disapproved by the DEP SECDEF on May 4, 1968. The last hurdle to implementing PRIME was the Congress and, for a time, it appeared that Congress would once again bar implementation.

Congressional Acquiescence

On June 7, 1968, House Report 1531 permitted implementation of PRIME--with some specific modifications. However, on June 19, 1968, the Senate Committee on Appropriations demurred. Senate Report No. 1269 stated:

> . . . the view of the committee that the Department of Defense should not implement the new accounting system referred to as Project PRIME until fiscal year 1970. The committee's action does not constitute a rejection of this proposed system, but is a deferral based on the following factors:
>
> (a) There is a lack of definite information on the cost of the new system. ...
> (b) The proposed system should be reviewed by the new Comptroller of the Department of Defense to be appointed in January of 1969. ...
> (c) Readiness of the services to implement the system on July 1, 1968. ...

This conflict was resolved on July 1, 1968 when a House-Senate Conference Committee considering the FY 1968 Second Supplemental Appropriations Bill announced agreement that: "DoD should proceed with the implementation of budgeting and accounting procedural improvements in accordance with all of the restrictions imposed in House Report 1531." That same day, July 1, 1968, the Air Force implemented Project PRIME.

The implem

tinct types of

made in support

The second appl

operating level

throughout the

In August 1

ment departments

budgeting system

introduced in Go

1) Establi

and objectives.

2) Analyze

head and the Pres

programs to meet

3) Evaluate

costs of programs

4) Present

of programs on a

Public Law 8

financial managem

runners of PRIME.

also. The cost-b

to depart from so

The PRIME System

The implementation of PRIME brought with it two distinct types of change. One of these relates to those changes made in support of higher-level planning and decision-making. The second applies to the improvement of management at the operating level; that is, at Air Force bases and stations throughout the world.

Relationship of PRIME to "PPBS"

In August 1965 the President notified all Federal Government departments and agencies that a planning-programming-budgeting system, commonly referred to as PPBS, was being introduced in Government. The PPBS requires that agencies:

1) Establish long-range planning for national goals and objectives.

2) Analyze systematically and present to the agency head and the President alternative objectives and alternative programs to meet these objectives.

3) Evaluate thoroughly and compare the benefits and costs of programs.

4) Present the prospective costs and accomplishments of programs on a multiyear basis.

Public Law 84-863, a landmark in Federal Government financial management, was cited as one of the legal forerunners of PRIME. This law has an important bearing on PPBS also. The cost-based budgeting requirement was an attempt to depart from sole emphasis on the obligations basis for

budgeting and t
consumed as wel
within the fram
consumed and, w
from those reso

The change
in 1961 was the
In this regard
tending the syst
the loop in DoD
(FYDP-Appendix F
accounting as we
these changes we
four and one-hal
Anthony continue
when he succeede

1. Michael E. Si
"Project PRIME an

budgeting and to emphasize the resources that would be consumed as well. Analyses which underlie decisions made within the framework of PPBS also emphasize resources to be consumed and, where possible, program benefits to be derived from those resources.

The change made in DoD planning and programming methods in 1961 was the forerunner of PPBS. In fact the DoD's progress in this regard led to the President's 1965 proclamation extending the system to other agencies. The PRIME system closes the loop in DoD by establishing the Five Year Defense Program (FYDP-Appendix B) as the internal structure for budgeting and accounting as well as for planning and programming. Many of these changes were initiated by Charles J. Hitch during his four and one-half years as Comptroller of DoD. Robert N. Anthony continued the trend of major change and improvement when he succeeded Mr. Hitch in the summer of 1965.

---

1. Michael E. Simon, Draft copy of an article entitled "Project PRIME and the Air Force," September 3, 1969.

S

As with any
ractices, the i
whole set of pro
This chapter pre
problems experie
subdivisions of
section headings:

1) The Comm
convincing the ma
useful and well w

2) The Conc
plications of con
counting to an ex

3) The Pay
problems associate
the costs of certa
to them without ch

4) The Stock
mething of why t
and mentions one o

CHAPTER II

SOME PROBLEMS IN COMMUNICATION

Introduction

As with any significant change in an organization's practices, the implementation of PRIME brought with it a whole set of problems in communication among USAF members. This chapter presents, in brief, some of the communication problems experienced with Project PRIME.[1] Dr. Anthony's subdivisions of the communication problem will serve as section headings:

1) The Communicating the Purpose section deals with convincing the managers that the new accounting system is useful and well worth the added effort required of them.

2) The Concept of Expenses section discusses the implications of converting from an obligation basis for accounting to an expense basis.

3) The Pay As You Go section makes reference to the problems associated with charging the base level managers for the costs of certain resources which were formerly furnished to them without charge.

4) The Stock Funds section defines stock funds, tells something of why they are increasing in number and scope, and mentions one of the distracting problems that has arisen

5) The Com

less caused by

system.

6) Possibl

conclusion parag

The word "c

lized sense in

assumption. The

1) During

tation phases of

were identified

indoctrination, t

to change; deep-r

practices regardi

conceived beliefs

effectiveness and

2) The seco

that OSD has made

achieve the benef

given that problem

of such results; t

exercise of commun

areas and achieve

So, to "commu

goals of RNS will

utilization of appl

Thus, liberal appl

5) The Complexity of Accounting section discusses problems caused by the inherent complexity of the accounting system.

6) Possible Solutions to the above problems and a conclusion paragraph complete this chapter.

The word "communicate" is being used in a rather specialized sense in this chapter as it includes an important assumption. The assumption is as follows:

1) During the design, testing, and initial implementation phases of Project PRIME, significant problem areas were identified which could be attributed to: a lack of indoctrination, training, and education; a normal resistance to change; deep-rooted attitudes based on long-standing practices regarding desired operating methods; and, preconceived beliefs relative to a proper balance between effectiveness and efficiency.

2) The second half of the assumption concludes: Given that OSD has made an appropriate, irreversible decision to achieve the benefits associated with Project PRIME; but, given that problem areas exist that block the achievement of such results; then, all that is required is the proper exercise of communication expertise to remove the problem areas and achieve the desired results.

So, to "communicate" the message that the short-range goals of RMS will be achieved would logically involve the utilization of appropriate "communicative devices" to include: first, liberal applications of indoctrination, training, and

education (Chap
problems throug
(Dr. Anthony of
of rewards and
thereof) by mana

Chapter XIV
communication pr
effectiveness--a
for RMS.

When the "c
with Chapter I d
Chapter III whic
reader should hav
(PRIME 69), Part

First, and f
accounting system
in fairly large n
as willing to hav
doesn't interfere
properly!"

Why do such a
exist because the
often did not help
in DoD there would
under such circums

education (Chapter VIII); but also, erosion of attitudinal problems through exposure to a superior managerial approach (Dr. Anthony often espoused this view), and proper exercise of rewards and sanctions to recognize achievement (or lack thereof) by managers at all levels (Chapter XI).

Chapter XIV includes my suggestion for facilitating the communication process and at the same time measuring its effectiveness--an Operational Readiness Inspection (ORI) for RMS.

When the "communication" aspects of PRIME are combined with Chapter I dealing with its historical aspects and Chapter III which describes the military environment, the reader should have sufficient background to understand Part II (PRIME 69), Part III (PRIME 70), and Part IV (CONCLUSIONS).

Communicating the Purpose

First, and foremost, the primary purpose of a good accounting system is to help managers manage. But, managers in fairly large numbers seem to have the attitude that: "I am willing to have you install your accounting system if it doesn't interfere with the system I need in order to manage properly!"

Why do such attitudes exist? Basically, these attitudes exist because the accounting systems in some of the agencies often did not help them manage. And if this were not true in DoD there would be no necessity for implementing RMS. Under such circumstances, managers were justified in viewing

accounting as a
needs of extern
Accounting Offi
To some manager
bother to busy
should be shipp
agency that dema
the files and ho

What can be
can be shown tha
But this takes a
impossible until
is operating. A
operations get s
should be the bes

The recent g
allocations by th
by ever-expanding
fallout benefits
are finite; the f
manager believes
any system which
base level with f
fires at the top l
the managers.

A new system
because managers d

accounting as an exercise by and for accountants to meet the needs of external users such as the Treasury, the General Accounting Office (GAO), or the Bureau of the Budget (BoB). To some managers reports should be produced with as little bother to busy operating people as possible; then the reports should be shipped up the chain of command to the outside agency that demanded them, where they would disappear into the files and hopefully never be heard of again.

What can be done to change such attitudes? The managers can be shown that the accounting system will help them manage. But this takes a lot of doing. A concrete demonstration is impossible until the system has been created, installed, and is operating. And, unfortunately, during the first year, operations get somewhat chaotic. So, just when the reports should be the best they are the worst.

The recent greatly stepped-up attention to DoD resource allocations by the Congress and (via the various news media) by ever-expanding elements of the populace may have valuable fallout benefits for the DoD managers. Available resources are finite; the finite limit seldom--if ever--covers what the manager believes is necessary to reach his objectives. So any system which maximizes the matching of resources at the base level with force programs in support of nation objectives at the top level should logically gain support among the managers.

A new system involves change. And change is unsettling because managers dislike uncertainty. The system in being

nay be inadequa
has adapted, ar
nust be shown t
nore than offse
system.

Project PRI
are best control
still aren't cor
to the tradition
For those s
business experie
is an easy one.
which tend to pu
tively few gover
of accounting and
recently. Also,
the set of books
and therefore it
accrual accountin
requires a bit of
Also, for an
does not normally
obligations. For
costs to operate
but vary much whet

may be inadequate, but often it is understood, the manager has adapted, and somehow the job gets done. So the manager must be shown that the pain associated with change will be more than offset by benefits accruing to him from the new system.

The Concept of Expenses

Project PRIME clearly involves the idea that operations are best controlled in terms of expenses. But some managers still aren't convinced that the expense basis is preferable to the traditional obligation basis.

For those skilled in accounting and for those with recent business experience the choice between obligations and expenses is an easy one. However, one must bear several facts in mind which tend to put this problem in perspective. First, relatively few governmental organizations use the expense basis of accounting and those that do have adopted this basis quite recently. Also, most people think of their personal accounts--the set of books they carry in their head--on a cash basis. And therefore it should not be surprising that to many people accrual accounting is a mysterious element that consequently requires a bit of selling.

Also, for an agency as a whole, the aggregate of expenses does not normally differ significantly from the aggregate of obligations. For example, if a Congressman asked what it costs to operate the USAF Finance Center the response would not vary much whether the answer was expressed in dollars of

obligations or
there is a cle
expenses; expen
related output
operating activ

One of the
requires base le
services used to
managers who are
and increased ef
these managers v
upon the lack of
Chapter III adds
is devoted to Co

Distribution
problem. For exa
visions for charg
services rendered
anticipated savin
work. In fact, C
allocation not be
studies were appr
from available re
will be required t
next aspect of res

obligations or dollars of expense. But at the base level there is a clearcut need for separation of obligations and expenses; expenses (resources used) need to be associated with related output to provide an appropriate basis for planning operating activities and evaluating efficiency.

Pay As You Go

One of the important changes associated with PRIME requires base level managers to be charged for goods and services used to reach their objectives. The principle is: managers who are so charged are motivated to be cost conscious, and increased efficiency is normally achieved. But many of these managers vociferously oppose being so charged, based upon the lack of opportunity to control costs at base level. Chapter III adds support to this contention; and, Chapter X is devoted to Cost Controllability.

Distribution of service center costs[2] presents a related problem. For example, initial PRIME planning included provisions for charging organizational users for motor pool services rendered. However, some managers doubted that the anticipated savings would offset the cost of additional paperwork. In fact, Congress directed that this (motor pool) cost allocation not be made in FY 69, but further cost allocation studies were approved--as long as the studies could be made from available resources. So, more effective communication will be required to justify and gain approval for this important aspect of responsibility accounting--the charging of

service center

As a resul
enhanced import
was the convers
fund on July 1,

Stock funds
accounting syste
items in suspens
and the time and
stock fund is me
from local manag
in order to proc
operations. Trad
the base mission;
to do was submit
certain stock num
ous funds.

The managers
simple requisitio
beneficial to the
in accounting who
used for stock fun
maintance can be
of aircraft parts
million dollar air

service center costs to the operating units which they serve.

Stock Funds

As a result of Project PRIME, stock funds took on greatly enhanced importance at base level. The most important example was the conversion of the traditional base supply to a stock fund on July 1, 1968.

Stock funds were an inherent requirement of the expense accounting system because there must be a means for holding items in suspense between the time and place of procurement and the time and place of consumption. Simply stated, a stock fund is merely a revolving fund that must be reimbursed from local managers' funds for supplies and equipment issued, in order to procure replacement stocks to support continuous operations. Traditionally, base supply was funded to support the base mission; all the individual base level manager had to do was submit a requisition for a certain quantity of a certain stock numbered item--without regard to citing his own funds.

The managers did not uniformly embrace this change from simple requisition to "purchase" of stores items as being beneficial to their individual operations. A manager untutored in accounting who does not accept this statement of inherent need for stock funds can be hard to convince. Such a manager's reluctance can be put into perspective by a real-life example. If aircraft parts stores are on a stock fund basis, a multi-million dollar aircraft may be grounded for parts due to a

lack of operati
manager to "buy
is ample invent
a maintenance m
stock funds und
stock fund, or
of acceptance a
aging resources.
and should be fo
sibility of unne
cited.

Finally, th
standing of the
ing system. Mana
the accounting sy
ment reports. Bu
appreciation for-
collecting and as
fortunately this
in unreasonable r
where to stop in
deviating from wha
in the interest of

lack of operating budget dollars to enable the maintenance manager to "buy" a certain part when not 100 feet away there is ample inventory of the part in the supply stock fund. Such a maintenance manager is likely to look with disfavor upon stock funds under these circumstances. But in general the stock fund, or "revolving fund" idea has gained a broad base of acceptance and has proven to be an efficient means of managing resources. Of course, certain refinements are necessary and should be forthcoming; for example, to minimize the possibility of unnecessary grounding of aircraft as previously cited.

Complexity of Accounting

Finally, there is the problem of communicating an understanding of the complexity and detail involved in an accounting system. Managers understand--or think they understand--the accounting system and its products in the form of management reports. But few managers understand--or have a real appreciation for--the complex, detailed activity involved in collecting and assimilating the supporting details. Unfortunately this lack of understanding often manifests itself in unreasonable requests for data. Related problems involve where to stop in prorating costs, and the desirability of deviating from what might be called "pure" accounting theory--in the interest of practical results.

A system

problems--and

First, th

top level manag

Even though the

standable foot

knowledge of wh

gained when eve

decision has be

But, of course,

less is appropri

reinforced with

at this point--I

subjects in Part

in this area (re

In June 196

communication pr

the overall effor

later--there are

solved but my res

Justified. A via

the USAF intends

resource managing

sufficient funding

Possible Solutions

A system builder must recognize these communication problems--and more. What can he do about them?

First, the common, cardinal precept that "the support of top level managers is essential to success" certainly applies. Even though there may be tight time constraints and understandable foot dragging--due partly at least to a lack of knowledge of what should be done--a minimum acceptance can be gained when even the reluctant participants know that "the decision has been made; so, that's the way it's going to be." But, of course, the most important means of unraveling problems is appropriate indoctrination, training, and education reinforced with suitable rewards and sanctions. Enough said at this point--I devote considerable space to these important subjects in Part II, PRIME 69, as much work remains to be done in this area (reference Chapters VIII and XI).

Conclusion

In June 1967 Dr. Anthony concluded that there were many communication problems to be solved but that unquestionably the overall effort was justified. Now--more than two years later--there are still many communication problems to be solved but my research indicates that the effort is certainly justified. A viable expense accounting system is a must if the USAF intends to gain credibility and visibility for its resource managing efforts, which will hopefully encourage sufficient funding by Congress to insure a continuing ability

to support an a

managers at all

aging is perhap

When asked

troller of SAC,

insight:

> Getti
> referring
> troller ar
> for everyo
> their purp
> priate, bu
> commanders
> them "this
> Only in th
> where deci

---

1. Many of the
a talk on June
Association.

2. Chapter IV
mit costs.

3. Brig. Gen.
troller PRO FIL
1969, p. 1.

to support an appropriate national defense posture. Educating managers at all levels to the use of accounting data for managing is perhaps the greatest communication problem facing us.

When asked about major problems he faces as the Comptroller of SAC, Brig. Gen. James M. Keck provided a contrasting insight:

> Getting managers to manage ---. By managers I am referring to leaders and commanders outside the Comptroller area. Comptrollers have been trying to manage for everyone, and in so doing, have partially defeated their purpose. Greasing the squeaky wheel is not appropriate, but it has been the practice. Instead of telling commanders "let us know if you need more" we should tell them "this is what you have--do with it what you can." Only in this way can we truly have effective management where decisions are made at the proper level.[3]

---

1. Many of these problems were pointed-out by Dr. Anthony in a talk on June 14, 1967 to The Federal Government Accountants Association.

2. Chapter IV deals with the subject of distributing service unit costs.

3. Brig. Gen. James M. Keck, "Another in a Series of Comptroller PRO FILES MEET---," The Air Force Comptroller, April 1969, p. 1.

Purpose of Chap

This chapt
of the pervasiv
military enviro
extremely impor
of an accountin
managers at the
a decentralizat
decentralizatio
within an overa
strong, continu

The section
an Air Force Stu
dealt with contr
standardization
effects of centr
and administrati

Air Force Study

Early in 19
that a study be

CHAPTER III

THE MILITARY ENVIRONMENT

Introduction

Purpose of Chapter

This chapter should give the reader a basic understanding of the pervasiveness of centralization and its effects in the military environment. Centralization and its effects are extremely important because PRIME involves the establishment of an accounting system for measuring expenses incurred by managers at the cost center level. So, PRIME really involves a decentralization of responsibility for costs. But this decentralization of responsibility is expected to be implemented within an overall Air Force environment characterized by a strong, continuing trend toward centralization.

The section headings in this chapter represent subjects an Air Force Study Team emphasized in their report which dealt with control over combat forces and resources, systems standardization through centralized systems design, and the effects of centralization at base level on financial, tactical, and administrative operations.

Air Force Study

Early in 1965 the Secretary of the Air Force suggested that a study be made of the financial management requirements

at wing/base l
satisfy these
Seymour-Johnso
qualified USAF
Arthur Anderse
was undertaken
guidelines deve

The office
their beliefs r
and its effects

The s
ment as it
continuing
versus dec
sulting in
ocable, de
of centrali
operating f
however, th
favoring ce

Command

Centralized
military necessi
combat forces ha
in history under
visionary comman
ship in depth.
commanders acting
state of readines
uncertainty of en
preemptive action

at wing/base level to determine whether the current systems satisfy these requirements. The study was conducted at Seymour-Johnson AFB, North Carolina by a team of highly qualified USAF officers and management consultants from Arthur Andersen and Company. Soon thereafter Project FIRM was undertaken to test certain of the recommendations and guidelines developed from this effort.

The officer team member report from that study emphasizes their beliefs regarding the pervasiveness of centralization and its effects. The members stated that:

> The single, most influencing factor in the environment as it pertains to the purpose of this study is the continuing trend toward centralization. Centralization versus decentralization was examined extensively, resulting in the conclusion that centralization is irrevocable, desirable, and beneficial. The adverse impact of centralization on the authority, responsibility, and operating flexibility at lower levels is acknowledged; however, there are compelling, overriding requirements favoring centralization ---.[1]

Command and Control Over Military Operations

Centralized command and control over combat forces is a military necessity not subject to serious challenge. Our combat forces have attained the highest level of effectiveness in history under this concept--especially where strong, visionary commanders have been able to project their leadership in depth. Governing factors include: inability of unit commanders acting independently to achieve the constant high state of readiness dictated by the global nature of war, uncertainty of enemy intent, and our national policy against preemptive action; the complexity, cost, and devastating

striking power
of combat unit
other units.

Resource

Resource
inextricably t
are joint acti
A program deci
advantages and
sent are well
for funds is "
reasonable alt
an impartial p
allocations.

Managemen

Centralize
systems design
of managers at
the massive ser
anization whic
many economic a
Cost is usually
because fewer p
obtainable, and
important benef
reduced trainin

striking power of modern weapons systems; and, the dispersal of combat units which are interdependent or jointly support other units.

Resource Requirements, Procurement, and Allocation

Resource requirements, procurement, and allocation are inextricably tied to planning and programming which, of course, are joint activities of top managers in the OSD and the USAF. A program decision becomes a resource decision. The economic advantages and efficiencies inherent in centralized procurement are well known. Resources are limited and competition for funds is "spirited." For all these reasons, there is no reasonable alternative to judicious resource allocations by an impartial party with the authority to enforce those allocations.

Management Information and Control Systems Design

Centralization of management information and control systems design is a natural consequence of the concentration of managers at the top (DoD) and a requirement dictated by the massive service-wide automation program. Systems standardization which results from centralized design produces many economic advantages and administrative efficiencies. Cost is usually less and systems quality is often higher because fewer people are required, higher qualifications are obtainable, and greater perspective is achieved. Another important benefit associated with standard systems is the reduced training costs which accrue when people can be

immediately pr

between people

and consistent

Base Lev

The decis

sting flexibil

been eroded by

ization and fu

authority, and

requirements.

Financial Opera

The office

typical base se

mixture of cent

(81%) and local

(19%). They ci

Total Oper

Payroll
Milit
Civil
Supplies a
Local
Centr
Aviat
Services a
commun
portat

Critical Operati

Base commar

ost controlled b

ediately productive at new locations. Also communication
ween people and organizations is enhanced by a uniform
consistent data base associated with a standard system.

Base Level Environment--Effect of Centralization

The decision-making authority, responsibility and oper-
ng flexibility of the base level manager have undoubtedly
n eroded by the trend toward centralization. His organ-
ion and functions are generally prescribed by higher
ority, and he plays a minor role in planning his resource
irements.

ncial Operations

The officer team used Seymour-Johnson as a relatively
cal base setup; the financial environment included a
ure of centrally financed (CF), locally consumed resources
) and locally financed (LF), locally consumed resources
). They cited FY 64 expenses:

Total Operating Expenses	CF	LF	Total
Payroll			58%
Military	52%		
Civilian		6%	
Supplies and materials			36
Locally funded		7	
Centrally funded	15		
Aviation POL	14		
Services and other (Rent, communication, transportation, travel, etc.)		6	6
	81%	19%	100%

al Operations

ase commanders have their operations centrally directed
ntrolled by elaborate management control and combat

readiness rat

levels are de

training requ

status of com

tenance--selec

ported daily s

Consequently t

notivated towa

tional capabil

higher authori

tional militar

Administrative

Supervis

centralized di

functional ope

personnel, com

ardized system

coming into be

sent becomes a

goals--integrat

The

as discuss

and econom

centraliza

standardiz

monitored

making and

operation

ready unit

this in ac

higher aut

adiness rating systems. Daily operations and activity
vels are derived from flying hour programs and standard
aining requirements established by the major command. The
atus of combat crew training, aircraft, missiles, and main-
nance--selected factors affecting combat readiness--is re-
rted daily and monitored continuously by higher authority.
nsequently base commanders are predominantly oriented and
tivated toward attainment of performance goals and opera-
onal capability standards traditionally established by
gher authority--those factors which rate high in the tradi-
onal military "scoring system."

inistrative Operations

Supervisors of administrative activities also receive
tralized direction and control across a broad spectrum of
ctional operations. For example, supply, maintenance,
sonnel, comptroller, and manpower authorization have stand-
ized systems in being, with refinements and new applications
ing into being continuously, as more sophisticated equip-
t becomes available and--associated with long-run RMS
s--integrated systems become the order of the day.

SUMMARY

The military team concluded that: Centralization as discussed herein is justified as a matter of military and economic necessity. Primarily as a result of centralization, operations at wing/base are highly standardized, centrally controlled, directed, and monitored with little authority for independent decision making and operating flexibility. The essence of the operation is to train and maintain a combat-capable and ready unit with the resources provided, and to accomplish this in accordance with performance standards set by higher authority.[2]

Centrali

military and e

readers of the

commanders and

little but bli

tions to reach

regard for eff

plans. As a m

managers recog

resource usage

this dissertat

managers canno

the highly cen

---

1. Air Force S

2. Ibid., p. 9

Centralization appears to be justified as a matter of itary and economic necessity. However, it appears that ders of the Air Force report may get the idea that local manders and supervisors of functional operations can do tle but blindly follow a set of minutely detailed instruc- ns to reach their centrally directed goals--with little ard for efficiency except as incorporated in the "canned" ns. As a matter of fact, in establishing RMS, top level agers recognized that there are substantial areas of ource usage subject to local decision; later chapters of s dissertation should dispel the illusion that base level agers cannot significantly affect resource usage within highly centralized Air Force environment.

Air Force Study of Seymour-Johnson AFB, 1965, p. 4.

Ibid., p. 9.

Chapter

IV. DIST

V. DEVE

VI. PERF

VII. INTE

VIII. INDO

IX. THE

X. CONTI

XI. MOTIV

PART II ut

the INTRODUCTIO

basic dissertat

important issue

PART II. PRIME 69

er		Page
IV.	DISTRIBUTING SERVICE UNIT COSTS.....	55
V.	DEVELOPING OUTPUT MEASURES.....	73
VI.	PERFORMANCE REPORTS.....	97
II.	INTERNAL AUDIT SUPPORT OF PRIME.....	116
II.	INDOCTRINATION, TRAINING, AND EDUCATION.....	136
X.	THE BUDGET PROCESS.....	155
X.	CONTROLLABILITY OF COSTS.....	186
I.	MOTIVATION/REWARDS/SANCTIONS.....	211

ART II utilizes the research methodology described in TRODUCTION (see page 8) to confirm or refute the three lissertation propositions by relating them to the int issues in Chapters IV through XI.

This chap
derived from d
factors which
section a sche
relationship o
the factors wh
variables).

Motor pool
because they a
Congressional

The body o
of the independ
These discussio
whether the Air
benefits associ

Since PRIM
attention and c
the subject of

CHAPTER IV

DISTRIBUTING SERVICE UNIT COSTS

Purpose of Chapter

This chapter evaluates the management benefits to be ived from distributing service unit costs in the light of tors which affect these benefits. In the Introduction tion a schematic (Figure 3) is provided which portrays the ationship of these benefits (the dependent variable) to factors which affect these benefits (the independent iables).

Motor pools are used as a focal point of discussion use they are relatively simple service units and the ressional spotlight has been focused upon them.

The body of the chapter is comprised of discussions ne independent variables portrayed in the schematic. e discussions should enable the reader to evaluate ner the Air Force has achieved the full management fits associated with distributing service unit costs.

Introduction

Since PRIME is intended to focus the operating manager's tion and concern upon the cost of all resources consumed, ubject of distributing service unit costs warrants

immediate atte

a controversia

cost distribut

requirements.

apply in the m

ution of servi

facilitate ope

applies in eit

The base

by utilizing th

1) A miss

mission (e.g.,

2) An adm

service that is

ber division).

subjectively ba

3) A serv

units (e.g., th

The Air Fo

distributing cos

the motor pool

usage, it was se

basing; in addi

this selection i

could be readily

base.

What benefi

ediate attention and is, as in the civilian environment,
ontroversial subject. In the civilian environment, service
t distributions are often justified by product costing
uirements. Of course, this motive does not generally
ly in the military context. But performing this distrib-
on of service costs to motivate cost consciousness and to
ilitate operational effectiveness and efficiency certainly
ies in either the military or civilian environment.

The base level Air Force mission objectives are achieved
tilizing three types of organizational units:

1) A mission unit performs the operational support
ion (e.g., a B-52 squadron).

2) An administrative unit performs an overhead type
ice that is not readily measurable (e.g., the comptrol-
division). There are no short-range plans for making
ectively based allocations of administrative costs.

3) A service unit provides measurable support to other
(e.g., the motor pool or civil engineer).

The Air Force is currently testing the feasibility of
ibuting costs for selected service type units. Although
otor pool activity is rather minor, based on dollar
, it was selected as one of the earliest candidates for
g; in addition to the prerequisite of measurability,
election is a natural one since most vehicular services
be readily obtained from civilian sources outside the

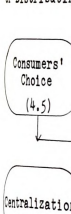
hat benefits can you realistically expect from

distributing

distributed a

dent variable

of Distributi



Dr. Anthon

in his interest

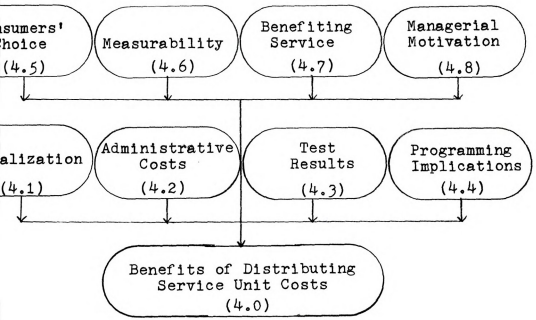
what he hoped

Present Situati

1. P
are limite
is necessa
circumstan
services.

2. T
This means
is entitle
motor pool

ibuting service unit costs; or, should these costs be
ibuted at all? Figure 3 depicts certain of the indepen-
variables which affect the dependent variable, Benefits
stributing Service Unit Cost (4.0:4.1-4.8).



SERVICE UNIT CONCEPT

Figure 3

r. Anthony alludes to certain of the Figure 3 variables
interesting comparison of the present system versus
hoped to achieve with Project PRIME:

Situation

1. Resources of the motor pool, like all resources, e limited. In order to parcel out these resources, it necessary to construct a set of rules, specifying the rcumstances under which managers can obtain motor pool rvices.

2. The motor pool manager interprets these rules. s means that he, in effect, is deciding which program entitled to the use of a truck and which is not. The or pool manager is therefore making decisions that

affect th

3.
people wi
than ther
the motor
and, agai
importanc

4.
line mana
to higher
can't hav
transport

5.
way by hi
system th
think abo

6.
do not inc
is as real
ments abou
fore do nc

7. T
by the all
They can't
which the

I rea
problem.
may even c
cer; when
it. But t
more compl
lems. The
manager.
individual
makes about
corded cost
freedom nor
for example
carrier tha

ew Situation

Under
just how di
the command
he would li
situation.I

affect the conduct of operating programs.

3. It is to be expected that on many days more people will be entitled to trucks under these rules than there are trucks available. When this happens, the motor pool manager decides who gets the trucks, and, again, this means he is deciding on the relative importance of the various programs.

4. If he is dissatisfied with these decisions, the line manager may have no recourse other than to appeal to higher authority. If the motor pool manager says he can't have a truck, then his material doesn't get transported.

5. The line manager's costs are not affected in any way by his decision to use or not use a truck. The system therefore provides no incentive for him even to think about whether a truck is necessary.

6. The reported costs of the line manager's program do not include the costs of this transportation, yet it is as real a cost as any other. People who make judgements about the program in relation to its cost therefore do not have a realistic picture of the costs.

7. The funds for the motor pool have to be justified by the alleged needs for transportation in general. They can't be justified in terms of the programs for which the motor pool provides services.

I realize that the motor pool is a relatively tiny problem. I realize also that none of what I have said may even come to the attention of the commanding officer; when he personally wants transportation, he gets it. But the points I made above apply equally well to more complex and much more significant management problems. The line manager is at the mercy of the service manager. His actions are governed by detailed rules for individual bits and pieces of resources. Decisions he makes about resources often are not reflected in the recorded cost of his operation. And he has neither the freedom nor the incentive to make trade-offs--to decide, for example, that it would be better to use a common carrier than a Government truck.

tuation

Under the new system the situation will be different. ust how different it will be, depends on the wishes of ne commanding officer, because he can decide just how e would like to use the tools in his own management tuation.[1] Here are some of the things that can happen:

1.
rules o
manager
truck.

2.
permit
the outs
This not
offs, bu
play. I
side ser
quire wh

3.
he incur
relation

In
in manag
the cost
need for
focus of
as contr

Inc
system h
simple a
small sh
were $7,
actually
quite imp
had thou
own volit
$70,000
gratifyi
thinking.

With Dr.

notor pool ope

ation, I will

presented in F

Air Force shou

1. The commanding officer can remove the detailed rules on the use of trucks, and simply say to the line managers: "If you're willing to pay, you can have the truck. You decide."

2. The commanding officer can go even farther and permit his managers to hire outside transportation if the outside agency can do the job less expensively. This not only gets the line manager thinking about trade-offs, but it also brings the force of competition into play. If the motor pool manager can't compete with outside services, the commanding officer will want to inquire why his costs are high or his services are poor.

3. The line manager's budget now shows the cost he incurs in doing his job. It can be defended in relation to the job to be done.

In substance, the new system permits flexibility in management, it encourages managers to think about the cost of all the resources they use, it lessens the need for control of bits and pieces, and it shifts the focus of responsibility to the manager who uses resources, as contrasted with the manager who supplies resources.

Incidentally, our experience with tests of the system has produced some interesting results from the simple act of recording what the costs are. In one small shop, the costs as reported under the old system were $7,000. The new system showed that the costs were actually $70,000. The manager of that shop was, first, quite impressed that his operation was bigger than he had thought, and, secondly, he began to question, of his own volition, whether it was really necessary to spend $70,000 to do the job he was supposed to do. It is gratifying to see the system stimulates this type of thinking.[2]

With Dr. Anthony's description of the "Old" and "New"

pool operating concepts as general background inform-

, I will now discuss the specific dependent variables

ıted in Figure 3 as they relate to whether or not the

›rce should distribute service unit costs.

The leve
distributing
ing the relat
context of PP
Supplemental
mentation of
mitted furthe
in the next s
Report No. 15
Congress to l
is to be adop

That the
costs versus
controversy wa
nate (test sta
ordered "That
keeping in mot
most expensive
money and manp
when stringent
ment of Defens
there would be
now controllin
are peripheral

Centralization (4.1)

The level of centralized control being exercised over tributing service unit costs is disproportionate consider- the relative importance of the problem in the overall text of PRIME because Congressional action on the Second plemental Appropriation Bill for FY 1968 prevented imple- tation of the service unit concept in FY 1969 but per- ted further testing. This statement is elaborated upon the next section--reference House of Representatives ort No. 1531. So, top-level DoD managers must convince ress to lift this restriction if the service unit concept o be adopted (4.0:4.1).

Administrative Costs (4.2)

That there would be controversy about administrative s versus expected benefits was inevitable. In fact, this roversy was professed as the reason for our current stale- (test status): House of Representative Report No. 1531 ted "That the directed requirement to do detailed book- ing in motor pools be rescinded. This is perhaps the expensive feature of the (PRIME) proposal in terms of and manpower and seems an unwise effort at this time stringent economy should be encouraged. If the Depart- of Defense wishes to do further testing of the concept would be no objections." So, this variable (4.1) is ontrolling although testing and administrative costs eripherally involved (4.0:4.1, 4.2, 4.3).

I encoun

agnitude of

ccrued durin

urprising wh

arious test

lows). Howev

the existence

ystem accumul

perating vehi

level. Routi

tickets, etc.

ehicles--in e

of redistribut

is minimized c

ata (4.0:4.2)

In outlin

ervice unit c

YIEM in FY 196

Objectives

Ident

Impro

Selection

Servi

Servi

I encountered mixed reports from managers regarding the itude of administrative costs as compared to benefits ued during the test phase. These mixed results are not rising when one considers the problems encountered at ous test sites (see the Test Results section which fol-). However, the most important factor I encountered was existence of a Base Vehicle Data Collection System. This em accumulates statistical data which includes costs of ating vehicles--with detail down to the specific vehicle l. Routing control has always dictated the use of trip ets, etc. which provide data regarding usage of specific les--in effect by cost center. So the additional cost distributing vehicular charges to cost centers certainly nimized considering the current, routine availability of (4.0:4.2).

Test Results (4.3)

In outline form, the Air Force-pioneered tests of the ce unit concept conducted in conjunction with Project in FY 1966 involved the following:

Objectives:

Identify support costs to missions (4.8).

Improve management through a supplier-consumer relationship (4.8).

Selection Criteria:

Service performed must be directly benefiting (4.7).

Service performed must be measurable (4.6).

Con

Man

Designat

Mot

Civ

Supp

Mai

Conduct of Tes

If this c

least impress

testing the se

ase of the pri

responsibility

(in manpower t

jeopardize the

Judging by

and my own inte

ject to include

backgrounds and

to evaluate the

and project ten

(4.0;4.3).

Test Results:

OSD's PRIM

installations wh

at the motor poo

not being adequa

Consumer must have an element of choice (4.5).

Management advantage in charging for service (4.8).

Designated Service Units:

Motor Pool

Civil Engineer

Supply

Maintenance

ct of Tests

If this chapter achieves nothing else, it should at
impress the reader with the difficulties involved in
ng the service unit concept. Lack of proper manning is
f the principal difficulties. The policy of assigning
nsibility for testing this concept as an additional duty
anpower terminology "from available resources") may
rdize the project.

Judging by the observations of the OSD PRIME Survey Team
y own interviews, the tests should be given improved sup-
to include: appropriate numbers of people; people with
rounds and experience to properly conduct the tests and
aluate the results; and, sufficient time (both peoplewise
roject tenurewise) to evaluate the concept objectively
.3).

tesults: OSD's PRIME Survey Team

SD's PRIME Survey Team visited Army, Navy, and Air Force
lations where the service unit concept was being tested
motor pools. The team reported that the concept was
ing adequately tested because of various procedural

deficiencies

1) Mili

tims seriousl

2) Cust

were on perma

transportatio

3) Cons

ity which ten

portation cos

using "saved"

portation (e.g

4) At or

denied users w

is not surpris

benefits assoc

weighed by the

ean years of e

(4.0:4.2).

In additi

precluded a bu

to properly te

reactions by t

the category of

change":

1) "---Pr

It assisted in

2) ---exp

iencies which included:

1) Military personnel costs were not always included seriously understating transportation costs.

2) Customer charges were often limited to vehicles that on permanent dispatch to the user, which also understated sportation costs.

3) Constraints were placed on managers' expense author- vhich tended to inhibit necessary effort to save on trans- ation costs. These constraints prevented the manager from "saved" expense authority for purposes other than trans- ation (e.g., to buy supplies).

4) At one installation transportation service was not ed users who had exhausted their expense authority. It ot surprising that the people involved believed that the fits associated with the service unit concept were out- ied by the additional costs. They estimated that 1½-2 ears of effort were required to perform the test functions 4.2).

In addition to these procedural test deficiencies that uded a buyer-seller relationship (which is a prerequisite operly testing the service unit concept) the team cited ions by top-level officials which appear to fall within ategory of "natural inclination of managers to resist e":

1) "---Project PRIME has provided no benefits nor has sisted in improvement of management at any activity.

2) ---expressed considerable concern over the cost of

PRIME in vie
resources. I
to assist in
control mecha
in all areas
through exper

3) ---d

has contribut
tions. Since
able, he beli
is by priorit

Test Results:

Fortunat

weigh the "na
the team recon
priately evalu
ectural defici
Those managers
stubbornly per
Chapter XI (Mo
(GSI for RMS)
more important
of Staff, Gene
this problem:

---Wh
supervisor
must go.3

ME in view of the extreme shortage of personnel and other
ources. He does not believe dollar expense data are needed
assist in management at local levels. He believes other
rol mechanisms are available and the resource shortages
ll areas preclude obtaining more effective management
ugh expense visibility.

3) ---does not believe the Motor Pool Service Unit test
contributed, nor can contribute, to more efficient opera-
s. Since sufficient personnel and vehicles are not avail-
, he believes that the only control that can be exercised
y priority assignment determined by the Commander."

Results: Summary

Fortunately, the procedural weaknesses appeared to out-
n the "natural inclination of man to resist change." So,
team recommended that the service unit concept be appro-
tely evaluated by: further study, correcting the pro-
al deficiencies, and continuing the tests (4.0:4.3).
managers whose "natural inclination to resist change"
ornly persists will continue to present a problem.
er XI (Motivation/Rewards/Sanctions) and Chapter XIV
for RMS) should shed some light on this problem. But,
importantly, in a recent article the Air Force Vice Chief
aff, General John C. Meyer, took a strong stand regarding
problem:

> ---Where we find archaic attitudes on the part of supervisors, either the attitudes or the supervisors must go.3

The wor

senses in th

Implications

mechanistic

nation of se

Positive Impl

ceptual sense

overall manag

Negative Impl

OSD's de

approved by C

appropriation

over to appro

that:

> The
> units to
> existing
> by servic
> not under
> the servi
> personnel
> (and prog
> rates whi
> tenant or
> charged a
> O&M appro

So, the b

dependent upon

solve programmi

problems can be

direction and c

Programming Implications (4.4)

The word "programming" is really used in two different
es in this section: in the subsection entitled Negative
ications programming is used in the narrow sense of
anistic procedures necessary to properly affect distri-
on of service unit costs; in the subsection entitled
tive Implications programming is used in the broad con-
ual sense of what service unit costs could mean in the
all management accounting system.

tive Implications

OSD's description of the Accounting System for Operations,
oved by GAO under Section 640(b) of the FY 1968 Defense
opriation Act, recognizes a special problem in the cross-
to appropriation identification by stating on page 37

> The system for charging costs incurred by service units to customers does not involve any changes in existing reimbursable policies and agreements. Charges by service units on a reimburable basis to customers not under the authority of the same operating budget as the service unit will therefore not include military personnel costs. Under this rule host organizations (and program elements) will be charged for services at rates which include military personnel costs whereas tenant organizations (and program elements) will be charged at rates that represent costs financed by the O&M appropriation only.

So, the benefits from the service unit concept are also
dent upon the ability of managers and technicians to
programming problems (4.0:4.4); these particular
ems can be traced to the degree and level of centralized
ion and control that exist (4.4:4.1).

Positive Impl

I detect

'Should servi

rather than i

structure. F

question was

istrative cos

jectively mea

the service u

nation would

objectives whi

held accountab

integrated man

of support sys

the right dire

of Integrated

describing the

The

ucts that

more effe

activities

tenance la

measured

analysis

of mainte

thorough

the system

on vehicle

consumptio

Reports re

HQ Air For

Bank. Aut

charges ar

integrated

both maint

sitive Implications

I detected a tendency to consider questions--such as hould service unit costs be distributed?"--in isolation ther than in the context of the whole related management ructure. For example, I encountered instances whereby this estion was considered in the context of additional admin- trative costs required during the test period versus sub- ctively measurable effects on managers who directly utilize e service unit output. A more appropriate, rational eval- tion would consider such questions in the context of RMS jectives which include: all managers being charged and d accountable for expenses they incur; and, an overall egrated management system instead of a disjointed collection support systems. The OSD PRIME Survey Team took a step in right direction when they evaluated the "Air Force Test Integrated Motor Vehicle Management Accounting System" by cribing the benefits as follows:

> The system is designed to furnish management products that can be used by the motor vehicle officer to more effectively manage his maintenance and operational activities. It provides greater visibility of the maintenance labor force by permitting productivity to be measured against work standards. It permits vehicle analysis by fuel consigned, repair costs and frequency of maintenance by vehicle category make and model. More thorough periodic maintenance can be scheduled because the system produces a list of periodic maintenance based on vehicle miles driven. Historical maintenance and fuel consumption records pinpoint operator vehicle abuse. Reports required by higher headquarters (major command, Hq Air Force and OSD) are produced from the computer data bank. Automatic cost distributions and service center charges are a part of the system. The test represents an integrated effort that develops usable products satisfying both maintenance and comptroller requirements.

This so

a similar on

'Should servi

perspective

Cons

The serv

clearly measu

ideally at le

option of the

tion on expen

activate him

sources (4,0:

variable will

ing the centra

local managers

ular services

directed by hi

Measurabi

cost of a give

service repres

consuming unit

Arbitrary

will not be pra

the Pentagon wi

cost of operati

This sort of evaluation based on valid test results plus imilar one on the consumer side would put the question ould service unit costs be distributed?" in much better spective than the narrow view I have detected (4.0:4.1-4.8).

Consumers' Choice (4.5), Measurability (4.6) and Benefiting Service (4.7)

The service unit output must benefit the consumer, be rly measurable in terms of cost per unit of output, and, lly at least, be subject to acceptance or rejection at the on of the consumer in order to focus the consumer's atten- on expenses and cause him sufficient concern to possibly vate him toward more efficient utilization of related re- es (4.0:4.5, 4.6, 4.7). The Consumers' Choice (4.5) able will seldom be fully achieved at base level consider- he centralized controls that exist. For example, the managers are precluded from going "off-base" for vehic- ervices except under specific circumstances which are ed by higher authority (4.5:4.1).

easurability (4.6) refers to being able to say that the a given number of output units of a certain good or represents an objective, credible charge to a certain g unit.

trary, subjectively judgmental prorationing of costs be practiced. For example, the cost of operating on will not be allocated to the commands and the erating the commands will not be allocated to the

bases. Howe

or submits a

xpense opera

a result be

utilization

Whether

Air Force, de

upon adoption

in this conte

generally occ

as a result o

we should exa

field have to

Moti

that with

a need.

he select

is a need

vation.

the desir

an idea e

Moti

practice,

the issue

laborers.

Accounting

data

discr

vatio

the w

For t

shoul

desir

may r

ses. However, a manager who orders a staff car and driver submits a work order to the civil engineer should have his ense operating budget appropriately charged and should as result be more cost conscious and concerned about efficient lization of resources (4.0:4.5, 4.6, 4.7).

Managerial Motivation (4.8)

Whether distributing service unit costs will benefit the Force, depends upon the reaction evoked from managers n adoption of this concept (4.0:4.8). "Reaction evoked" this context refers to what changes in motivation will erally occur regarding service unit and consumer managers a result of distributing service unit costs. At this point should examine what certain authorities in the accounting ld have to say about motivation:

> Motivation is that within the individual, rather than that without, which directs his activity toward satisfying a need. He may survey a series of objects, some of which he selects as goals. A resulting tension is set up; this is a need: the stronger the need, the greater the motivation. Given this tension, activity is taken toward the desired goals. As commonly used, "motivation" as an idea embraces both the need and the resulting drive.

> Motivation is an important, bothersome problem in ractice, but there is not much literature that faces he issue as it bears on managers, as distinguished from aborers. The Committee on Cost Concepts of the American counting Association has observed:[4]

> The basis of measurement used in providing cost data for control is often a matter of management discretion and an important consideration in motivation. Different bases may significantly affect the way in which different individuals are motivated. For this reason, the bases of measurement selected should be consistent with the type of motivation desired. For example, different types of motivation may result when maintenance costs are charged to a

r
p
(

Dr. An

buting maint

likely to co

Me
to the
Me
for mai
departm
and the
for doi
the for
work).
Me
the ope
activit
Me
to vary
the for
for mai
as emph
The ope
of tota
Me
job at
Mes
situati
such as
is respo
job. Th
the effi
has requ
charged
spent in
Met
work at
maintena
Mes
for situ
and for
do the w
work of
even auth
believes
the rate
Non

responsibility center on the bases of: (1) a rate per maintenance labor hour, (2) a rate per job, or (3) a single amount per month.5

Dr. Anthony lists a few of the possibilities for distri-

ing maintenance costs and the implications that each is

ely to convey:

Method No. 1. Do not charge any maintenance costs to the operating departments.

Message. The operating foreman has no responsibility for maintenance costs. He requests the maintenance department to do the work that he thinks should be done, and the maintenance department has the responsibility for doing it. (Note that this system does not motivate the foreman to curb unnecessary requests for maintenance work).

Method No. 2. Prorate total maintenance costs to the operating departments on the basis of the volume of activity in the department.

Message. Maintenance costs in total are expected to vary proportionately with plant activity. However, the foreman of each department has no direct responsibility for maintenance work, and the maintenance department, as emphasized in the first method, has full responsibility. The operating foreman is told what is his "fair share" of total maintenance costs incurred.

Method No. 3. Charge departments for each maintenance job at a prescribed amount for each type of job.

Message. The operating foreman is responsible for situations that create the need for maintenance work, such as machine breakdowns. The maintenance department is responsible for the cost of doing a given maintenance job. The foreman, therefore, need not be concerned with the efficiency with which maintenance men work, once he has requested that the job be done, since he will be charged a prescribed amount no matter how much is actually spent in doing the job.

Method No. 4. Charge each department for maintenance work at a prescribed hourly rate for each hour that a maintenance man works in the department.

Message. The operating foreman is responsible both for situations that create the need for maintenance work and for the time taken by the maintenance personnel to do the work. Presumably, he has some control over the work of the maintenance men. In some situations, he may even authorize to hire outside maintenance people if he believes that they will do the work less expensively than the rates charged by the maintenance department.

None of the above methods is necessarily better than

the others. F
differently.
the foreman to
to act. Deper
plish, any one
listed, or som
given company.

The preceding

us some valuable cl

to distribute servi

1) Such a dis

change in the manag

change would probabl

2) Different k

different responses

3) It would be

sponse or even to me

specific set of circ

So we should be

nation will be affec

costs but it is diff

or direction of the c

and the results of ir

clearly supports the

unit costs. The resp

civil engineer (e.g.,

of cost consciousness

sources which far tra

do not presently get

increased concern by u

ıe others. Each of them tends to motivate the foreman ıfferently. The best method is the one that motivates ıe foreman to act most nearly as management wants him) act. Depending on what management wishes to accomlish, any one of these methods, or other methods not ısted, or some combination of them, may be best for a ıven company.[6]

e preceding discussions of managerial motivation give valuable clues regarding whether it would be advisable ribute service unit costs:

Such a distribution of costs would probably evoke in the manager, but the direction and intensity of ould probably vary among managers.

Different bases of cost distribution would evoke it responses from the managers.

It would be difficult to predict a manager's re- r even to measure objectively a given response to a set of circumstances.

we should be able to conclude that managerial motiill be affected by the distribution of service unit t it is difficult to objectively measure the magnitude tion of the change evoked. My personal observations results of interviewing civil engineering managers supports the advisability of distributing service s. The response of managers who must reimburse the ineer (e.g., hospital and housing funds) show a level onsciousness and concern for efficient use of rehich far transcend the acquiescence of managers who esently get billed for civil engineer services. This concern by user managers should also have the

double-barreled ef

civil engineer) to

use of resources (

Distributing

by the distributio

properly directed

efficient use of r

of factors to be c

sociated with dist

The critical facto

able tests of the

results which shou

approval to proce

planned incrementa

results which shou

at base-level--but

tralized military

---

1. Just how diffe
by the amount of i
permitted the base-

2. Robert N. Anth
Awards Banquet, Ar
13, 1966.

3. General John C.
Future Challenges,'
p. 52.

e-barreled effect of causing the producer manager (e.g., engineer) to be increasingly concerned about efficient f resources (4.0:4.8).

SUMMARY

Distributing service unit costs causes managers affected e distribution to be more cost conscious. And when rly directed this cost consciousness can result in more ient use of resources. However, there are a whole host ctors to be considered when evaluating the benefits as- ted with distributing service unit costs (4.0:4.1-4.8). ritical factors appear to be: the conduct of knowledge- tests of the service unit concept to generate credible ts which should gain Congressional and top-level DoD val to proceed (4.0:4.1, 4.3). Then, through carefully ed incremental steps we should generate positive, credible s which should gain approval for additional flexibility e-level--but still, of course, within the overall cen- ed military environmental framework (4.0:4.1, 4.5, 4.8).

---

st how different--- will also be significantly affected amount of increased operational flexibility which is ted the base-level manager by top-level DoD policy makers.

bert N. Anthony, Address before Thirteenth National Banquet, Armed Forces Management Association, October 66.

ieral John C. Meyer, "Managing the USAF: The Now and Challenges," Air Force and Space Digest, January 1970,

4. Charles T. Horn
emphasis, 2d ed.; P
1967, p. 278.

5. Ibid. citing "
Accounting Review,

6. Robert N. Anthc
Control, Richard D.

harles T. Horngren, Cost Accounting; a managerial
sis, 2d ed.; Prentice-Hall Inc., Englewood Cliffs, N.J.,
p. 278.

bid. citing "Tentative Statement of Cost Concepts---,"
nting Review, April 1956, p. 189.

obert N. Anthony and James S. Hekimian, Operations Cost
ol, Richard D. Irwin, Inc., Homewood, Ill., pp. 6-7.

DI

This chapter e
easures could make
efficiency as a dua
Force financial man
in the military env
Measurement Program
consists of what by
work: the benefits
presented by the de
by the independent
nificant forces in
erally to keep the
last phase.

PRIME had as an
accounting system to
other things, facili
financial inputs to
obtaining the expens

CHAPTER V

DEVELOPING OUTPUT MEASURES

Purpose of Chapter

This chapter establishes that appropriate use of output
res could make a valuable contribution toward achieving
iency as a dual objective with effectiveness for Air
financial managers. However, significant forces exist
e military environment which tend to keep the Output
rement Program in a continuing test phase. Figure 5
sts of what by now should be a familiar chapter frame-
the benefits associated with output measures are re-
ated by the dependent variable (5.0) which is affected
e independent variables (5.1-5.8) representing the sig-
ant forces in the military environment which tend gen-
to keep the Output Measurement Program in a continuing
hase.

Introduction

RIME had as an immediate objective the creation of an
ting system to gather expense data which would, among
things, facilitate a shift of managers' focus from
ial inputs to performance output and related costs.
ing the expense data generated by PRIME is only a first

step. In addition

form of performanc

fulness of the bas

shift of manager f

or output. What i

roment?

Definition

An output mea

accomplishment or

operationally ready

capability, a good

training unit may

B-52 wing, a good

ing; various mainte

a good output measu

hauled; and, the ba

indicator might be

should quantify the

credible terms and

output on a unit co

the desired metamor

measurement concept

Why hasn't the conc

development of stati

measures for many mi

In addition, the Air Force managers should have some
of performance or output measurement to enhance the use-
ss of the basic cost data and add credence to the desired
of manager focus from financial inputs to performance
tput. What is an output measure in the Air Force envi-
nt?

ition

An output measure is a quantitative measure of mission
plishment or a production indicator. For example, an
tionally ready B-52 wing provides strategic offensive
ility, a good output measure may be hours flown; a ground
ing unit may produce skilled mechanics to service the
wing, a good output measure may be student weeks of train-
various maintenance units exist to keep the B-52s flying,
d output measure for one such unit may be engines over-
d; and, the base pharmacy fills prescriptions, so a good
ator might be prescriptions filled. Output measurement
d quantify the mission of individual units in meaningful,
ple terms and relate the costs of such units to their
on a unit cost basis. Figure 4 pictorially portrays
sired metamorphosis in managers' focus. If the output
ement concept will hasten this desired metamorphosis
sn't the concept been operationalized? Stated plainly,
pment of statistically acceptable productivity output
es for many military organizations has proved difficult.

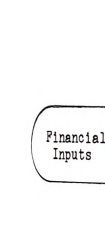
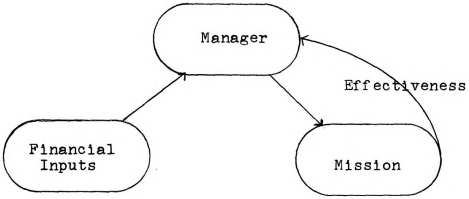
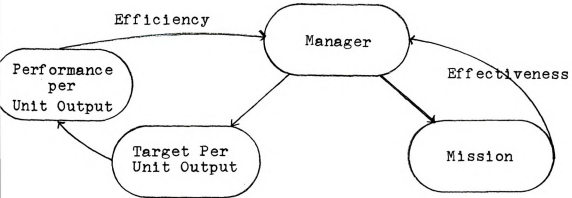


Figure 5 depicts th
variables which aff
Developing Output M
variable and its re
be discussed in the

EFFECT: Before PRIME



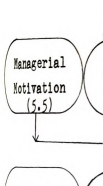
EFFECT: After PRIME



EFFECTS: SHIFT OF MANAGER'S CONCERN

Figure 4

igure 5 depicts this stumbling block and other independent ariables which affect the dependent variable, Benefits from eveloping Output Measures (5.0:5.1-5.8). Each independent ariable and its relationship to the dependent variable will e discussed in the sections that follow.



O

Centralized

Background

Initially, in

were plans to insta

A March 9, 1967 maj

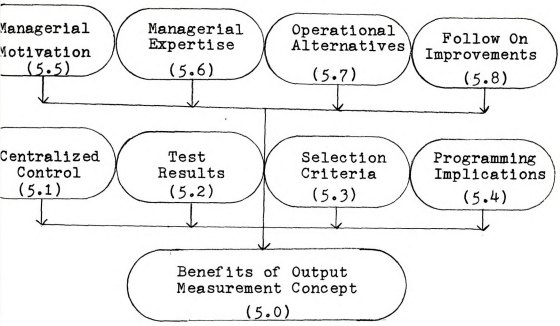
contained this infor

Headquarte
Analysis Progra
which will rela
and cost center
relating cost t
effectiveness a
index figures f

However, the pr

wide implementation

this rapidity. In f



OUTPUT MEASUREMENT CONCEPT

Figure 5

Centralized Control (5.1); Test Results (5.2)

kground

Initially, in the pre-implementation days of PRIME, there e plans to install output measures early in the program. arch 9, 1967 major command guidance package to base units ained this information:

> Headquarters USAF has indicated that Management Analysis Programs will be available by 1 July 1967, which will relate cost to output by responsibility and cost center at each base in the Air Force. By relating cost to output, we will be required to examine effectiveness and efficiency and compute efficiency index figures for each level of the organization.

However, the program to develop output measures for world- implementation has not progressed at anything approaching rapidity. In fact, the USAF Assistant Director of Budget

hat this to say at

We recom
output measur
us in Budget
indices and c
gram Costing,
Having tried
estimating re
developed ove
the implement
program must

About this sa

to extend the FY 6

ment concept throu

continue the testi

problem on a broad

operational phase.

Air Force eff

improved output in

Unit Capabili

to provide improve

ability, and susta

feature in this are

and report a unit'

unit readiness woul

capabilities requir

potential); and fac

planning this syste

experience which in

Combat Readiness Ra

Capability Measurem

d this to say at a briefing in the spring of 1969:

> We recommended a more deliberate approach to the output measurement program than heretofore. Many of us in Budget see little distinction between workload indices and cost factors used for Cost Analysis, Program Costing, Budget Estimates, and Output Measurements. Having tried for years to develop satisfactory cost estimating relationships, we know that these are not developed over-night. The Air Staff now believes that the implementation worldwide of the output measurement program must be phased over several years.

About this same time (March 1969) it became USAF policy extend the FY 69 major command test of the output measure-nt concept through FY 70. In defense of the decision to ntinue the testing phase, the Air Force is attacking the oblem on a broad front which tends to delay launching the erational phase.

Air Force efforts to develop systems that will produce proved output information are directed in two broad areas:

Unit Capability Measurement. - The development of a system provide improved information on unit readiness, deploy-llity, and sustainability began in November 1967. A key ature in this area is the design of a new system to assess l report a unit's operational readiness. As envisioned now, .t readiness would be expressed in terms of operational abilities required; capabilities possessed (actual or ential); and factors inhibiting each capability. In nning this system the Air Force is using Southeast Asia erience which indicates a need to improve the JCS/USAF bat Readiness Rating System. It is intended that the Unit ability Measurement System will apply initially to

combatant forces a

determine deployab

through computer c

versus operational

units involved in

the initial design

Productivity

effort concerns th

or products of a u

management. Selec

be controlled and

ments of the unit'

bilities.

Productivity

one-half years ago

level system develo

(Project FIRM). Th

production units wh

the accounting syst

during FIRM, a Cost

planned and actual

production was deve

The Air Force

Cost Center Perform

Air Training Comman

initial validation

and are being teste

combatant forces and later to support forces. Assessments to determine deployability and sustainability will be attained through computer comparisons of specific war plan requirements versus operational resources and capabilities possessed by units involved in the plan. In mid-1969 this program was in the initial design stage.

Productivity Output Measurement. - The second area of effort concerns the selection and costing of finite outputs or products of a unit for the purpose of improving resource management. Selection of finite, productivity outputs will be controlled and influenced ultimately by the broader statements of the unit's required or designed operational capabilities.

Productivity output measurement began over three and one-half years ago in July 1966 as part of the Air Force base level system development and test at Laughlin AFB, Texas (Project FIRM). The initial effort consisted of identifying production units which were relatable to financial data from the accounting system at the cost center level. Later, again during FIRM, a Cost Center Performance Summary which relates planned and actual cost to planned and actual output or production was developed and mechanized.

The Air Force expanded its testing and refining of the Cost Center Performance Summary during the PRIME test in the Air Training Command (ATC) in FY 68. Procedures for statistical validation of selected output measures were developed and are being tested. Additionally, during this test phase,

an Air Force Manu

which prescribed

performance orien

During FY 69

ductivity Output

has been given to

statistically vali

velopment of stati

easures for many

The basic problem

a causative relati

success in the ATC

most of the output

with a high degree

Relation to OSD Ef

The Air Force

prior to the estab

Directorate for Ou

Assistant Secretary

this new directora

OSD efforts to esta

There has been unde

concept and plan fo

indicated by a draf

last priority would

ational units. Rec

port activities und

an Air Force Manual, AFM 178-1, was developed and published, which prescribed the standard procedures to be used to produce performance oriented management information.

During FY 69 the Air Force continued the test of the Productivity Output Measurement System in ATC. Primary emphasis has been given to improving data going into the system and statistically validating output measures. To date, the development of statistically acceptable productivity output measures for many military organizations has proved difficult. The basic problem is the discovery of an output which bears a causative relationship to resource consumption. The most success in the ATC test has been in the medical area where most of the output measures have been statistically validated with a high degree of correlation between output and cost.

Relation to OSD Effort

The Air Force effort concerning output measurement began prior to the establishment during September 1967 of the Directorate for Output Measurement Systems under the Deputy Assistant Secretary of Defense. Since the establishment of this new directorate the Air Force has followed closely the OSD efforts to establish a workable output measurement program. There has been understandable difficulty in developing a concept and plan for output measurement. Initially, OSD indicated by a draft development plan issued in December 1967 that priority would be given to measurement relating to operational units. Recently, OSD efforts have turned to the support activities under major force programs 7, 8 and 9

(Ref. Appendix B-

follow later. Ir

the measurement c

operational organ

is continuing on

Level of Manageme

As in the pa

to Appendix B to

meaning related t

Force Level.

capability measur

Cost Center

Air Force is oper

ment should start

the cost center.

toward the develo

which can be relat

Program Eleme

primarily an indir

ment for operation

if the capability

of a program eleme

Schedule. - T

performance or out

the management foc

output. Work will

the capability of

(Ref. Appendix B--FYDP) with emphasis on other programs to follow later. In the Air Force, we are placing priority on the measurement of readiness and capability possessed by operational organizations. Action with secondary priority is continuing on productivity measurement under Project PRIME.

Level of Management

As in the paragraph above the reader may have to refer to Appendix B to refresh his memory regarding terminology and meaning related to OSD's Five Year Defense Program (FYDP).

Force Level. - Ultimately, OSD's objective is to have capability measurement at major force program level.

Cost Center Level. - For productivity measurement, the Air Force is operating under the concept that output measurement should start at the level where resources are consumed--the cost center. The effort at this level has been directed toward the development and test in ATC of output measures which can be related to cost center expenses.

Program Element. - The Air Force effort at this level is primarily an indirect one. Development of capability measurement for operational units may have utility by program element if the capability measurement for all of the mission units of a program element can be aggregated.

Schedule. - The Air Force recognizes that some form of performance or output measurement is essential to shifting the management focus from resource inputs to performance or output. Work will continue on a priority basis to measure the capability of operational units. A definitive schedule

is dependent upo

design requireme

Summary (5.1, 5.

The output

sently envisaged

phase has extend

Top-level policy

the program acro

several years."

One of the

Expertise (5.6) d

of concern: deve

area, which may b

output measures c

considerable inte

but little recogn

When I combined t

tivity measuremen

only, a logical

Force could take

output measures by

subject to the fo

1) Test resu

managers' using th

2) Launching

appropriate Air Fo

sure that the ever

is dependent upon further developments of concepts and system design requirements.

Summary (5.1, 5.2)

The output measurement program in its entirety as presently envisaged is a sizable undertaking and the testing phase has extended into a fourth year with varying results. Top-level policy guidance has ranged from "let's implement the program across-the-board now" to "let's phase it in over several years."

One of the following sections that considers Managerial Expertise (5.6) develops the notion that there are two areas of concern: development of the output measures and a related area, which may be equally important, of properly utilizing output measures once they are developed. I have observed considerable interest and activity in the former (development) but little recognition even regarding the latter (utilization). When I combined this thought with the thought that productivity measurement under Project PRIME has a secondary priority, a logical approach to the problem was born: the Air Force could take immediate steps to encourage managers to use output measures by launching a limited operational phase, subject to the following qualifications:

1) Test results are sufficiently promising to warrant managers' using the specific output unit.

2) Launching the operational phase would be preceded by appropriate Air Force-wide indoctrination and training to insure that the ever present negative connotations associated

with output measu

to set into the

are manifest.

Of course, i

innovative manage

fact, bringing ad

measurement probl

a simple matter t

input should be f

sponsibility for

Output M

The basic pr

ures is the disco

relationship to r

selection criteria

Causati

Measure

Programm

Meaningf

Availabl

The first cri

there must be a ca

and the resources

duction, accomplis

causes a change in

measure must measu

with output measures (section 5.5) do not cause rigormortis to set into the output measurement program before the benefits are manifest.

Of course, this first qualification should not preclude innovative managers from pushing the state of the art. In fact, bringing additional brainpower to bear on the output measurement problems would be a fallout benefit. It would be a simple matter to stipulate that Air Force-wide, constructive input should be funneled to the lead command with prime responsibility for testing the output measurement concept (ATC).

Output Measurement Selection Criteria (5.3)

The basic problem in selecting appropriate output measures is the discovery of an output which bears a causative relationship to resource consumption. Output measurement selection criteria include:

Causative relationships

Measure accomplishments--not resource usage

Programmable

Meaningful to managers

Available in quantitative terms

The first criterion of a good output measure is that here must be a causative relationship between the indicator nd the resources consumed. An increase or decrease in proiction, accomplishment of a mission, or attainment of goals auses a change in cost. On the other hand, the output easure must measure accomplishment--not resource usage--the

man-hours require
ing for resources
not tell what was
all, how many tim
plishment, not ef
resource managemen
output measure mu
in a program docu
gram documents.
measures--and obvi
be meaningful to m
in terms of units
responsibility cen
able in quantitati
ing system. We ne
source, even if it

When a statis
developed to repor
center manager has
superiors have gai
5.5). Specifically
means of measuring
the budget preparat
functional responsi
level have greatly
areas of subordinat
measures. This exp

-hours required to do a job are just another way of account-
for resources. Also, the number of man-hours expended do
tell what was accomplished, whether the job was done at
how many times, or how well. We need to measure accom-
shment, not effort expended. Since an important aspect of
urce management is planning resource requirements, the
ut measure must be programmable. It should be contained
program document or determinable from data stated in pro-
documents. The next criterion used in establishing these
ures--and obviously the most important one--is that it must
eaningful to managers. It must be simple and understandable
erms of units that have a meaning to the cost center or
onsibility center manager. The information must be avail-
in quantitative terms, preferably in an existing report-
system. We need to be able to obtain data from a specific
e, even if it is a local count of production units.
When a statistically acceptable output measure has been
oped to report costs per unit of output measure, the cost
r manager has gained a valuable operating tool and his
iors have gained a significant control device (5.0:5.3,
Specifically, the cost center manager has an improved
of measuring progress toward his goals and facilitating
dget preparation process. Even more significantly the
ional responsibility center managers at base and command
have greatly expanded their means of comparing the pro-
of subordinates who are subject to the same output
es. This expanded means of comparing subordinates

hould greatly enhance the effectiveness of important related rograms (e.g., Rewards and Sanctions).

Programming Implications (5.4)

In most civilian environments a similar output measure-ent program might move along much more rapidly. One reason or the slower Air Force pace, in addition to the size and omplexity of the undertaking, involves programming require-ents. Starting in FY 70 the Air Force began integrating everal programs into an improved, single program to be proc-sed by the newly purchased Burroughs 3500 (B-3500) computers. e Cost Center Production Summary (the management report which es the output measures) is scheduled to be incorporated in e B-3500 integrated program. This upgrading and integrating Air Force programs was just another in a series of planned eps to improve the managers' tools. But, the upcoming in-gration may very well have delayed the much needed base vel implementation of output measures (5.0:5.1, 5.4).

As explained in the Centralized Control section (5.1) e Air Force is not satisfied to attack this important oblem on a piecemeal basis. The large, critical area of t Capability Measurement has been undertaken--as well as area that I am more concerned with (Productivity Output surement). Apparently the decision was made to give -priority to Unit Capability Measurement (5.0:5.1, 5.4).

For FY 70, at least, organizations or functions within test command (ATC) having a cost system with integrated

output m

objectiv

program

(e.g., t

Wit

Managemer

sponsibil

responsi

(AFC). H

mate the

pivotally

The

alignment

gram desc

municatio

for the p

Summary (

The A

both Unit

poses) of

all Air Fo

a secondar

put Manage

base-level

5.1, 5.2,

managers t

is outline

output measures in being or being tested which parallel the objectives and purposes of the overall output measurement program will be allowed to continue their individual efforts (e.g., the integrated Civil Engineer and Transportation systems).

Within the Comptroller function at USAF HQ level the Management Analysis people have been assigned principal responsibility for the Output Measurement Program. A similar responsibility was established by the lead command for testing (ATC). However, at least one command has seen fit to designate the Cost Analysis people in the Budget office as being pivotally responsible.

The fragmented test efforts and lack of organizational alignment of responsibility for the Output Measurement Program described in the above two paragraphs could cause communication problems that would further delay a launch date for the program.

Summary (5.4)

The Air Force objective of creating a complete set (for both Unit Capability and Productivity Output Management purposes) of output measures and integrating them into the overall Air Force program is a laudable long-run goal. But with a secondary priority on the PRIME related Productivity Output Management Measures, it could be a long time before the base-level managers benefit from using output measures (5.0: 5.1, 5.2, 5.4). A short-run alternative to allow base-level managers to benefit from using the output measures concept is outline on page 81 (5.0:5.5, 5.7).

Managerial Motivation (5.5)

Dr. Horngren aptly observed that: "The Measurement of ork often spurs controversy because employees do not usually, elcome more stringent monitoring."[1]

Mr. Simon (Deputy Assistant Comptroller of the Air Force or Accounting and Finance) commented upon managers' efforts o meet their budgets as follows (5.0:5.5, 5.6):

> Underneath all of these efforts is the belief by managers that they are going to be rated on how well they meet their operating budgets and targets. Comparisons between budgets and actual are vital to PRIME or any other sound system and careful analysis can shed light on whether differences between the two stem from faulty estimates, changes in program, mismanagement or other causes. The concern is that differences will be ascribed to mismanagement without the careful analysis necessary to pinpoint the causes of difference. At this point there are few valid, quantitative measures that would permit comparison of work done with resources consumed. Even if valid output measures someday permit such comparisons, equal care will be needed to assess the variations between one activity and another. In short, based in part upon experience with abortive efforts in the past, managers fear the misuse of easy but invalid measures of efficiency. Their present defense combines rigid control over bits and pieces with frequent changes to baselines so that they equal actual.
>
> Commanders manage organizations to achieve programmed outputs. These outputs are expressed in terms such as pilots graduated, payload airlifted, sorties flown or "operational readiness." If operating management is to reap benefits from PRIME, financial management will have to progress from concentrating on resource inputs to focusing on programmed outputs that concern commanders. Much hard work must be done to achieve this:
>
> a. A concerted and successful effort is necessary to define valid output measures where possible. ...[2]

Different teams of Pentagon-level officials returned om the field with contradictory reports (5.0:5.5, 5.6):

1) One team stated that overemphasis on cost consciousss by base level supervisors could adversely affect mission

accomplishment. Serious concern was specifically expressed for lowering the decision-level to the cost center; this concern apparently revolved around the possibility that supervisors would lose control over and visibility of costs. This same team said that experienced personnel were uneasy about output measures program because of its potential as a rating system. The team concluded that little use could be made of output measures! This assertion was related to the general lack of controllability of costs at base level and the possibilities for "manipulating" the output units.

2) These rather negative connotations of the output measurement program were directly contradicted by other team reports. In the extreme, one series of tests in the food services area led the base-level managers to express the opinion that the benefits of PRIME would only be achieved if and when output measures were implemented.

Judging by my own interviews and experience these extremes are not too surprising. Managers do generally feel uneasy about the unknown and about the potential implementation of another means of judging their performance. The level of uneasiness seems to be affected by their previous experience. For example, Strategic Air Command (SAC) makes extensive, effective use of various rating systems which pit people and organizations against standards and against each other. This methodology isn't uniformly admired (especially by those whose blood has been let) but the methodology

oubtedly played a significant role in creating one of the--
not THE--most potent strategic force the world has ever
wn.

iance Analysis

Who performs the variance analysis and how the results
used can have an important bearing on the initial accept-
e and ultimate success of the output measurement program.
s program should provide the responsible managers with an
ective tool which will enable them to do a better job of
lizing limited resources--which implies that managers will
motivated. What's so difficult about this?

The focal point for systems design and program develop-
t is generally the management analysis office of the Comp-
ller. During the systems implementation phase the RC/CC
agers are brought into full focus within the program.
ther or not the managers accept the program and achieve
benefits associated with proper utilization of output
sures will be significantly influenced by the finesse and
ertise of the comptroller and his people (principally
agement Analysis). If the operating managers get the idea
1) the Cost Center Performance Summary and related re-
ce analysis represent another accountants' bid for a-
e-in-the-sun, and 2) the manager is just the fellow that
s the mistakes that justify the analysis and inevitable
rting, the Output Measurement Program may evoke strong
tive reactions from the managers and thus negate the
rent benefits of using output measures (5.0:5.5, 5.6).

the comptroller and his people, after designing and
eloping the system, have a difficult, critical transition
make at the beginning of the implementation phase; they
t suddenly assume the support role of assisting the man-
rs--whereas, during the system design and development
ses they were performing the aggressive, innovative leader-
p role. Having to make such a difficult, sudden transition
l test the mettle of the comptroller and his people; the
yoff" for the Air Force could be significant. If the re-
ds and sanctions program is functioning properly, individ-
"payoffs" would also be involved.

mary (5.5)

Output measures should be looked upon 1) as a much needed,
ural follow on to resource usage categorized by expense
ment, and 2) as a means of sharpening the manager's focus
xpenses. In our basically competitive military environ-
this sharpened focus should motivate most managers
:5.5), and at the same time pinpoint those who do not
ure up. When properly supported by indoctrination, train-
and education and followed up by appropriate rewards and
tions, output measures appear to be a strong, desirable
for Air Force managers (5.0:5.5).

Managerial Expertise (5.6)

The benefits associated with output measures are signif-
(5.0), but there is a high price tag on these benefits.
kes considerable managerial expertise both to develop them

later to maximize their potential benefits (5.0:5.6).

lopment

A cost accounting text includes these thoughts:

> The selection of the bases or units of measurement requires careful thought and analysis, because the degree to which the final rates represent acceptable costs is greatly dependent upon the adequacy of the bases selected. Each function must be scrutinized with respect to that factor which most influences the volume of its work.3

Dr. Horngren said:

> The data relating to costs and the data relating to units must be examined separately before the two are expressed as costs per unit. When costs and units are studied separately, the fundamental variable, mixed, or fixed behavior of each becomes evident, the importance of joint or common costs emerge, and the variations in cost which are not due to unit volume variations are revealed.4

Dr. Horngren also quoted Professor William J. Vatter:

> "Every cause has a number of effects; every event arises from many causes; all incidents and observations are bound together by many ties. All costs are more or less interwoven in a complex fabric; in large measure, costs are joint as with various costing units."5

zation

The previous section, Managerial Motivation (5.5), de-

ed certain of the negative effects output measures can

on managers and their employees. A knowledgeable, moti-

manager would have a keen awareness of the challenge

led by the existence of these negative effects and would

ively plan to overcome them in order to gain the inherent

ts associated with output measures (5.0:5.5, 5.6).

y (5.6)

he inherent benefits associated with output measures will

e realized if sufficiently expert managers are assigned

develop them. Even after the output measures are developed
e Air Force is only part way home. Output measures must be
ed properly in order to reap the inherent benefits (5.0:5.6).
dging by the survey team reports and by my interviews, the
st/development phase needs increased emphasis and manpower
pport; liberal applications of indoctrination and training
ll be required to maximize the utilization of output meas-
es after they are developed (5.0:5.2, 5.5, 5.6).

Operational Alternatives (5.7)

The information contained in the preceding sections in
is chapter (V) support my belief that output measures are
otentially valuable tool for the Air Force manager; just
valuable will largely be a function of the managers'
lls and motivation (5.0:5.5, 5.6). Various alternatives
available to Air Force managers to operationalize the use
output measures. The operational alternatives selected
l vary depending upon the manager's expertise (5.7:5.6)
both variables will affect the benefits that can be ex-
ted from using output measures (5.0:5.6, 5.7). At this
nt one should mentally review the difficulties of develop-
output measures that adequately meet selection criteria
3), and the extreme complexity of cost relationships that
described in the Managerial Expertise (5.6) section.
n these two factors are combined to generate a cost per
t of output, a knowledgeable manager proceeds with caution
n using the resultant figure. An imprudent or uninformed

ager might blindly accept the resultant figure for the
pel, devise a comparative effectiveness index for homo-
eous activities, and proceed to beat the "losers" over
head for not meeting a specified index level, or for
ng "last." What would the prudent, knowledgeable manager do?

A prudent, knowledgeable manager would regard cost per
of output as being far superior to a total cost figure,
still a figure that requires interpretation in the form
ariance analysis. The relationships represented by the
per unit of output figure can be so complex that they
only be properly understood and utilized if analyzed in
il. The amount of analysis required would certainly vary
nding upon the circumstances, and management by exception
ciples would surely be applicable, but "winners" and
ers" could not normally be determined by simple long
sion (total cost/units of output). What then would be a
onable approach for a prudent, knowledgeable manager? As
confidence level builds up regarding: 1) the accuracy of
data, 2) the appropriateness of the output measure, and
he validity of the resultant cost per unit of output
es, the manager will gain a powerful management tool.
ly, a set of these cost per unit of output figures would
de the manager pivotal data for determining effectiveness
fficiency of resource utilization. Of course, when out-
easures become effective tools for the manager he will
inly coordinate and reinforce them with his rewards and
ions program.

Follow On Improvements (5.8)

The previous seven sections have made the point that work remains to be done before an integrated output urement program can be implemented Air Force-wide. This ion will be devoted to logical follow on improvements to sic program. Two of these logical improvements would lve sophisticated, mechanized variance analysis and the of scientifically-based standards.

dards

Horngren discussed the nature of standards:

> Standard costs are carefully determined costs; they are target costs that should be attained under efficient operations. ---Cost control depends on a set of standards as a frame of reference which outlines how a task should be accomplished and how much it should cost. As work is done, actual costs incurred are compared with standard costs to reveal variances. The variances are investigated to discover better ways of adhering to standards, of altering standards, or of accomplishing objectives.---
>
> The important part at this stage is that an evaluation of performance depends on a comparison of actual costs with some stable goal. Merely to compare this month's costs with last month's or with those of the corresponding month of last year is likely to provide less meaningful data because of the inefficiencies which may already be reflected in prior costs. Moreover, changes in technology, equipment, and methods also limit the usefulness of comparisons with the past.[6]

It is obviously beyond the scope of this paper to present cussion in depth of standard costs or variance analysis. er, as the Output Measures Program develops, standard may prove to be indispensable because the operating t target per unit of output may be meaningless--far from stable goal" Horngren mentions in the above citation. er IX (The Budget Process) will explain and amplify this

int. When the operating budget cannot be used, a standard uld be a logical choice to foster achievement of the bene- ts associated with output measures (5.0:5.8).

riance Analysis

Most analyses of accounting data involve comparisons. nagers make judgments about current performance by com- ring current performance with some other data. Horngren dicated in the preceding discussion of standards that the mparison of current performance should involve a "stable al." At any rate, a comparison of current performance with goal generates a report of variances. If management action ds with this report the benefits associated with having tput measures and a "stable goal" are greatly circumscribed .0:5.8). Horngren says:

> The reporting of variances is only a step in attaining effective cost control. The step that pays off is the rigorous analysis and follow-up of variances. This can be accomplished under various organizational arrangements; in any event, the focus of the technique is obtaining answers to the question: who is primarily responsible for this variance? The mere accumulation and reporting of variances is useless unless the variances are assignable to various executives.[7]

The key words in the above passage are: "rigorous anal- is and follow-up" and "reporting of variances is useless less." These key words spell manpower needs--in numbers d expertise. As late as September 1969 the RC/CC managers' orts generally were not satisfactorily produced or effec- ely utilized and they were in terms of lump sum costs per ense category per period.

mmary (5.8)

The production of satisfactory reports followed by igorous analysis and follow-up" will require different mbers of people with an enhanced level of expertise (5.0:5.8).

Chapter Summary

The benefits associated with output measures are exist-t and desirable, but there are also in existence significant ctors that strongly influence the timing and magnitude of e associated benefits (5.0:5.1-5.8). The critical factors pear to be:

1) Achieving the benefits associated with output measure y be delayed excessively long if an all-encompassing, in-grated, mechanized system is the only alternative considered. ere are short-run alternatives available which should be nsidered in order to speed up achievement of the output asure benefits (5.0:5.4).

2) The managers' initial exposure to the Output Measure-nt Program has caused an understandable feeling of uneasiness ich if not ameliorated could detract from the potential bene-s from adoption of the output measures concept. The extent benefits achieved will largely be dependent upon the level motivation and expertise attained by the manager corps in port of the program (5.0:5.5, 5.6).

3) There is a readily apparent need for increased man-er support and a more liberal application of indoctrination training to achieve an acceptable level of expertise in

ıe manager corps (5.0:5.5, 5.6).

. Charles T. Horngren, Cost Accounting a managerial emphasis, l ed.; Prentice-Hall Inc., Englewood Cliffs, N. J., 1967, ɔ. 368-69.

. Michael E. Simon, "PRIME 69 an Interim Assessment," The ir Force Comptroller, April 1969, pp. 3-4.

. Adolph Matz, Othel J. Curry and George W. Frank, Cost ccounting, 2d ed.; South-Western Publishing Co., Cincinnati; 957, p. 673.

. Horngren, Cost Accounting, pp. 382-83.

. Ibid. p. 564, quoting William J. Vatter, "Limitations of verhead Allocation," Accounting Review, April 1945, p. 164-65.

. Horngren, Cost Accounting, pp. 149-50.

. Ibid., p. 172.

CHAPTER VI

PERFORMANCE REPORTS

Purpose of Chapter

The introductory section illustrates how performance orts facilitate the basic management process with emphasis the important elements of planning and controlling gure 6). Desired features of performance reports are cified and compared to conditions existent at base level. important implications of centralized design and develop- t of the mechanized programs that produce the performance orts are discussed. Ramifications of the manning policy e Do From Available Resources" are considered. The last r consideration in this chapter involves an apparent lack anagerial expertise. As usual the above major subject er areas are embodied in a schematic which provides a ul framework for the chapter (Figure 7).

Introduction

In July 1968 a major command comptroller involved in ing PRIME made reference to the importance of effective rts by saying that the benefits from and support for the E system varied in direct proportion to the success eved in providing key officials in the chain of command

reports they needed to do their jobs.

Dr. Horngren emphasizes the importance of reports by

ting accounting to the important managerial responsi-

ties of planning and control:

> Consider some fundamental ideas that are not new but that do need emphasis. Management's task is to plan and to control. Planning means selecting objectives and the means for their attainment. In other words, planning embraces the answers to two questions: What is desired? How and when is it to be done? Controlling means obtaining conformity to plans.
>
> Both planning and controlling entail decision-making, which means choosing among alternative courses of action. Decisions tend to be more fruitful when they are based upon considered judgment rather than upon hunches or guessing. Considered judgment requires the gathering of relevant information in the right form at the right time. It requires the ability to distinguish the relevant from the irrelevant, the important from the unimportant. Such ability is the earmark of a good accountant and of a good manager.[1]

Horngren describes the relationships among planning and

rolling elements by means of a diagram (Figure 6), he

orates on these relationships by saying:

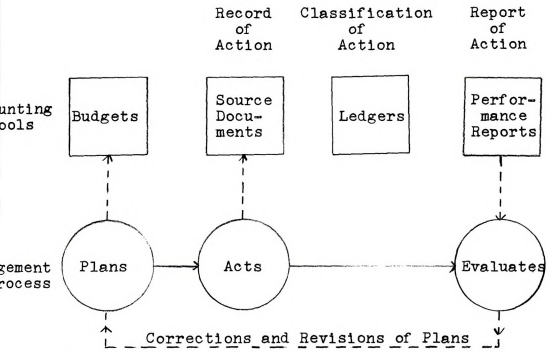
> Accounting formalizes plans by expressing them in the language of figures as budgets. It formalizes control by performance reports, which compare results with plans and spotlight exceptions. These reports spur investigation of exceptions. Then operations are brought into conformity with the plans or the plans are revised. This is an example of management by exception, which means that the executive's attention and effort are concentrated on the important deviations from expected results. Such a system reflects the needs of managers, who want their attention directed to unusual situations and who do not want to be bothered about the smoothly running phases of operations.[2]

The benefits associated with performance reports are real;

benefits are among the primary goals of PRIME. However,

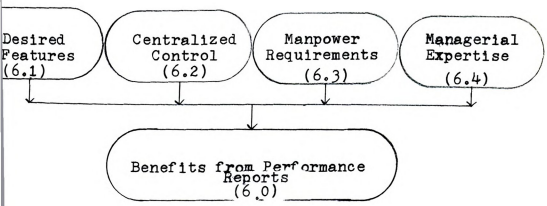
benefits will only be achieved if mastery of four sig-

ant underlying influences is obtained (Figure 7).



ACCOUNTING FRAMEWORK FOR PLANNING AND CONTROLLING

Figure 6



PERFORMANCE REPORTS

Figure 7

The subject matter of each independent variable will be cussed in the chapter sections which follow. But first, would be useful to note that the Air Force has not plunged o a full-fledged performance reporting system. Top-level Force managers recognized the advisability of tackling the orting problems on an incremental basis as explained in agraph 4-1, chapter 4, AFM 178-6, March 31, 1969:

> These reports will aid in the administration of operating budgets and targets. They show the manager how his consumption of resources (actual expenses) compare with his plan (budgeted expenses). The reports do not show what has been accomplished with the resources consumed, nor do they provide a measurement of performance. Measurement of performance in this case refers to such measures as the comparison of actual costs and performance/production with standard costs and standards for performance/production. These features are a part of the longer range developments. For these reasons, the current reports are management reports only in the limited sense described herein.
>
> The basic philosophy used in designing these reports was to keep the format as simple as possible, identify variances from the planned (or phased) programs, and allow for further definition of these variances. The system employs the building block concept to the extent that expenses are:
>
> 1) Identified at the lowest organization level--cost center (CC)--and
>
> 2) Summarized for succeeding levels of organization.

Within the parameters of the rather modest performance ting scheme established by the Air Force, I have concened my attention on performance reporting problems at the level.

Desired Features (6.1)

Resources management information should embody the wing desired features:

Program orientation

Utility

Relevancy

Trend orientation

Timeliness

ram Orientation

An effective performance report should make a side-by-
comparison of actual resource usage with the program.
he RC/CC level this comparison involves actual expenses
the budget target figures. At the earliest possible
this comparison should also include a comparison with
table goal" such as a standard expense per unit of out-
As mentioned in the previous section, output measures
standards per unit of output are a part of the Air Force's
-range program, and thus at present are not being used.
Findings. - This desired feature (program orientation)
not been adequately achieved. Some RCs received manage-
reports which included only the expense information; the
et targets had not been established. In other cases,
et targets had been partially established, but important
nse elements such as military personnel costs had been
uded. These deficiencies precluded an effective side-by-
comparison of actual resource usage with the program.

ity

Performance reports should be simple, direct, and im-
itely useable in the format received. The manager should
ave to make additional computations to obtain regularly
red information. And, above all, he should not have to

ne or look at several reports to fulfill his needs for
rmation. Idealistically, his needs would be summarized
hat he could obtain desired information by glancing at
ngle page.

Findings. - The management reports certainly haven't
ersally met this criterion. At one base the reports were
designed and distributed to meet responsibility center
s below the level of Deputy Commander, Materiel (ref.
re 1, page 17). There were three levels of responsi-
ty center operations erroneously combined in one report
h left the two subordinate RC levels with no reports.
, there were still managers who hadn't shaken the habit
sing (or found a suitable replacement for) large wall
ts that required manual grease pencil entries denoting
al versus programmed performance. One RC manager was
taining a hand-posted ledger. The figures in the ledger
derived by analyzing the computer produced management
rts. This laborious, error prone method was necessary
use the reports were not aligned with the organization.

vancy

Managers soon lose interest in reports which contain
evant information. When it is possible to categorize
evel of relevance, information could be arranged on the
t to take advantage of this fact.

Findings. - At the base-level there were certainly varying
es of cost controllability; this difference in managers'
ol over cost elements could provide a worthwhile basis

for categorizing costs in the management reports.

Trend Orientation

The managers should know not only where he is, but also where he has been and where he is going as well.

Findings. - The prescribed current practice of budgeting by fiscal years combined with excessively delayed receipt of uncertain appropriations certainly complicated achievement of this objective. The development of "stable goals" such as standards could do much to alleviate this problem. A "stable goal" would give the manager a viable bench mark to rely upon when budget targets fail to serve this purpose.

Timeliness

The character of the RC managers' position makes this feature critical. The RC manager must have current information to support his decisions regarding consumption of resources. For all the managers in the hierarchy, from him to Mr. Laird (SECDEF), expense information should be of maximum usefulness to him, but will be only if the information is timely enough to support his decision-making needs.

Findings. - First of all, it took a major portion of fiscal year 1969 to design, develop, and distribute a program which would produce acceptable management reports (see section (6.2)). Second, when top-level DoD managers determined the priority for processing the data and printing the management reports to support the various levels of managers, the RC managers were given one of the lowest priorities. Consequently, the RC managers' monthly reports weren't available

until about the middle of the following month. This reversal of priorities will be even more serious when, in the future, the reports become the basis for rigorous, timely variance analysis. Such variance analysis should originate with the manager responsible for consumption of the resources. He should be given time to make the analysis in order to explain deviation of actual from the program. Then he is in a position to answer questions from higher authorities. But if the higher authorities get their reports first, unnecessary pressure and conflict are built into the situation because questions can be asked and answers demanded before the operating manager has a chance to respond.

At some bases, administrative delays have been built into the reporting system. For example, at one base data services produced the report and dispatched it to the accounting and finance office where it was given an "eyeball check"; the accounting and finance office then forwarded the report to the budget office; finally, the budget office distributed the report to the RC managers. Using even the speediest of methods (hand carried reports), such an administrative process causes long, unnecessary delay; if normal base distribution channels are used the delay can be considerably longer.

Summary (6.1)

Managers were not provided the desired level of benefit from the management reports because the reports did not embody the desired features (6.0:6.1).

Centralized Control (6.2)

ntralized Computer Programming

Centralized control is exemplified by the centralized sign and development of the mechanized programs for pro- ing the management reports. Workable programs were not ilable when PRIME was suddenly implemented on July 1, 1968. fact, it wasn't until about January 1969 that a supposedly kable program was received in the field. But it didn't k. By April 1969 most of the "bugs" had been removed from January 1969 version of the program. However, the re- tant reports were not acceptable because of input data blems which were not readily apparent until a useable gram was run. So, many responsibility center managers er saw an acceptable performance report during the first r of PRIME.

Starting in FY 70 the Air Force has begun integrating eral programs into an improved, integrated system to be essed by the new generation computer--a Burroughs 3500 500). These plans to upgrade and integrate Air Force rams will undoubtedly be beneficial, but they may have yed much needed change to performance reports being essed by the older B-263 programs. I have been told that B-3500 programs will be able to retrieve logistics data ly from the Univac 1050-II (U-1050) system that supports upply stock fund operation. Stock fund issues processed e U-1050 became supply and equipment expenses of cost rs in the B-263 system. But the B-263 supported

erformance reports did not interface to the degree that the
/CC reports issued during the month included up-to-date
upply and equipment expenses. For example, at one base an
bbreviated weekly Cost Center Report was being generated by
.e B-263; this report included the expense categories, except
r military personnel costs. But the supply and equipment
pense figure originated with the U-1050 cut-off as of the
d of the prior month. Such partial reporting of expenses
d mixed cut-off dates seriously detracted from the use-
lness and acceptability of reports. In summary, a reporting
lestone will have been reached in the Air Force when per-
nnel costs (payrolls are processed by an NCR 390), materiel
sts (U-1050), and PRIME performance reports (B-263) are in-
grated so the RC/CC managers have continuous access to
rrent costs associated with their resource usage (6.0:6.2).

uptroller Discretion

Top-level Air Force officials' recognition of the poten-
l for reporting problems is reflected in paragraph 5302,
pter 3, Atch. 7 (C5), AFM 177-101, February 24, 1969:

> Standard USAF programs are provided for base management reports. Four report programs are provided; two are mandatory and two are optional. This is the initial set of reports. Changes and improvements can be expected based upon operating experience. Although preparation of two reports is mandatory, this does not mean that distribution of the reports to cost center and responsibility center managers is mandatory at the outset. The Comptroller should exercise discretion in making the decision to distribute the reports considering at least the following principal prerequisites:
>
> (1) There is a demonstrated capability to prepare the reports on a routine continuing basis.
>
> (2) Administration of the new systems has reached a level of reliability where generally valid expense

data are produced.

(3) The effect which the current use of budget targets has on the utility of the reports. Reports which do not contain budget targets will be of limited management value to cost and responsibility center heads.

nagerial Inhibitions

I was surprised at the attitude of and lack of action by se-level managers with regard to reports. For example, at e base a first-line resource advisor (RA) was receiving only e copy of the Monthly RC Report even though there were two rels of subordinate RAs under his supervision who also ded the report. His response to this need for more copies to have an airman hand post information from the single y before transmitting it to his subordinate RAs. This ding prompted me to check with other RAs for this de- iency in distributing reports; similar circumstances did st at other locations. All that was needed was a single ephone call to determine that six copies were printed and n forwarded to the Accounting and Finance Office. The unting and Finance Office forwarded the fourth copy to operating manager and retained the other five copies-- problem has since been brought to the attention of the C Control Point. At this same base the Monthly RC Report ot completely aligned with assigned organizational re- ibilities. As a result, some RC managers were forced to ulate manually the mechanized report figures to align ith organizational responsibilities. In this case, one supervisors involved claimed she had complained to her lsor but no corrective action had been taken.

In summary, many of the managers I talked to failed to ut performance reports into proper perspective. I pointed- it to them that considerable sums of money were being spent o produce the performance reports for the specific purpose meeting the managers' needs for information to support heir decision making. Therefore, they, the decision makers, re duty bound to provide "effective feedback" if the reports, the reporting process, doesn't meet their needs. In other rds, the reports are produced to serve them--not vice versa. such, the managers should not be satified to adjust con- nually to meet the deficiencies of the reports. A deficiency ould trigger--and continue to trigger--"effective feedback" rough specific centrally directed channels until corrective tion is taken or notice is received that such action cannot will not be taken. Do communication channels exist and are ey open?

mmunication Channels

In February 1969 the base level managers in one command re encouraged by the command comptroller to utilize avail- e communication channels to improve reporting: "Hq USAF asked us to review and recommend changes to the PRIME 69 orting systems. To make this review comprehensive we d your comments ---

---

This is your chance to air your views. Take full antage of it."

inistrative Constraints

At various times at various bases I observed that seem-
ly unnecessary administrative constraints had been levied
HC managers and the Budget Office (as PRIME Control Point)
ch tended to demotivate the managers. For example, con-
erable pressure was brought to bear in one command to: 1)
spend the budget target, and, 2) adjust the quarterly
gets to prevent year-to-date expenses from exceeding the
rterly authorized budget targets. The effect of carrying
this edict was for targets to chase actual expenses with
objective of achieving a tie at the end of the quarter;
result was tired, mystified, and demotivated managers
valid unanswered questions regarding the reasons for
ng such performance reporting constraints.

ary (6.2)

The combination of deficient reports, reporting procedures,
open communication channels certainly justifies aggressive
on by base level managers to cause performance reports to
their needs. Of course, limitations imposed by central-
design and control will prevent the achievement of com-
e satisfaction by each manager. However, the managers
a long way to go before they have maximized their satis-
ion within the existing environment (6.0:6.2).

Unnecessary administrative constraints are a burden
can ill afford. Such constraints should be an important
t of audit, survey, and inspection teams as well as of
nders and functional supervisors whose object it is to

cilitate the implementation of PRIME (6.0:6.2)

Manpower Requirements (6.3)

I have observed a considerable emphasis on implementing IME "from available resources." In general, one can only laud efforts to accomplish more output with the same expenditure of resources. However, if much needed resource agement improvements (such as those associated with PRIME) jeopardized by frugal support, the lack of expected results certainly could be attributed to false economies.

A strong defense can be made for the Air Force's efforts "make do from available resources" because we certainly are the midst of a serious, "belt-tightening" period. And unfortunately, the benefits associated with PRIME aren't in the of visible, immediate payoffs on an objectively determinable, one-for-one basis. In fact, the benefits appear to into the long-range category. It is not easy during ods of austere budgets to justify additional expenditures ciated with uncertain, long-range returns, uncertain benefits if PRIME isn't properly supported it could end up as ly an expense data collection system.

troller Aspects

The "let's make do" philosophy extends into the Comptrollers' offices as expressed in paragraph 5302, chapter 3, 7 (C5), AFM 177-101, February 24, 1969:

> ---the entire Comptroller Staff (Accounting and Finance, Budget, Data Automation, and Management Analysis) not engaged in equally or more essential duties should be made available for the review and analysis of the system

in general and the various management reports in particular. The express purpose of this analysis effort would be in the identification and resolution of administrative deficiencies and to improve timeliness, accuracy, and overall usefulness of the reports. (Underlining added)

Aspects

I will cite as a prime example of "making do from avail-
le resources" what I observed at a large ground training
stallation. The resource advisor (RA) for the principal
tivity on the installation managed an annual budget target
about $45,000,000. There were about 10 subordinate RAs at
e second level of responsibility centers (RCs) at which
ganizational elements colonels were authorized as supervisors;
this second level of responsibility, the RA responsibilities
e generally delegated as "an additional duty" for the chief
the requirements branch. Finally, there were about 60 cost
ters subordinate organizationally to the second-level re-
nsibility centers.

mary (6.3)

I left this training activity with serious doubts that
s budget officer, the ten second-level supervisors, and
ty or so cost center managers could be expected, as an
tional duty, to cause the benefits associated with PRIME
be forthcoming in a reasonable period--if ever (6.0:6.3).

Managerial Expertise (6.4)

Not surprisingly, the level of expertise of RAs varied
ly. I shall never forget my consternation when an RA
d me what the initials RMS meant. This question came

rom a resource manager who had been on active duty as a
eutenant for more than a year and had been designated an
for nearly a year. My consternation was heightened at
e knowledge that this RA had an unread copy of the very
ne Resource Manager's Handbook, AFM 178-6. In defense of
is individual, I must mention that, as a typical lieutenant,
e had a long list of official jobs--as well as the RA job
additional duty") which was assigned in accordance with the
llosophy of "making do from available resources."

At a briefing in the spring of 1969 the USAF Assistant
rector of Budget made a knowledgeable assessment of reports,
reporting process, and the level of managerial expertise
saying:

> Assisting management in the practical usage of PRIME data has been, and still is, a problem. We were very late in giving you the series of "Management Reports" for such a purpose and we are not sure yet that these reports are the answer. Considering the imperfections in the basic system itself, for the first few months, perhaps it is just as well that management reports were slow. Even with report products, you and the "managers" will have to feel your way along in using the data. This is true at all levels including the Air Staff and OSD.
>
> Perhaps one of the most controversial facets of this subject at base level is how management should use reports on alleged uncontrollable expenses such as military personnel, system support supply items, and Aviation POL. Some improvement can be made by improving the system. However, management will have to be taught how to use data coming out in reports. I do not think there will be a lot of benefit to base level managers in the short run. I do not know how much benefit there will ultimately be. I think we are all suffering now from the overselling and exaggerated claims that were made on behalf of PRIME a year or two ago.
>
> My advice to you is that you go slow on promises for the system and concentrate on outputs that have relevance in the context of your commander's responsibilities and interest. Whatever you do keep it as simple as you can.

From what I have read, observed, and been told during interviews, our needs are three-fold and they are related to bringing an enhanced level of manager expertise to bear on the problem: By improving feedback on and design of the reports (6.1); by insuring that appropriate manpower is assigned to PRIME (6.3); and by increasing emphasis on indoctrination, training and education.

Indoctrination, Training, and Education

The need for indoctrination, training, and education existed across the spectrum of PRIME but appeared to be critical regarding performance reports. Conclusions drawn in January 1969 from an Audit Quick Fire Survey, Documentation on Selected Responsibility Centers/Cost Centers, included the following:

> A significant number of recipients of reports are not using reports designed for their use (e.g., Element of Expense Management Report) due to lack of understanding/knowledge of the system, insufficient indoctrination, timeliness of report and the fact that the same information is available from another source.

My own observations as much as nine months later tend to support a similar conclusion. What should be done?

Within the general area of indoctrination, training, and education in support of PRIME, variance analysis appears to warrant immediate, critical attention. When a significant variance between actual and the budgeted target occurs, two important questions should be raised: What happened to cause the significant variance? Who is responsible for what happened? When the manager has answers to these questions, he

is in a position to begin corrective action. But, finding answers to these questions can be so difficult as to require a complete knowledge of the accounting/reporting system as well as the operations subject to the report. Also, to be of significant value in the decision-making process, the reports must be timely and the variance analysis completed without delay.

In addition to these basic requirements for acceptable variance analysis there are a number of sophistications that should be considered as soon as they are feasible. One sophistication would use the computer to perform certain steps involved in variance analysis and then print the results. The computer assisted analysis could be electronically triggered by a predetermined percentage excess of actual expense versus the program.

Summary (6.4)

The level of managerial expertise must be enhanced in order to achieve the benefits associated with effective reporting (6.0:6.4). The most viable route to this critical goal is via appropriate applications of indoctrination, training, and education. And effective variance analysis awaits such appropriate application of indoctrination, training, and education.

Chapter Summary

After reflecting upon the discussions in the preceding sections and referring back to the original quotation on page 97 of this chapter, one may conclude that: the benefits

n and support for the PRIME system are deficient, and even the reports and reporting system were perfect the manpower port and level of managerial expertise would be insufficient take advantage of this perfection (6.0:6.1-6.4).

The key factors necessary to correct this undesirable uation are sufficient manpower support and appropriate, tinuous applications of indoctrination, training, and cation.

Charles T. Horngren, Cost Accounting a managerial emphasis, ed.; Prentice-Hall Inc., Englewood Cliffs, N. J., 1967, 5.

Ibid. pp. 5-6

CHAPTER VII

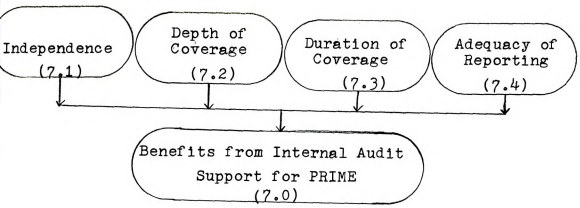
INTERNAL AUDIT SUPPORT OF PRIME

Introduction

The need for and benefits associated with internal udit support are demonstrated by the widespread use of in- ernal audit within industry. Within the government the re- ognition of audit value culminated, via the Budget and ppropriations Procedures Act of 1950, in mandatory estab- ishment of an internal audit agency in each of the military epartments.

The extent of benefit that accrues from the exercise of he internal audit function is dependent upon a number of actors. Figure 8 provides the reader a schematic which sociates the benefits derived from internal audit support he dependent variable) with the factors which affect the tent of benefit derived (the independent variables).

The boundaries of the audit environment in this dis- ssion should be confined, whenever possible, to internal dit in support of PRIME. The variables will be related in e text that follows to assist the reader in evaluating the nefits that managers have derived from internal audit pport of PRIME.



INTERNAL AUDIT SUPPORT

Figure 8

Background

The reader may not understand the nature of internal udit support of PRIME unless he has at least a minimal nowledge of the Air Force Auditor General origin, organ- zation, policies and operations. A brief description is herefore supplied here. The principal source of information or this section (Background) was the Air Force Internal uditors' Handbook.

finition

DoD Instruction 7600.3 defines internal audit as follows:

> Internal audit is the independent appraisal activity within an organization for the review of the financial, accounting, and related operations as a basis for protective and constructive service to management. It is a type of control which functions by measuring and evaluating the effectiveness of other types of control. It deals primarily with financial matters but it may also deal with related matters of an operating nature (excluding tactical operations).

This definition of internal audit implies that: in- rnal audit is a service to management (7.0); a member of

the Air Force organization performs the work, but this member is independent of those being appraised (7.1); there is an appraisal, not only of the records, but also of policies and procedures (7.2); and, a report with recommendations for improvement or corrective action is submitted (7.4).

Need for Internal Audit

Internal audit is an important development in recent years within the broad area of financial and management control. Like many other developments in government and industry, internal auditing has grown in response to a specific need. This need arises from the size and complexity of large organizations such as the Air Force and the resultant separation of planning from operations. So top-level management has become increasingly conscious of the need for internal review and appraisal which can be provided by an internal audit activity. This need for internal audit service in DoD culminated in legislation making the comptroller and audit activities mandatory.

Establishment of the Comptroller

The Department of the Air Force was established by the National Security Act of July 1947 as an independent agency on a parallel with the Army and Navy Departments, all three Departments being under the jurisdiction of the newly created Department of Defense. At this time additional significance was accorded the comptroller by designating the Air Comptroller as a Deputy Chief of Staff (currently designated Comptroller of the Air Force). This action strengthened

ıd improved the management phases of the Air Force, since
ıe Comptroller was given equal voice with the other deputies
ıamely Materiel, Operations, and Personnel).

tablishment of Air Force Internal Audit

After the establishment of the Air Force as a separate
partment in 1947, the Army Audit Agency continued to per-
rm the audit function until July 1, 1948. Upon agreement
tween the Secretaries of the Army and the Air Force (Joint
my-Air Force Adjustment Regulation 1-11-29, dated June 30,
48) the Air Force assumed responsibility for its own audit
ıction. The Auditor General was established as a part of
e Comptroller under the provisions of Air Force Regulation
40 "Organization of the Auditor General," dated July 1, 1948.

ıislative Authorization for Internal Audit

The National Security Act amendments of August 1949
ed impetus to the comptroller concept by requiring that
Military Departments, as well as OSD, appoint comptrollers.
ernal audit was among the responsibilities set forth.

Public Law 764, 81st Congress, known as the Budget and
ounting Procedures Act of 1950, applies to all government
ıcies and the Department of Defense, of which the Air Force
ı part. Section 113 of this law sets forth the following:
e head of each executive agency shall establish and main-
ı systems of accounting and internal control designed to
ide: 1) Full disclosure of the financial results of the
cy's activities; 2) adequate financial information needed
the agency's management purposes; and, 3) effective control

over accountability for all funds, property, and other assets for which the agency is responsible, including appropriate internal audit."

Implementation of Public Law

The Department of Defense has issued implementing directives prescribing audit policies (DoD Instructions 7600.2 and 7600.3) for the components of the Department of Defense. The Air Force has further implemented the public laws by publication of its own directives. Air Force Regulation (AFR) 21-5 sets forth the basic organization and the responsibilities of the Auditor General and states also the responsibilities of Air Force commanders in connection with internal audit. AFR 175-4 implements DoD Instruction 7600.3 and establishes basic policies and guidelines for accomplishment of auditing in the Air Force.

udit Organization

The Air Force audit mission which is assigned by law to he Comptroller is delegated to the USAF Auditor General with eadquarters at Norton AFB, California. Field extensions ave been established at most Air Force installations world-ide. All Air Force auditors, regardless of where they are ysically located, are assigned to the Auditor General head-arters. Independence, a prerequisite to proper performance the audit mission, is fostered by this centralized assign-nt policy (7.1). Additionally, independence is fostered the Auditor General having direct access to the civilian sistant Secretary of the Air Force (Financial Management)

ho is the immediate civilian superior of the Comptroller f the Air Force (7.1). In effect, the Auditor General wears two hats"; his immediate line organization superior s the Comptroller of the Air Force, but he also has direct ccess and reporting responsibility to the Assistant Secetary of the Air Force (Financial Management).

udit Responsibilities

The internal auditors' responsibility is to examine and valuate from a financial management standpoint the procureent, supply, and property management policies, procedures d practices; they also report audit findings and make recmendations for corrective action to management. But they not have the authority to make changes (or order changes de) in the procedures or operations of the activities audited; erating managers are responsible for determining what action ll be taken and for giving the required instructions.

Audit Support Policy

Anticipating that Congress would authorize the PRIME lementation effective July 1, 1968, after cancelling plans the previous year, General Brown (Auditor General, USAF) January 22, 1968 reaffirmed the audit support policy by uing a policy letter which stated:

> During the development and implementation phases, we will direct our participation toward providing assistance to system designers, operating personnel, and managers at all levels. Audit resources will be made available to help in identifying or eliminating system problems, and in communicating information to help personnel better understand and apply the system. We are already performing a system audit appraisal of the

ATC test of Project PRIME, which is the forerunner of PRIME 69. We will also perform preconversion, conversion, and post conversion audits of PRIME 69. To render this support effectively, we must keep informed and current in all program developments.

Conceptually and to some extent procedurally, the actions proposed for PRIME 69 are basically similar to those that were originally scheduled for implementation on 1 July 1967. To get back "in-step" with the program, you should review the RMS Articles and Workshop Handbook previously distributed. Prior correspondence procedures will be reestablished to provide you general system information and audit guidance. Our success will depend on you and how well you use your experience, initiative, and imagination. The system is a good one, and it deserves our best efforts.[1]

ME 69 Audit Role

Auditors at all levels were told by the Auditor General to assist Air Force managers (7.2) during the implementation and operational phases of PRIME 69, to include:

1) Making audit resources available to help local managers identify or eliminate problems.
2) Communicating information on the theory, concepts, and application of RMS/PRIME to help others better understand them.
3) Suggesting to management new ways to use information generated by the system.
4) Evaluating the accuracy and reliability of system inputs and outputs and reporting the results to management.[2]

The magnitude, complexity, and uniqueness of the audit ort in support of PRIME dictated that certain uniform nges be made in the auditor's contacts with management.

acts with Management

To best perform our stated role, each resident auditor must establish an open channel of communication with base personnel associated with PRIME 69. To be of assistance and to best determine audit need, each FAO must keep in tune with day to day developments and problems before, during, and after system implementation. Arrangements must be made to receive copies of all directives and information coming to the base through publication and command channels. You should also

insure that local managers understand the role of the auditor as indicated in paragraph 4. Our goal is to develop relationships to the point that managers freely come to us with their problems. Once established, good relationships can be maintained by being responsive to the audit needs of local management.3

With his contacts properly established, the local auditor charge (resident auditor) of the field audit office (FAO) s in a position to obtain necessary data to provide knowl- geable support to the local managers.

Audit Support Rendered

neduling PRIME 69 Audits

With his intimate knowledge of local operations, the sident auditor usually determined the area to be audited. is decision to allow the resident auditor to decide how st to apply the limited audit resources on the spot is rtainly a positive aspect of the Air Force Comptroller's cision to have auditors on site rather than concentrated regional locations. Did each of the widely dispersed Os develop their own audit programs?

ogram Development

Each resident auditor was not left alone to sink-or- m with this new PRIME system, because a level of expertise already been established in the USAF Auditor General ing the various testing phases which preceded the PRIME lementation on July 1, 1968. For example, during audit veillance of the Air Training Command (ATC) PRIME 68 test, resident auditors at ATC bases attained excellent expo- e to and valuable experience in auditing PRIME. Also,

the Air Force auditors who specialize in systems design and development gained a tremendous amount of PRIME knowledge and experience while performing system audit appraisals concurrently with the design and development of the basic system by Air Force systems/operating people. How was this specialized knowledge used to benefit the audit organization as a whole?

Audit Guidance Development (7.2)

Using the knowledge and experience of the auditors at the specialized bases, audit guidance was developed to assist all audit offices in performing initial post-implementation PRIME 69 audits. This audit guidance provided background information and an audit starting point in each functional area covered. During the audit guidance development stage, the auditors from the ATC bases joined forces with the systems specialized auditors to insure that the latest changes in the system were incorporated into the audit guidance prior to field audit offices receiving their copies. What was the guidance comprised of?

Scope of Audit Guidance (7.2)

Basically, the audit guidance contained narrative information, flow charts, audit steps, and audit instructions. Where applicable, major differences between the existing system and PRIME were described. To the extent possible, within each functional area the audit guidance was designed

1) Identify the "key" input points and source documents; 2) identify and describe the major output products and describe their intended use, 3) identify the "key" control points, 4) provide general guidance (or specific audit steps) concerning an audit approach, 5) point out suspected problem areas, and, 6) to the extent possible, identify significant processing routines, edits and internal controls, and describe possible uses of output products which are not contained in Air Force directives.[4]

What guidance was provided the field audit offices re-

rding interface of audit efforts?

terface of Audit Efforts

USAF Auditor General Headquarters issued PRIME Informa-

on Letter Number 20-PRIME Survey Team, dated September 12,

68 which provided the following information and guidance:

The Assistant Secretary of Defense (Comptroller) has formed a PRIME Survey Team. The team consists of representatives from ASD(C), the General Accounting Office, the Bureau of the Budget, and the Military Services. During the next few months the PRIME Survey Team will visit the installations listed in Attachment 1. The team will focus attention on PRIME implementation. They will seek to identify ideas and innovations that will improve the system and get necessary corrections in the system made promptly.---

Auditors should cooperate with the team and provide them with whatever assistance is necessary to make their visit successful. PRIME 69 audit reports and letters of potential system weaknesses should not be offered to the team unless specifically requested. We have arranged to provide the team with periodic summarizations of the base level reports and with final reports of system weaknesses issued by the AGRO (AFDSDC) or AFAUDL.

"AGRO (AFDSDC) or AFAUDL" in the above quotation refer

audit offices with specialized experience and knowledge

arding system design and development.

udit Support Box Score (7.2-7.4)

Periodically the Auditor General sent letters to the Air taff that consolidated their Air Force-wide participation in ipport of the PRIME implementation. These letters summarized nportant system weaknesses and audit findings identified in idit communications including letters and reports. And, the ime Air Staff reports were appropriately distributed to all ield audit offices to assist resident auditors in identifying otential problem areas. As part of my research, I read avail-ole letters and reports; the contents were discussed with elected resident auditors in the field.

Table 1 incorporates the box score for seven months ended anuary 31, 1969; more than 900 reports were received from uditors at 154 installations.

Reader's note: In the interest of readability, Table 1 ill be started at the top of page 127.

TABLE I

LOCAL AUDIT REPORTS ISSUED (*) IN SUPPORT OF PRIME

Function	July-Dec 1968 Jul-Sep	Oct-Dec	Total	Jan 1969	Total all Reports
Accounting and Finance	58	98	156	6	162
Base Supply (System and General Support Division - AFSF)	38	81	119	6	125
Costing of Military and Civilian Personnel	41	51	92	4	96
Civil Engineer	23	35	58	10	68
Medical-Dental Division - AFSF	27	36	63	4	67
Conversion	45	8	53		53
Aviation Fuel Costs	6	35	41	3	44
Maintenance	10	24	34	5	39
Undelivered Orders Outstanding	28	6	34	1	35
Other	9	23	32	5	37
Assistance in Reconciliation of 30 Sep 1968 HAF-C31/HAF-C19 and HAF-C226 Reports	___	179	179	1	180
Total	285	576	861	45	906

*These totals do not include 79 reports issued prior to July 1968 covering preconversion efforts.

Source: USAF Auditor General letter to Air Staff.

In addition to the local audit reports issed by the resident auditors at base level which are included in Table 1,

uditor General HQ issued the summary reports included in

able 2.

TABLE 2

CENTRALLY DIRECTED SUMMARY REPORTS
ISSUED IN SUPPORT OF PRIME

ITLE	Date Issued (1969)	Number of Bases Involved	Audit Hours Expended
TC Test of Integrated PRIME/ odified BEAMS (Note 1)	Jan 20	3	2256
onreimbursable Issues of upplies (UNIVAC 1050-II) ystem Support & General upport Divisions Air Force tock Fund (Note 2)	Apr 15	13	2175
entral Operating Activity or Financial Management of he Military Manpower Pro- ram (Note 3)	May 29	HqUSAF AFAFC	3516
delivered Orders Outstand- g (Note 4)	July 8	60	6919
rvey of Budgeting & Account- g System for Operations 001) Within the Air Force gistics Command (AFLC) ote 5)	July 14	5	2914
ecertification of Funds ote 6)	July 17	22	1813
LC Nonreimbursable Issues Forced Credit Turn-Ins ote 7)	Sep 30	5	2832
ntral Operating Activity Management of the litary Personnel Expense tem (Note 8)	Oct 7	HqUSAF AFAFC & 21	1459
			23,884

Source: Letter from the Deputy USAF Auditor General.

Notes referenced in Table 2:

1,3,8. Notes 1 and 3 refer to systems appraisal its. AFAFC is the abbreviation for the Air Force Account- and Finance Center at Denver, Colorado. Note 8 refers an expansion to 21 bases of the survey report issued on 29, 1969 (Note 3).

5,7. Notes 5 and 7 refer to audit efforts confined the large, complex bases which support the Air Force logis- s operations.

2,4,6. Notes 2,4, and 6 refer to compliance-type its performed at a sample of the world-wide installations.

th of Coverage (7.2)

The charter which described The PRIME 69 Audit Role was

rally above reproach:

1) Making audit resources available to help local managers identify or eliminate problems.
2) Communicating information on the theory, concepts, and application of RMS/PRIME to help others better understand them.
3) Suggesting to management new ways to use information generated by the system.
4) Evaluating the accuracy and reliability of system inputs and outputs and reporting the results to management.5

However, in my opinion the relative emphasis placed on the ous aspects of the charter does not appear to be above re- h. Judging by the reports issued, most of the audit ef- was devoted to "compliance-type" audits; reports were ly concerned with operating personnel who were not com- g with directives emanating from higher authorities. But were also valuable suggestions made by the auditors which with systems weaknesses. And the audit effort expended ne and July 1968 undoubtedly facilitated the conversion e new system. The centrally directed audits reported n Table 2 were direct, effective responses to the

nagers' needs. These audit efforts are payoffs for the
AF Auditor General being particularly well organized (with
manent staffs at most installations world-wide) to provide
ck, effective responses to the managers' needs. The term
it Quick Fire has been given to short notice, centrally
ected audits whereby only a few weeks elapse between rec-
ition of the need and the issuance of a summarized report
world-wide findings. But none of the reports in Table 2
e Audit Quick Fires.

My main concern and criticism regarding the depth of audit
erage (7.0:7.2) involves the lack of emphasis in the reports
the issues brought out in this dissertation, such as budg-
ng, controllability of costs, indoctrination/training/
ation, motivation/rewards/sanctions, output measures, etc.
ver, one must consider that the PRIME 69 audit require-
s added to (not supplanted) existing audit needs. The
d requirements generated by PRIME accentuated the ever
ent deficiency of available audit resources. This man-
r shortage and additional workload came at a time (in FY
nd continuing into FY 70) when DoD was in the throes of
onnel reductions to meet serious budget reductions imposed
ongress.

ary (7.2)

The issues brought out in the chapters subsequent to
ers III appear to be critical to the eventual success
ilure of PRIME and RMS. These subjects were given min-
coverage in the audit reports I reviewed. However, when

dit resources were limited and the imposed program (PRIME) s in its infancy, subjective judgments had to be made re- rding the best way to assist the local managers. By com- rison, my after-the-fact evaluation was admittedly much sier to make. Future audit endeavors should emphasize the portance of identifying the critical issues and giving these itical issues the strongest, most effective presentations appropriate officials (7.0:7.2). As audit resources be- e more critical--scarce as they seemingly are right now-- olicy of minimizing "compliance audits" and maximizing the ntification of critical issues through audits would seem to n credence.

ation of Coverage (7.3)

The Auditor General organization did a commendable job early recognition and organizing to meet the needs of RMS PRIME. Table 1 provides interesting evidence of audit port rendered. The important conversion to the new system July 1, 1968 was supported as evidenced by 79 reports issued June 1968 and 53 after July 1, 1968. The first six months ough December 31, 1968) of PRIME 69 marked the issuance 61 reports by auditors at the 154 world-wide installa- s.

Approximately 138,000 manhours were expended by Air e auditors from July 1968 through March 1969. The 000 hours did not include the audit effort spent in pro- g the summary reports included in Table 2. By combining ours expended for both audit efforts and projecting this

gure to an annual basis, one can conclude that about 200
litors were used in support of PRIME during the first nine
ıths of implementation. Such support is worthy of acclaim.
rever, judging by the reports issued, this intensity of
.it support suffered a significant decline beginning with
uary 1, 1969. What happened to cause this decline?

PRIME Information Letter Number 25 - Audit Support of Budgeting and Accounting System for Operations, January 1 - e 30, 1969, dated December 9, 1968, sheds some light on the stion of what happened. Paragraph 2 of this letter stated:

> In PRIME Information Letter Number 5, we committed the organization to active support of the Budgeting and Accounting System for Operations by providing assistance to managers, operating personnel, and system designers at all levels. We instituted special reporting procedures to provide better response to management needs, and we expended a large portion of our available resources in support of the system. We believe that continued assistance to management is important to the successful implementation and operation of this system. Therefore, during the period 1 Jan - 30 Jun 1969, we will continue the audit philosophy and role established in PRIME Information Letter Number 5. We will, however, modify the extent of audit effort as well as certain audit scheduling and reporting procedures.

The "however" in the last sentence proved to be
lficant. The prerogative to schedule audits in support
RIME was withdrawn from the local resident auditor--
ot when he had time available above and beyond the time
ired to support the audits centrally directed by the
or General Hq. At this point I must mention that during
time period the military departments got some highly
atory publicity regarding the management of Officers and
pen Messes via the various national news media as

triggered by the Congressional spotlight. This publicity may have inaugurated another cycle of increased audit attention to non-appropriated funds (of which the open messes are an important element). I am weaving this sidelight into the picture because the inevitable result is an increased demand on the limited audit resources to "fire fight" this problem. I chose the word "fire fight" because at the low points in the endless cycles of concern for non-appropriated funds it is repeatedly decided (usually in connection with a reduction in available audit resources) to assign a very low priority to auditing non-appropriated funds. The reduced likelihood of audit inevitably increases the probability of mismanagement of funds and resultant damaging publicity that suddenly changes the priority again, toward more mess audits, but doesn't normally affect the availability of limited audit resources except to spread them even thinner.

Summary (7.3)

Considering the number of serious problems that still exist involving the implementation of PRIME and the importance of RMS to the future of the Air Force, I believe the period of intense support of PRIME was too brief, and therefore the potential benefits of audit support were truncated (7.0:7.3).

Adequacy of Reporting (7.4)

The audit reporting procedures tailored to fit the circumstances presented by PRIME were noteworthy (7.0:7.4). PRIME Information Letter Number 25 which established the

rules for audit coverage for the period January 1 - June 30, 1969 stated:

> One of the more beneficial and widely accepted features of our audit support of the system to date was the unique reporting procedure established for locally scheduled audits. We will continue this procedure, with slight modification, when reporting the results of locally scheduled audits which the resident auditor determines are primarily oriented toward or related to the Budgeting and Accounting System for Operations.

The main features of this reporting procedure are: addressing the reports to the lowest level of management that has the authority and responsibility to take corrective action and, not sending copies of the reports to the major commands. Judging by interviews with resident auditors, this tailored procedure understandably fostered a closer working relationship between the auditors and local managers during the early implementation phase of PRIME. Exceptions to this procedure were triggered when: satisfactory action was not taken in response to PRIME reports previously issued; disagreements existed between the auditors and operating personnel; corrective action was required at an echelon higher than base level; and, in the judgment of the resident auditor, findings warranted major command attention.

Chapter Summary

Internal audit support of PRIME was apparently concentrated on preconversion systems and base efforts, followed by postconversion implementation during the first six months subsequent to July 1, 1968 (7.3). Certain critical issues

covered by this dissertation were not emphasized by the audit reports (7.2). Special audit reporting procedures were utilized which appeared to fit the circumstances admirably (7.4). The Auditor General is organized and operated to provide an independent review and appraisal of local operations based upon an intimate, daily contact with the local environment (7.1).

Benefits undoubtedly accrued to managers at all levels from the internal audit support provided by the USAF Auditor General. However, the benefits were abbreviated by the depth and duration of audit limitations discussed in this chapter (7.0:7.2, 7.3).

---

1. Paragraph 3 and 4, page 1, Auditor General Participation in Resource Management Systems (RMS), January 22, 1968.

2. Paragraph 4, page 1, USAF Auditor General PRIME Information Letter Number 5 - PRIME 69 Auditing and Reporting Instructions, dated April 10, 1968.

3. Ibid., paragraph 5, p. 2.

4. Paragraph 4, pp. 1-2, USAF Auditor General PRIME Information Letter No. 9 - Audit Guidance for PRIME 69, dated June 20, 1968.

5. Paragraph 4, page 1, PRIME Letter Number 5.

CHAPTER VIII

INDOCTRINATION, TRAINING, AND EDUCATION

Purpose of Chapter

This chapter explains that the benefits associated with appropriate indoctrination, training, and education (IT&E) were not achieved. Without appropriate IT&E, the multitude of new financial managers have little chance of becoming knowledgeable and motivated regarding PRIME and RMS.

The reader will be reminded again and again that a viable program would have consisted of uniform IT&E packages which were centrally designed, developed, and controlled. Instead of such a viable program, an aggregate of fragmented, duplicative, wasteful, and ineffective efforts completely lacking in centralized development and control ensued. This serious indictment based on interviews and field observations is detailed in chapter sections which deal with the lack of planning, suitable content, continuity of application, and direction that characterized the IT&E efforts.

Introduction

The problems associated with Indoctrination, Training, and Education (IT&E) are not new as exemplified by this accounting from the Aerospace Historian:

"Yesterday, Air Application - Today, Aerospace Technology"

> "... Our old flyers are familiar with conditions at San Diego before the war--such conditions do not spell progress. We worked until noon only. If the entire afternoons had been devoted to good sound technical training, we would have been in better shape to have handled the war expansion ... The Air Service will never be a complete success until all officers in command of Air Stations and in staff positions understand the game from its very foundation ... No man can effectively direct work about which he knows nothing ..."
>
> These were the thoughts expressed by Colonel Thurman H. Bane in a letter dated Nov. 30, 1918. The letter was written to the Director of Military Aeronautics, and it requested the authority to establish at McCook Field in Dayton, Ohio, an Air Service School of Application. It was from this school that the Air Force Institute of Technology, now celebrating its 50th Anniversary, originated.[1]

A paper written by a doctoral candidate who spent three or four days a week at Quonset Point Naval Air Station for a year when RMS concepts were being tested included the following observations:

> RMS and other systems to follow represent major learning and experiences. The old days of a "boat driver" or a "plane dirver" pure and simple are over, or at least they appear to be. These new ideas and concepts are not easy to incorporate into self-concepts which in the past have not included financial matters. At the same time, it is not an easy process for Comptroller personnel to shift their focus from controlling the money for the "old man" to helping line managers and the old man manage the money as an integral part of their own job. One of the problems which was well illustrated by the Quonset Test is the need for training at several levels in the organization.[2]

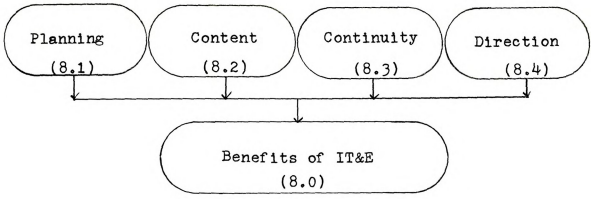
These nautical observations during the test phase certainly align well with my aerospace observations and interviews during the first year of implementation. Managers have firmly ingrained ideas that must be changed if PRIME is to be successfully implemented and the full benefits of RMS

achieved. A new breed of manager must be developed. Appropriate levels of IT&E will be required to change managers' ingrained behavior patterns of thought and action. Such change is painful and will be (is being) resisted. Affecting this metamorphosis of managerial behavior will not be possible through osmosis (fragmented on-the-job training efforts). But a well planned, vigorously executed program, which is apparently well within the immediate Air Force capability, will be required. How serious is the lack of appropriate IT&E?

If I were asked what the most important existent deficiency was with regard to the PRIME implementation, I would unhesitatingly name the lack of appropriate IT&E. Without proper IT&E about the best one could hope for would be a resolution by managers to perform assigned tasks but without understanding or belief regarding the RMS concepts. What happended (or did not happen) that caused a lack of IT&E to become such a threat to RMS? Figure 9 provides a framework which will be followed throughout this chapter to explore this question.

Planning (8.1)

The available written evidence and results of interviews indicated that during the various tests of the RMS concepts, immediately before implementation on July 1, 1968, and during the first few months of FY 69, there was considerable interest shown and activity exhibited regarding IT&E in



INDOCTRINATION, TRAINING, AND EDUCATION (IT&E)
Figure 9

support of PRIME objectives. Even then the interest and activity was not well planned or coordinated; but, at least part of this deficiency can be attributed to the uncertainty about whether there would even be an approved PRIME program. What happened later in FY 69?

After the initial flurry of interest and activity, a common attitude I detected on my field trips was one of "leave the training responsibilities to the next lower level supervisor as I am too busy handling day-to-day matters and besides he knows more about his needs and operations than I do, so he should conduct any indoctrination or training that may be necessary." I use the term "common attitude" advisedly because in reality the IT&E I observed at the base level varied from barely acceptable under the circumstances to practically nonexistent; most bases tended toward the right of this continuum. What do these observations have to do with planning and the attendant management responsibility of control?

Definition

Koontz and O'Donnell do a fine job of putting planning into perspective:

> Planning is the most basic of all management functions since it involves selection from among alternative courses of action for the enterprise as a whole and for every department and person in it. Not only is planning a basic function for all managers at all levels in the enterprise, but the four other functions of the manager must reflect it. Thus a manager organizes, staffs, directs, and controls to assure the attainment of goals according to plans.
>
> Planning involves selection of enterprise and departmental objectives and goals as well as determination of the means of reaching them. It is thus the provision of a rational approach to preselected objectives and goals. Since this approach does not take place in a vacuum, good planning must consider the nature of the future in which planning decisions and actions are intended to operate.[3]
>
> Planning is deciding in advance what to do, how to do it, when to do it, and who is to do it. Planning bridges the gap from where we are to where we want to go. It makes it possible for things to occur which would not otherwise happen. Although the exact future can seldom be predicted and factors beyond control may interfere with the best-laid plans, without planning events are left to chance. Planning is an intellectual process, the conscious determination of courses of action, the basing of decisions on purpose, facts, and considered estimates.[4]

As stated in the Introduction to this chapter IT&E appears to be the missing link to the successful implementation of PRIME. The first logical step to remove this deficiency would be to plan an appropriate IT&E effort in support of the long-range objectives of RMS (8.0:8.1). A plan should be based upon a viable philosophy of IT&E.

Philosophy of IT&E

Mr. Anthony espoused an interesting philosophy:

> I would be the first to admit that an educational program will not by itself instill the necessary degree

> of understanding. This comes only from actual experience with the system. But an educational program can make a beginning. It can at least open the manager's eyes to the possibilities, bring him to the point where he is willing--perhaps even eager--to experiment with the approach. If you entice him this far, his actual experience with the system should take him the rest of the way. If you cannot bring him this far, the whole programming effort is meaningless, for if you do not have management participation you have nothing.[5]

The doctoral student who observed the test of RMS concepts at the Quonset Naval Air Station[6] envisaged the need for uniform training programs aligned to the needs of top management (the station command structure), operating managers (department level) and systems maintenance people. Systems maintenance was defined to include the comptroller division and individuals in the line departments who are responsible for receiving, processing, distributing, and advising others on the systems information.

A viable philosophy should embody the factor of continuity. Mr. McNamara pointed to this element in his guidance to DoD agencies on June 13, 1966:

> I recognize that the Military Departments and Defense Agencies have a <u>formidable task</u> in developing and implementing the necessary changes in their own systems, and an <u>equally great challenge</u> in educating managers at all levels in how to use the new tools. Indeed, <u>these tasks are never ending</u>. I do expect that enough of these improvements will be accomplished by July 1, 1967, so that our emphasis can then be shifted to expense accounting in terms of organizational responsibility and program elements. (Underlining added)

A booklet entitled "Resource Management in the Air Force - The Background of Current Changes," (April 1967), elaborated on Mr. McNamara's brief reference to continuity:

> Much of the early training, education and indoctrination required to support the work of the next year will, of necessity, be conducted within the commands, using technical materials and guidance provided by Hq USAF. This broad, though temporary training effort is essential to the launching of the program; but it will be the continuing indoctrination and training of base level commanders, staff officers, and supervisors on which success in improving military management will hinge. (Underlining added)

I believe that the IT&E philosophy should also embody a consideration of the dual objectives of effective mission accomplishment and efficient utilization of resources. The ever present controversy involving the relative importance of effectiveness versus efficiency in the military environment should be brought out into the open and treated objectively by a viable IT&E program. All one has to do is follow the accounts in the news media of the budget hearings to realize that effective accomplishment of mission will no longer suffice as a sufficient motivation to gain necessary funding to provide a credible Air Force posture--credible to those we hope to deter from aggression and to our tax-burdened citizenry. RMS provides a viable means to achieve credibility for our Air Force efforts to achieve efficient utilization of resources. The thought that effectiveness is preeminent (in the extreme, to the exclusion of efficiency as a significant consideration) is sufficiently ingrained to cause this to be an important consideration in an appropriate IT&E program.

Summary (8.1)

Planning is preeminently important to a viable IT&E program. Plans should be based on a philosophy attuned to

eliminating deficiencies experienced during the implementation period and should foster managers' recognition of the balanced achievement of dual objectives--effectiveness and efficiency. Clearly, such planning for IT&E has not occurred (8.0:8.1).

Content (8.2)

IT&E Program Uniformity

One of the important considerations regarding IT&E is the need for and opportunity to maximize effectiveness and efficiency by using uniform IT&E packages as the basic elements in an appropriate IT&E program. This significant opportunity is based upon the uniformity of objectives, systems programs, reports, etc. that RMS embraces. But when one turns this coin over to examine the negative side the dysfunctional aspects of a fragmented IT&E program are obvious. Why? Since an effective IT&E program is the logical means to change ingrained thoughts and actions that run counter to RMS objectives, the IT&E program must, to the extent possible, be free of the biases associated with these ingrained thoughts and actions. However, when responsibility for IT&E is fragmented (as it presently is) the biases are inevitably reflected in the results--to the detriment of RMS.

Since uniform IT&E packages would best meet Air Force needs, fragmented, duplicative development of IT&E is wasteful of scarce resources. Also, knowledgeable managers recognize the complexity and cost of developing and maintaining currency of an IT&E package. Consequently, during periods

eliminating deficiencies experienced during the implementation period and should foster managers' recognition of the balanced achievement of dual objectives--effectiveness and efficiency. Clearly, such planning for IT&E has not occurred (8.0:8.1).

Content (8.2)

IT&E Program Uniformity

One of the important considerations regarding IT&E is the need for and opportunity to maximize effectiveness and efficiency by using uniform IT&E packages as the basic elements in an appropriate IT&E program. This significant opportunity is based upon the uniformity of objectives, systems programs, reports, etc. that RMS embraces. But when one turns this coin over to examine the negative side the dysfunctional aspects of a fragmented IT&E program are obvious. Why? Since an effective IT&E program is the logical means to change ingrained thoughts and actions that run counter to RMS objectives, the IT&E program must, to the extent possible, be free of the biases associated with these ingrained thoughts and actions. However, when responsibility for IT&E is fragmented (as it presently is) the biases are inevitably reflected in the results--to the detriment of RMS.

Since uniform IT&E packages would best meet Air Force needs, fragmented, duplicative development of IT&E is wasteful of scarce resources. Also, knowledgeable managers recognize the complexity and cost of developing and maintaining currency of an IT&E package. Consequently, during periods

of austere funding, this complexity and cost is bound to inhibit the development of even a fragmented IT&E program by knowledgeable managers. The not-so-knowledgeable manager who develops an inferior package may damage rather than foster the implementation of RMS concepts.

A fallout benefit from a uniform, centrally developed IT&E program would be the creation of a ready means to disseminate the inevitable centrally directed changes that will be made as RMS matures.

Observations at Base Level

There was a noticeable lack of appreciation for and use of available materials from which significant IT&E efforts could be derived. A case in point was the lack of effective utilization of AFM 178-6, Resource Manager's Handbook. This well conceived directive was distributed mainly for the use of base level commanders and other resource managers who head responsibility centers and cost centers. AFM 178-6 filled a significant informational void. Despite the importance of this directive, its distribution did not generally evoke the expected attention or action. I even observed instances of delayed distribution by supervisors after the publications people made the initial distribution. In no case did I observe the most logical reaction which would have been to use AFM 178-6 as a basis for an effective IT&E effort.

The Air Force produced three IT&E films which were associated with the FY 68 test made by ATC and centered upon the cost center manager, the resource advisor, and Cost and

Performance Analysis. I reviewed these films in the summer of 1969 and found them to be a disappointment because they were outdated. Being outdated could cause them to detract from rather than foster an effective IT&E program.

Nearly all the managers I talked to agreed that there was a need for IT&E. However, these same managers were so involved in their day-to-day activities that few were motivated to generate the necessary IT&E efforts. And since IT&E was not incorporated in the planning it was not really a mandatory part of the required day-to-day activities. And further, until IT&E attains stature by being made an appropriate part of the implementation plan through centralized direction and control, it is unlikely that IT&E will be accorded attention in the day-to-day activities at the base level.

A good example of how RMS has created a serious need for IT&E is the increased use of stock and industrial funds. The present stock fund operation which replaced the traditional base supply operation requires a knowledge of accounting that wasn't previously required. However, I did not see any evidence that appropriate plans were made to upgrade the people properly to maximize their effectiveness and promote efficiency in the accomplishment of unfamiliar duties. As an example, a supervisor in charge of stock fund accounting told me that only a small percentage of his people had an appropriate background in accounting. Consequently, he even had to couch his instructions and discussions in common terms rather than in generally accepted accounting terminology. In this

particular case, a course in basic accounting attuned to stock fund accounts appeared to be necessary; such training should certainly be attainable for a reasonable outlay of resources. Again, a uniform training package would seem to be indicated as stock fund accounting is generally uniform and there would be a widespread, continuing need for the training package. And the local managers would be likely to use it--if the use were centrally planned and an appropriate, up-to-date training package was readily available. I won't belabor the point but several related accounting needs exist. For example, the interviewees indicated that knowledge of variance analysis (Chapter VI), service unit costs (Chapter IV), and output measures (Chapter V) is sorely lacking among managers who should understand these subject matters areas. Lack of such knowledge will inevitably lead to mismanagement and unnecessarily jeopardize the RMS program. These subject matter areas lend themselves to the type of uniformly developed, centrally directed program I am recommending.

Another danger of fragmented training, with its attendant lack of planning, control, and availability of uniform training packages, was evident at several bases: the control point for PRIME (normally the Budget Officer) would often indoctrinate a relatively small number of first-line resource advisors (RAs); the first-line RAs would return to their units with instructions to train their subordinate RAs; and, finally, the subordinate RAs would return to their units with instructions to train their cost center managers. The dangers of

such a practice are fairly obvious: first, any break in the flow of information cancels out all who fall below the break; and secondly, the lack of a uniform training package will inevitably produce wide, undesirable variances in the word that reaches the successive levels of managers.

Just in case my observations may be thought to represent isolated instances I am going to cite an independent source with access to the circumstances existing at 154 Air Force installations world-wide. The USAF Auditor General's report to the Air Force PRIME Control Point in the Pentagon dated March 4, 1969 included this pertinent statement:

> We have summarized below the findings reported by our auditors during the period 16 November 1968 - 31 January 1969. We have listed in Attachment 1 examples of the deficiencies noted in some of the functional areas. It depicts problems occurring at Air Force installations worldwide and identifies areas for management attention. Many of the conditions reported are normal problems associated with the implementation of the new system. They are generally correctable at base level and should decrease in number as operating personnel become more familiar with the system. To hasten this decrease, we suggest that commands and bases emphasize the continuing need for training personnel concerned with administration and operation of this system.

Suggested Training--Content and Methodology

First of all, many IT&E media presently exist. The Air Force has in being an extensive, effective IT&E structure which ranges from basic training for new recruits, through the various technical schools which teach basic skills, to NCO Academies for top NCOs and professional military schools with curricula appropriate to all officer grades from lieutenant through colonel. These media have been used to some

extent to foster RMS concepts but my research did not include an evaluation of the effectiveness of this effort. However, I only encountered one RA who claimed to have gained a knowledge of RMS from this source. At any rate, these ready made, effective media should be used to the fullest extent.

The centrally planned, developed, and controlled IT&E packages should be attuned to the needs of particular groups of managers involved in implementing RMS. There appear to be three groups, as a minimum, who need IT&E: 1) command and staff people from OSD down through the installation commanders; 2) RAs charged with financial responsibility for RC/CCs as well as their unit commanders (below the level of installation commander)--when the unit commander is not the same person as the RA; and, 3) RMS systems maintenance specialists comprised of people in the comptroller division and individuals in the line departments who are responsible for receiving, processing, distributing, and advising others on the systems information. However, all three groups should be thoroughly familiar with the philosophy, concepts, and objectives of RMS. One of the most difficult tasks would be to foster necessary role changes--for example, the comptroller division shifting from a controlling role to one of consulting and advising the individuals to whom financial responsibilities have been diffused.

Personnel at one base made what appeared to be a very good suggestion regarding the conduct of on-the-job- training (OJT). This suggestion involved designating an RC/CC of

proven effectiveness to conduct OJT to meet base-wide requirements. This idea appealed to me because it is another means of gaining uniformly high quality training and making efficient use of available resources.

Summary (8.2)

Fragmented attempts have been made at all levels to provide IT&E, but cumulatively they have been inadequate to properly support PRIME (8.0:8.2). What is needed is a centrally directed and controlled program from USAF level to develop timely, effective, uniform IT&E packages designed to achieve the necessary metamorphosis in financial management thought and action envisaged by RMS.

Continuity (8.3)

Mr. McNamara said in 1966 that implementing the changes associated with RMS and educating the managers at all levels in how to use the new tools would be a formidable task that would be never ending. This particular assessment of Air Force needs by Mr. McNamara certainly agrees with both my research findings and my personal philosophy.

Base Level Observations

Partly due to uncertainties whether PRIME would be implemented on July 1, 1968, much of the necessary training that was done did not start until after it was needed. Conversely, the Air Force has repeatedly done an exemplary job of preparing people to use new weapons systems. The experience gained from careful planning and skilled execution of IT&E

in support of weapons systems could surely provide a pattern to foster similar support for RMS.

I observed several instances of PRIME being deliberately short-circuited due to a lack of IT&E. In these cases an RA would withhold a significant portion of the operating budget from subordinate RAs because "they did not have the prerequisite knowledge or motivation to be trusted with the entire operating budget." Using this negative expedient of withholding funds and financial responsibility at the higher-level rather than upgrading the lower-level managers with appropriate IT&E unnecessarily jeopardizes the successful implementation of PRIME.

The necessity for continuity in an effective IT&E program is also closely related to the turnover of financial managers. That significant turnover of financial managers occurs is a generally accepted fact. But not so generally accepted is the fact that there is a serious need for an IT&E program to help bridge the gaps in performance caused by this turnover. My field research is replete with examples of managers without prior experience being assigned to responsible RA positions--and then left to sink-or-swim. And, not surprisingly, metamorphosis through osmosis does not always occur. Not having an appropriate, uniform IT&E package immediately available to assist the new manager is patently unfair to him and jeopardizes the RMS program.

Conclusion (8.3)

Appropriate levels of IT&E are clearly associated with a formidable task which will require continuous, careful planning and execution during the life of RMS. There is ample evidence that an IT&E program of this description does not exist (8.0:8.3).

Direction (8.4)

The March 4, 1969 report by the OSD PRIME Survey Team which covered a visit to Army, Navy and Air Force tactical and support units in Europe is particularly relevant to this section. The OSD team noted that:

> Implementation progress in Europe is directly related to the enthusiasm exhibited by Commanders and Comptrollers. Most activities displayed attitudes of complete acceptance of PRIME objectives with the desire to effectively implement the system.

When the commander is knowledgeable and enthusiastically supports RMS the whole attitude of the installation is materially affected; the OSD team expressed this by saying:

> The acceptance of the PRIME system by USAFE activities reflects the extensive pre-planning and orderly implementation directed by Hq USAFE. Most apparent was the knowledge of all management personnel that PRIME is not solely for Comptroller personnel but is designed to assist all levels of management.
>
> Many of the problems identified in previous PRIME Survey Team reports on visits to other AF installations exist in USAFE, yet the attitude is one of challenge to solve the problems rather than condemnation of the system. Activities expressed their appreciation for the assistance from the Auditor General which they rated as outstanding.

Despite all the planning and enthusiastic execution, they observed that the thorny problem of training deficiencies existed:

> Personnel throughout USAFE emphasized their continuing training requirements; they noted a lack of experience of military personnel in PRIME due to the fact that in CONUS civilians occupy the predominant accounting positions, and also because a number of military personnel transferred to Europe from SEA with no knowledge of PRIME system requirements.

Base Level Observations

My observations generally agreed with the above cited OSD PRIME Survey Team report. There was an unmistakable correlation between the knowledge, interest, and enthusiasm of the commander, and how well the PRIME implementation was progressing. Centralized direction and control from Hq USAF would logically enhance the commanders' level of knowledge, interest, and enthusiasm.

A staff visit by knowledgeable, enthusiastic people from OSD, USAF Hq, and major commands appeared to be a viable means of fostering the implementation of the new concepts. Most base level managers sorely needed the information and encouragement which a knowledgeable, enthusiastic person from "top-side" could bring to them. For example, a capable representative from a major command budget office was able during a one day visit to: clarify several problems that had been plaguing the base budget officer (control point for PRIME), provide a general evaluation of their base level implementation progress to date as compared to other bases in the command, and brief base financial managers regarding

expected changes during the next fiscal year.

Summary (8.4)

As previously discussed in this chapter the much needed IT&E program should produce uniform, centrally planned and directed IT&E packages. Now, I'll carry this notion one step further and tie it in with the necessity for effective leadership at the base level: planning, direction, and control should be centered at Air Force Hq level--not fragmented to major command, intermediate command, or base level as is presently the case (8.0:8.4). The final chapter (XIV) includes a recommendation for achieving control starting with USAF level and carrying down through base level--an Operational Readiness Inspection for the Resource Management System (an ORI for RMS).

Chapter Summary

The implementation of PRIME is being placed in unnecessary jeopardy by the lack of an effective IT&E program because: the existent IT&E efforts are fragmented--centralized planning and attendant control does not exist (8.1); the content of IT&E efforts are inadequate (8.2); there is little evidence that IT&E is recognized as a formidable task that will be with us during the life of RMS (8.3); and centralized direction does not exist--current efforts are extremely fragmented and disorganized (8.4). This chapter establishes that the sorely needed benefits of an effective IT&E program are not generally available to the financial

managers (8.0:8.1-8.4). However, most of the "ingredients" for an effective program are available; the biggest missing link is centralized direction and control. Without centralized direction and attendant control IT&E will probably remain fragmented, top managers' attention will probably not be attracted sufficiently, and, not surprisingly, the IT&E program will retain such a low priority that the pressure of day-to-day activities will prevent it from being effectively achieved.

---

1. Captain Michael Perry, "Yesterday, Air Application - Today, Aerospace Technology." Aerospace Historian, Volume 16, Winter 1969, Number 4, p. 12.

2. Alexander B. Horniman, "Some Observations and Suggestions Developed From the Naval Air Station Test," Thought Paper IV, p. 7.

3. Harold Koontz and Cyril O'Donnell, Principles of Management, 4th ed., McGraw-Hill Book Company, New York, 1968, p. 79.

4. Ibid., p. 81.

5. Robert N. Anthony, Address to NATO Defense Planning Workshop, October 9, 1967.

6. Horniman, Thought Paper IV, p. 7.

CHAPTER IX

THE BUDGET PROCESS

Introduction

This chapter may not be a complete entity for most readers as it concentrates on the base level implications of the total budget process. To better understand the problems encountered at base level, you should read Appendix A which describes both the top-level budget process and budgeting for base level activities--to include relating the budget to the Five Year Defense Plan (FYDP) of the Secretary of Defense. To complete the learning process, you should read Appendix B which explains the FYDP. Also, the role of the RC/CC manager is discussed in the subsection, The Budget Process, starting on page 171.

There appear to be two primal aspects to the budget process--procedural (mechanistic) and behavioral. It is difficult to make (or detect) a clear demarcation but Dr. Anthony seems to emphasize the former, while Dr. Horngren emphasizes the latter.

Dr. Horngren's Observations

> A budget is a quantitative expression of a plan of action and an aid to coordination and control. Budgets may be formulated for the organization as a whole or for any subunit. Budgeting has come to full flower in the 1960's. For example, Time (February 18,

1966) reports: "Today, the President does not consider the budget just a report on spending or an accounting of his stewardship, as it once was, but a powerful tool for controlling the whole government and a potent instrument for manipulating the economy."[1]

Budgeting is too often looked upon from a purely mechanistic viewpoint, and yet the budget is an inanimate tool in the hands of administrators. The human factors in budgeting are more important than the accounting techniques. The success of a budgetary system depends upon its acceptance by the company members who are affected by the budgets. Attitudes ideally are sympathetic, cooperative, and cost-conscious.

Budgets place managers under the spotlight. The natural reaction to restriction, to criticism, and to control is resistance and self-defense. The job of education and selling is overwhelmingly important here. Too many department heads think that budgets represent a penny-pinching, negative brand of managerial pressure.[2] To them, the word budget is about as popular as, say, layoff, strike, or pay decrease. Ideally, company personnel should understand and accept the role of budgets as positive vehicles for company improvement, department improvement, and individual improvement. The budget is not a heinous means of squeezing the last drop of sweat out of employees. Properly used, it is simply a systematic tool for establishing standards of performance, for providing motivation, for guaging results, and for helping management advance toward its objectives. The budget technique in itself is free of emotion; its administration, however, is often packed with trouble. The budget's major role is to communicate the various motivations that basically already exist among the management personnel so that everybody sees, understands, and coordinates the goals, means, and drives of the organization.

The importance of these human aspects cannot be overemphasized. Without a thoroughly educated and cooperative management group at all levels of responsibility, budgets are a drain on the funds of the business and are a hindrance instead of a help to efficient operations. A budgetary program per se is not a remedy for weak managerial talent, faulty organization, or a poor information system.[3]

Many businessmen claim that the uncertainties which are peculiar to their business make budgets impractical for them. Yet one can nearly always find

at least some companies in the same industry that use budgets. Such companies are usually among the industry leaders, and they regard budgets as indispensable aids. The point is that managers must grapple with uncertainties, either with a budget or without one. The advocates of budgeting maintain that budgets make the grappling more effective. The benefits from budgeting nearly always exceed the costs. At least some budget program will be helpful in almost every organization.

When administered wisely, budgets (1) compel management planning, (2) provide definite expectations that are the best framework for judging subsequent performance, and (3) promote communication and coordination among the various segments of the business.[4]

As a basis for judging actual results, budgeted performance is generally viewed as being a better index than past performance. The fact that sales are better than last year's, or that direct labor costs are lower than last year's, may be encouraging but it is by no means conclusive as a measure of performance. For example, the news that a company sold 100,000 units this year as compared with 90,000 units in the previous year may not necessarily be greeted with joy. Perhaps sales should have been 112,000 units this year. The major weakness of using historical data for judging performance is that inefficiencies may be buried in the past performance. Furthermore, the usefulness of comparisons with the past may be hampered by intervening changes in technology, personnel, products, competition, and general economic conditions.[5]

Dr. Horngren probably had the civilian environment in mind when he wrote the above quoted paragraphs. For the benefit of those who have not worked with budgets in both environments, the military environment may levy an even heavier behavioral emphasis than the civilian environment. The program machinations that really control the budget are often less visible and shrouded in controversy; the delayed enactment of appropriations and political implications as reported in the news media often detract from the credibility of the final budget figures made available to the financial

managers. Since these constraints are beyond the control of the base level financial manager,--in fact, beyond most (if not all) military managers--the behavioral aspects are greatly enhanced. The most logical response to this circumstance is appropriate applications of indoctrination, training, and education (see Chapter VIII). We must learn to reach our objectives in an efficient manner despite an environment that is far from benign.

Dr. Anthony's Observations

> ALL MANAGERS make plans. One cannot conceive of an organization of any kind whose leaders were not giving some thought to what the organization's objectives should be and to the best way of reaching those objectives. A group of people not operating under some sort of plan is merely an incoherent, directionless mob, not an organization.
>
> Although all managers plan, there are considerable differences in the way in which they plan. Some managers do their planning entirely in their heads, others make notes and rough estimates on the backs of old envelopes, and still others express their plans in quantitative terms and commit these to paper in some orderly, systematic fashion. The process engaged in by the latter group is called "budgeting," for a budget is merely a plan expressed in quantitative terms.[6]

Anthony likened the budget process to the management control process and listed some relevant general principles:

> The budget should be sponsored by management. The organization must regard it as primarily a tool of management, not as primarily an accounting device.
>
> The responsibility budget should be built up by responsibility centers and should show separately the controllable costs in each responsibility center.
>
> Responsible supervisors should participate in the process of setting the budget figures, and should agree that the budget goals are reasonable. If they do agree, their attitude during the budget period is likely to be, "I said I could meet this goal, and I will do my best to live up to this promise." If they are not consulted, their attitude toward the budget is likely to be one of indifference or resentment.

Responsible supervisors must have a thorough understanding of the budget process, and this requires a program of continuous education. To a limited extent, this can be accomplished through written manuals or memoranda, but the main reliance must be placed on meetings, both to discuss the preparation of the budget and to discuss actual results achieved.

The time period covered by one budget should be related to the necessity for and the possibility of effective management action.

The planned figures in the responsibility budget should match in definition the accounting figures that report actual performance. If "direct labor" in the budget includes vacation pay, social security costs, retirement allowance, and other fringe benefits, so should "direct labor" in the control accounting system.

The budget figures should represent reasonably attainable goals, not so high as to be frustrating, yet not so low as to encourage complacency.

In a comparison of actual performance with budgeted performance, attention should be focused on significant exceptions--figures that are significantly different from those expected.

The budget system should not cost more to operate than it is worth. Since no one can calculate exactly what a budget system is worth, this statement is necessarily vague. It implies, however, a caution against adding expensive refinements unless the value of such refinements clearly justifies them.

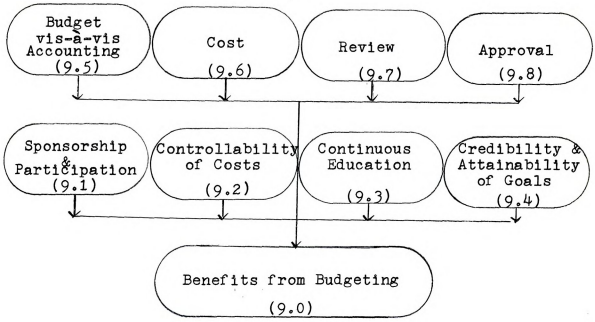
The staff function of facilitating the budget process should not be confused with the line function, which is to make the plans. Line management makes the decisions; the budget organization assists the line organization.

The review of budget estimates by successively higher levels of management should be thorough. Perfunctory review is a signal that management is really not much interested in the budget process.

Final approval of the budget should be specific, and this approval should be communicated to the organization. An attempt to operate on the doctrine of "silence gives consent" inevitably leads to misunderstanding.[7]

The general principles espoused by Anthony and Horngren seem to apply fairly well to the military environment. Therefore, I regrouped these principles a bit and incorporated them into a schematic (Figure 10) which will provide a framework for discussing base level budgetary

implications. The budget process is an indispensable part of financial management, but during the PRIME implementation serious shortcomings were manifest. These shortcomings are shown as independent variables 9.1-9.8 in Figure 10.



THE BUDGET PROCESS

Figure 10

Sponsorship & Participation (9.1)

From years of practice it had become deeply ingrained that the budget officer (acting for the comptroller) and the "Old Man" (the commander) managed the finances at base level--often a "closed corporation." But the advent of PRIME heralded the necessity for a change in this practice because financial management responsibility was to be diffused to subordinate levels where the actual decisions were supposedly made to consume the necessary resources. A

knowledgeable manager would have anticipated resistance to a change of this magnitude--and he would have been right. Ideally, what should the line and staff relationships be?

> The line organization usually is assisted in its preparation of the budget by a staff unit headed by the budget director, preferably reporting to the controller. If he reports to the president, as is sometimes the case, he is likely to be performing the functions described above for the budget committee and therefore acting in a line, rather than a staff, capacity.
>
> As a staff man, his functions are to disseminate instructions about the mechanics of budget preparation (the forms and how to fill them out), to provide data on past performance that are useful in preparation of the budget, to make computations on the basis of decisions reached by the line organization, to assemble the budget figures, and to see that everyone submits his figures on time. Thus, the budget organization may do a very large fraction of the budget work; it is not the crucial part, however, for the significant decisions are always made by the line organizations.[8]

Base Level Observations

Budget Officer's Role. - Base budget officers are generally having difficulty adjusting to their new advisory role. The degree of adjustment I observed varied on a continuum from "no apparent change" to a reluctant "let's give it a try"--with most budget officers somewhere in the middle. Apparently there were a number of reasons for this undesirable state:

1) Some important directives used an unfortunate choice of words which probably contributed to the problem, for example:

> Responsibilities of the Budget Officer Under the Budgeting and Accounting System for Operations. The basic responsibilities of the budget officer in the formulation, presentation and execution phases of the budget process are the same. The change is in the tools

and techniques involved in discharging his responsibilities. Budget officers will now be thinking in terms of expenses, net changes in undelivered orders, force programs, program elements, RC/CCs, etc.[9] (Underlining added)

General. The budget officer will accomplish the responsibilities for the commander, under the direction of the Comptroller. The budget officer participates actively in the preparation of the operating budget and revisions thereto, and renders guidance and counsel to operating personnel regarding plans, assumptions and technical data. During the execution phase the budget officer explores ways and means of accomplishing objectives within the limits of the operating budget authority. Responsibilities include the development, justification, revision, and monitorship of the operating budget, and receipt and distribution of the annual and quarterly operating budget authority.[10]

Budget Officer Responsibilities at Installation (User) Level: a. Develop with appropriate staff and operating organizations, estimates of requirements for specific items or services in connection with formulation of the operating budget.[11]

The above lack of incisive words to describe the desired line and staff relationship was commonplace in communications dealing with budget matters. Fortunately, the quotation from Dr. Anthony (footnote 8) shows that incisiveness is achievable.

2) When PRIME was implemented on July 1, 1968, there was no existent cadre of financial managers "waiting in the wings" to take over the diffused financial responsibilities. And the IT&E program (see Chapter VIII) has fallen far short of developing such a cadre. Therefore, it is understandable that conscientious budget officers are reluctant to give up their past financial management responsibilities.

Trust and Confidence. - There must be a significant level of trust and confidence exhibited by the managers in the DoD hierarchy--from the top all the way down to the RC/CC level. A lack of trust and confidence is often exemplified by unnecessary constraints and a lack of necessary flexibility. And, unfortunately, when a particular level of management in the hierarchy levies unnecessary constraints, there is a tendency for the managers below that level to be affected similarly--a domino effect. The OSD PRIME Survey Team visitation report dated November 29, 1968 commented on this problem:

> The most pressing problem presented by the installations visited pertains to the administration of the financial resources authorized in the Approved Operating Budget. Difficulty is being experienced in managing and controlling the financial resources because of the constraints imposed in terms of both obligations and expenses. AOB's are footnoted prescribing that (1) Quarterly total expense authority may not be exceeded without the prior approval of the issuing authority, and (2) R.S. 3679 limitations will apply to the quarterly total O&MA obligation authority. In addition, constraints are imposed below the total level, e.g., budget activity on an annual basis. This dual limitation, the area of concern, precludes flexibility in movement of resources between "Change in Undelivered Orders" and expenses and makes it very difficult to effectively utilize the financial resources. Personnel indicated they had been unable to develop adequate mechanics to project precisely the time period in which an undelivered order will materialize as an expense and, therefore, the control of expenses is most difficult. The OSD guidelines, "Budgeting and Accounting for Operations of the Active Forces," dated July 2, 1968, specifies that the total direct operating budget (the sum of expenses plus change in undelivered orders) for organizations below major command level will be targets in the cumulative quarterly amounts.

This lack of necessary trust and confidence is also manifested by restricted delegations of authority and/or "spoon-feeding" of dollar authorizations. Austere funding can really test the manager's mettle. In the extreme, I observed an instance during an austere quarter in FY 69 whereby a Lt. Colonel, Deputy Chief for Maintenance, approved each request for supplies and equipment costing more than $25.

Responsibilities vs. Grades. - There often appeared to be an unnecessary disparity between the level of financial responsibility and the grades of the people charged with these responsibilities. For example, it is not unusual for a designated RA to be a lower-graded sergeant, an inexperienced lieutenant, or an equivalently graded civilian. The level of experience and expertise required to implement the RMS concepts would seem to dictate assigning the RA responsibilities to higher-graded persons who normally have more experience and expertise.

Additionally, the unit commanders whom the RAs represent often do not participate to the desired extent--especially in view of the grade/experience/expertise of some of the RAs. For example, I attended a Budget Working Group meeting convened to subdivide the base's annual operating budget. The aforementioned lower-graded RAs were there but not a single commander was present--despite the fact that this was one of the (if not THE) most important meeting of the year. This problem of undermanning is discussed further in section 9.7 of this chapter.

Summary (9.1)

In many instances the PRIME concept of diffusing financial responsibility to the RC level has not been achieved; some of the more important reasons for this serious deficiency include: resistance to change by budget officers and/or their superiors due to ingrained thoughts regarding the best way to manage base finances; the lack of financial managers to take over these financial responsibilities; and, a related point that there is an evident lack of trust and confidence which is a prerequisite to giving a manager necessary funds to manage, and then letting him manage (9.0:9.1).

As described in some detail in Chapter VIII, I ascribe this problem to a serious lack of IT&E.

Controllability of Costs (9.2)

A staff paper prepared for the Air Force Comptroller in January 1969 "to provide background and insight into some of the chief impediments to unqualified acceptance of PRIME by managers of operating activities" included the following observation:

> PRIME, as implemented 1 July 1968, does focus attention on the cost of more nearly all resources consumed. Air Force operating budgets at wing/base level now include financial authority for centrally procured consumable supplies, and military personnel and aviation POL costs at standard rates as well as costs formerly included in allotments. Operating budgets are structured in terms of expenses and changes in working capital so there is emphasis on resource consumption as well as upon obligations. In most commands there are operating targets at responsibility center level and in some commands targets have been

established at cost center level, the lowest organizational level for cost accumulation purposes. On an average Air Force base there are perhaps 150 - 200 organizational cost centers, of which as many as 40 are considered to be responsibility centers. The sum of the operating targets assigned to these subsidiary organizations aggregate in building block fashion to the wing/base operating budget.

Thus the manager (wing/base commander and responsibility/cost center managers, where applicable) is budgeting for and accountable for more nearly 100% of the resources he consumes. From his standpoint, he has little or no control, and sometimes not even any voice, in selecting the resources he is given to perform his mission. He believes this to be true in the case of military personnel, many categories of supplies and equipment, aviation POL, and several other costs. Moreover, there is little indication that he will be given any additional flexibility to choose among resources in PRIME. (Underlining added)

I observed that lack of control over costs was a common complaint of financial managers; it is a serious problem that should be given appropriate attention by all managers. Budgetary credibility is materially affected by the managers' professed lack of control over costs (9.0:9.2). Chapter X is devoted to Controllability of Costs.

Continuous Education (9.3)

The subject matter of indoctrination, training, and education (IT&E) is so important to RMS that I devoted an entire chapter (VIII) to it. With specific regard to budget, there are several reasons why IT&E is essential to acceptable RMS progress:

1) IT&E is a logical response to the need for changing ingrained thoughts and actions. As discussed in section (9.1), there are budgetary patterns of thought and action that must be changed if RMS objectives are to be achieved.

2) The budget process in DoD is far from simple as attested to by the involved relationships described in Appendices A and B and this chapter. Many of the financial managers at the RC level have a minimal knowledge of these relationships which start at the RC/CC level and proceed upward all way to the President and Congress. It seems logical that most managers who understand these important budgetary relationships will do a better job; judging from my interviews, few RAs have this depth of understanding. For example, a knowledgeable budget officer told me he had considerable difficulty convincing several RAs that actual expenses incurred must be compared to the operating budget (an approved figure) rather than the financial plan (a requested figure). In fact, I have talked to budget office people who do not have the desired depth of understanding of the entire budget process. Fortunately, there are those such as Dr. Anthony (as cited in Appendices A and B) who have proven that these complex relationships can be explained clearly with a minimum of jargon. What we need now is someone to develop a viable IT&E package to bridge this knowledge gap. The pieces which would be included in this package probably exist somewhere in the vast Air Force hierarchy. Developing such a package would probably involve more research and "cutting and pasting" than writing.

3) Continuous turnover of financial managers and budget people is a fact of life in the Air Force; continuous education should correspondingly become a natural, accepted response.

Summary (9.3)

Many financial managers need IT&E to upgrade their knowledge of the budget process; some of them need IT&E as a first step in changing archaic attitudes regarding financial management. Continuous education undoubtedly represents a serious, unfilled need in the RMS program--a need that is magnified when it exists in a crucial process such as the budget.

Credibility and Attainability of Goals (9.4)

In order to put this section into perspective and facilitate your understanding I am going to present a chronological overview of the budgetary process as it affected the FY 70 budget (reference Appendices A and B):

Force Definition (Fig. 4, App. A). - Throughout FY 68 top-level officials from the major commands through Hq USAF to OSD coordinated their efforts to decide on the optimal combination of forces to counter the expected threat to our Nation's well-being. Keep in mind that the force definition phase is accomplished with minimal budgetary constraints.

Budget Formulation (Fig. 5, App. A). - Starting on July 1, 1968 (FY 69) dollars became preeminent because by the end of this fiscal year (under ideal conditions) Congress should have agreed upon an appropriation to finance FY 70 operations. From July through September 1968 the various Air Force panels and committees assigned dollar costs to the forces recommended by OSD--forces determined during the force

definition phase. Various alternatives were considered; final decisions became the basis for an updated FYDP. After the draft budget was submitted to OSD (normally by Oct 1), OSD and BoB jointly reviewed the draft; a compromise, final version was presented to the new Republican Party President for inclusion in his annual address to the Democratic Party controlled Congress in mid-January 1969. At this point--six months in advance--Air Force financial managers started getting ready for FY 70:

1) In January 1969 HQ USAF gave the major commands a "bogey" which represented the amount of Operations and Maintenance (O&M) dollars which commands/bases could reasonably expect to receive to carry out their mission during the forthcoming fiscal year; commands subdivided the "bogey" to their installations.

2) Installation commanders forwarded their proposed operating budgets (based on their "bogey") to major commands for review in February 1969; in late March 1969 HQ USAF received the validated operating budgets.

3) When timely Congressional hearings are scheduled from January through April, the HQ USAF review of major command submissions can result in a meaningful approved budget by June 30. When timely Congressional hearings do not occur (as in CY 1969), the USAF review must be "made in the dark."

Budget Execution (Fig. 3, App. A). - After Congress passes the Appropriation Act, BoB normally apportions the

budget and the Budget Execution phase begins.

HQ USAF allows for at least one major revision of the operating budget. The first revision is prepared by field installations in October, submitted to major commands in November, and HQ USAF by the end of December. The field learns of the results sometime in February. Approximately 7 months elapse between the initial financial plan submission to HQ USAF and preparation of the revision. HQ USAF wants to know how field units are coming along with their performance of the plan and field commands want to tell their higher headquarters of new and changed requirements.

Delayed Appropriation Act. - In the first sentence of the Budget Formulation paragraph, I used the terminology "under ideal conditions" advisedly because the FY 70 appropriation was not approved until the end of December 1969--until one-half of the fiscal year had passed without an appropriation. When an appropriation is delayed, Congress passes a continuing resolution. This resolution (usually of short duration) allows DoD to spend money pending passage of the delayed appropriation and also represents the beginning of the Budget Execution phase. Then DoD authorizes the military department to incur obligations for essentials. But the important thing to remember is that this resolution represents an emergency holding action--the services have no way of knowing how much they will have to spend for that fiscal year.

Later in the Budget Formulation paragraph, I mentioned the "new Republican President" and the "Democratic Party controlled Congress" because political considerations do appear to play a more significant role in the military environment than is normally found in the civilian environment. In the instance discussed--the FY 70 budget--political considerations probably figured prominently in the six months' delay of the Appropriation Act.

The Budget Process

Despite the fact that PRIME has enabled DoD to close the management loop between the RC/CC manager generated expense data and the top-level managers' planning/programming/budgeting process, the connection between the mission to be accomplished by the base level managers and the final budget is tenuous at best. Why? First, admittedly the expense data now available to OSD should significantly improve the credibility of costed-out programs. But, the installation-level managers' participation in determining the budget size ends right there. Second, the size of the budget is determined from the top downward as a result of a highly centralized decision-making process. I point this out to emphasize that there is no "real" participation by installation-level managers who ultimately use the resources and have the mission to accomplish. Third, the final budget figure for DoD often lags far behind operations; the final figure is determined after a vigorous competition in the political arena; and, when the final budget figure is

determined (by the approved Appropriation Act) the mission has, in effect, been determined. But if half a fiscal year has already transpired when the final budget figure is determined, the operational gyrations necessary to align the approved budget with the mission can approach chaos. At best, this situation does little to foster credibility for the budget process or cause financial managers to regard their budgets as being reasonable or attainable (9.0:9.4).

Base Level Observations

I observed an instance in FY 70 of a base receiving $1.7 million of O&M monies whereas they normally required $2½ million (for the same mission). The RAs faced a dilemma when they were called upon to establish a quarterly phasing. Should only the first three quarters be covered (at near normal funding)? Or, should all four quarters be phased at about 70% of the necessary funds? Assuming that the flying mission required about ½ of the O&M funds and assuming the whole base was about 70% funded (1.7/2.5), another alternative was considered: fully fund the flying mission at the expense of the support mission. But this results in the base support mission being only about 35% funded! As I mentioned earlier, this situation presents a dilemma that makes it difficult to develop motivated financial managers at the installation level.

Another observation--this time from FY 69--illustrates what might be called a "Spoon-Fed, feast or famine" budget operation:

Annual Operating Budget (1)

Quarter Ended	Supplies		Equipment	
Sept. 30, 1968	$ 675,000	(1)	$ 11,000	(1)
Dec. 31, 1968	2,092,000		147,000	
Mar. 31, 1969	2,518,000		92,000	
June 30, 1969	2,989,000		105,000	

(1) Until Oct. 1968 there was no annual operating budget--only a tentative first quarter target. So, the $675,000 and $11,000 figures are stated on a quarterly basis; the balance of the figures are stated on a cumulative annual basis.

The serious negative effects of a "feast or famine" budget climate include:

1) Base level managers may quickly lose faith in the basic precepts of RMS which envisage achieving management improvements by creating viable responsibility centers at base level. The limited number of managers who are motivated may soon become demotivated when in rapid succession during a fiscal year (as depicted in the above figures) they successively encounter a quarter of austerity; followed by two quarters when they are "urged" to spend right up to their budgeted target; followed by another period of austerity; and, finally topped-off by a frantic effort in June to spend the last penny of several hundred thousand dollars which is traditionally made available. It is easy to understand the consternation exhibited by managers faced with establishing reasonable periodic targets and efficiently managing their resources under these conditions--especially when the final budget is at or near the "normal" figure for accomplishing the mission.

2) Managerial resources are not the only resources damaged by a "feast or famine" operation; overall monetary costs of operation are inevitably higher. For example, during austere quarters when requisitions have to be priced and extended preparatory to a colonel approving each line item of supplies and equipment in excess of $25, the Air Force sustains high administrative costs and low managerial motivation.

3) The logistics system is short-circuited by the above described funding climate. For example, in the above instance the traditional end-of-year manna practically cleared the shelves of the service store. Hence, usage data and related stock levels become a product of the budget process rather than of the operating process.

Economy measures put in effect early in the 4th quarter of FY 69 in the command just discussed included: All shipments of excess supplies and equipment were deferred, except as directed by higher headquarters; air-conditioner thermostats were set at 80° F. (with a goal of saving 50% on air-conditioning costs); floodlights were not used for athletic fields; chaplain services were reduced based upon guidance through chaplain channels; temporary duty travel and toll calls were drastically reduced except for stipulated critical purposes; all civilian and military suggestion award payments were deferred until the next fiscal year; and, most importantly, there was a concurrent scaling down of certain less critical flying training sorties. Keep in mind that

these stringent austerity moves came at the beginning of the fourth quarter (April 1969) when the annual operating budget had supposedly ascended to its zenith of $2,518,000--approximately $500,000 short of normal requirements. However, during the closing weeks of the fiscal year, several hundred thousand dollars were received with the clear understanding that they be spent before June 30, 1969. There was no question of need; the question became one of making efficient use of the funds within the limited time frame. And not only efficiency suffers under such circumstances; how can the budgetary process retain a semblance of credibility under such circumstances? When the budgetary process lacks credibility how can the new group of new financial managers become properly motivated to effective mission accomplishment and the twin objective of efficient use of resources?

The July 26, 1969 newspaper at another base featured an article which bears upon end of the year "fall-out monies":

> The Base Procurement Office has recently completed a rather hectic month in attempting to complete as many contracts as possible before the end of the fiscal year.
>
> Seventeen contracts were finalized with various contractors during the month of June alone. Most of the remaining summer and early autumn months will be busily spent getting the contractors started and working.

Much of the work involved construction-type contractors who traditionally (in the cold northern climate) try to schedule their contracts from early spring so that the outside work can be completed before the winter weather stops them. The Air Force certainly does not maximize efficient use of resources by having to negotiate a preponderance of

contracts in a single month--several months after the optimal period for such negotiations.

Besides adding credibility and motivation to the budgeting process, a one-shot annual operating budget of reasonable size would serve another valuable purpose. The individual financial managers would have an effective, credible means to squelch the long-nurtured notion that when you run out of annual budget you can always "go back to the well for more." Squelching this erroneous notion should have a double-barreled effect:

1) Low ranking financial managers would have an effective means of resisting lower priority demands for funds which are justified by "the general (colonel) wants this"--demands often originated by zealous staff officers. With a firm, reasonable budget, the generals (colonels)--and perhaps even zealous staff officer--would be the first to insist on expenditures based on established priorities.

2) Logically, the resource managers would exercise more ingenuity and develop more innovations to accomplish their missions efficiently if they were given a reasonable annual budget and knew that was all they could expect to receive. As previously discussed, such an improvement will probably have to be preceded by appropriate IT&E of managers and a gradual buildup of trust and confidence among managers.

A budget officer at a large Air Force base expressed his frustrations after about 8 months of PRIME (on March 10, 1969) in a letter to his major command:

> In various instances instructions are vague and conflicting and being changed almost daily. Approved funding is totally unreaslistic. Manual controls have to be established because computer programs do not provide pertinent data; management reports are not timely, etc. The principle fallacy under the PRIME system is the unrealistic funding received for both the annual and the quarterly limitations. Based on this funding, we are forced into a position whereby targets distributed to our Resource Advisors are totally inadequate. This is self-defeating and negates any advantage purported to PRIME as a vehicle for management of resources. The Resource Advisors are expected to accomplish their mission, however they are not provided adequate resources to do the job. If we could rely on the approved funding as being reasonable, we could program our resources accordingly. However, this has not been the case. Second and third quarter limitations were totally inadequate. In fact, the third quarter limitation does not include civilian pay for March 1969. We have distributed funds on the basis of approved funding, however it is thoroughly confusing to Resource Advisors when we must tell them they are only funded in the civilian pay area for two months as well as being severely restricted in the supply and equipment areas. (Underlining added)

At another base a "Special Study of the Resource Management System" dated September 12, 1969 commented on fourth quarter budgetary machinations:

> The situation during the April-June Quarter 1969 in regard to FY 69 fund allotments to the Base for that quarter was extremely unfortunate. Not knowing when and how much would be received caused a number of emergency actions to be taken which disrupted the operation of the RMS. The fact that this situation did occur and funds allotted were considerably short of the amount required for normal operations, prevented normal financial management within all activities. The after-effects will also be felt in FY 70. This is a factor to be considered in future budgeting since the RMS cannot show a true expense picture for FY 69 nor for FY 70.

Will the future be as grim as the above accounts might lead us to envision? Dr. Anthony came to our rescue again by providing us some hope on this score:

> Under the new system, cost estimates can be supported by data drawn directly from the accounting system. The cost data will be convincing data.
>
> When people assure themselves of this fact, some of the difficulties that plague us under the present system will disappear. It is a not uncommon practice, for example--and this is true at high levels as well as in small units--for a manager to be given an additional job to do, but no additional resources to do it with. Sometimes, this is a mistake, but often such an assignment merely reflects top management's intuitive judgment that the manager actually has the resources to do the job even though the system simply doesn't reveal this fact. If top management becomes convinced that all the currently available resources are needed to do the current job, then it scarcely can assign new jobs without simultaneously providing new resources.[12]

Summary (9.4)

Credibility in the budgetary process and reasonable annual operating budgets appear to be necessary prerequisites if the Air Force intends to develop a new group of financial managers. As described in this section there are powerful constraints in the military environment which must be appropriately dealt with to achieve this desired credibility and reasonableness (9.0:9.4).

Budget vis-a-vis Accounting (9.5)

For the budget to achieve its desired stature as a planning and control device for the financial manager, the budget and the accounting system must be mutually supporting; commendable progress has been made toward achieving this goal. But there are a few problems still to be solved. Commitment accounting (or the lack thereof) appears to be a thorny problem; a base budget officer described this problem

in a March 10, 1969 letter to his major command:

> This system could stand considerable improvement, especially along the lines of fund control. Under PRIME, Accounting and Finance is not required to record commitments into the accounting system. However, they are required to certify the availability of funds on each Purchase Request (PR). Under present procedures they do not readily know how much funding is available until they manually add the PRs in their commitment files and then add this total to the expense and/or Undelivered Orders Outstanding (UOO). Before an accounting clerk can accurately certify to fund availability, he must first check to make sure he has enough expense authority and then determine if the item or service on the PR will become an expense in the current quarter. If, in the clerk's opinion, the item will not become an expense, he then must check the UOO availability. If the quarterly expense limitation is insufficient to cover the PR, he must add the UOO quarterly limitation to the expense limitation and if the two indicate fund availability, he can then certify funds. However, to be positive that he is not over-certifying, he must also subtract all the existing PRs from the overall fund availability.
>
> The whole system relative to fund control depends on the opinion of the accounting clerks as to whether a PR item will become an obligation (UOO) in the accounting quarter, when it will become an obligation, and when it will become an expense. The system fails to produce a report or mechanized listing whereby each subject matter area (SMA) may quickly determine the true balance of fund availability.

The USAF Auditor General sent a letter to the Directorate of Accounting and Finance, HQ USAF in June 1968 and issued a summary report of audit in July 1969 which identified the need for an accounting process to record and track fund precertifications (synonymous with the commitment accounting process). They noted that no consistent precertification accounting procedure was prescribed and that directives did not define the treatment of these transactions. Keep in mind that prior to PRIME there was a prescribed methodology for recording and reconciling commitments.

The Accounting and Finance Directorate responded to the audit report:

> We recognize the need for some formal accounting system for precertification of funds to respond to the management needs of the field. Uniform accounting procedures for recording and controlling precertifications (commitments) are included in the B-3500 system. However, the testing and evaluation of this system has highlighted a need for the subject to be more extensively explored, especially in the areas of interface with the UNIVAC 1050 II, USAF funding policy, and formal record keeping. This will require wide Air Staff consideration and coordination. The expected date for completion of this action is 15 Aug 1969. In the meantime, we will issue a change to Atch 7, AFM 177-101, to require a control register for precertified documents filed in a jacket file and instructions for removal of documents from the files following the "commitment" stage.[13]

Summary (9.5)

It is important that systems be designed and developed to serve the manager--not vice versa. Instances still exist where managers must scramble to keep up with the accounting system.

Fortunately the Air Force has a proven ability to develop EDP supported systems, identify "bugs in the system," and then remove the "bugs" in a timely manner (9.0:9.5).

Cost (9.6)

One cannot argue with Dr. Anthony's logical contentions that: a system should not cost more than it is worth; it is a difficult task to measure objectively the value of a budget system (reference footnote 7).

My main thought regarding costs associated with PRIME is as follows: unless the Air Force can solve a formidable

array of problems--some of which I have included in this dissertation--PRIME may fall short of achieving its potential worth; in the extreme, PRIME would amount to no more than a disappointing, rather costly expense data collection system (9.0:9.6).

Review (9.7)

In the Responsibilities vs. Grades paragraph of section 9.1 (Sponsorship/Participation), I discussed the apparent "unnecessary disparity between the level of financial responsibility and the grades of the people charged with these responsibilities." Section 9.4 (Credibility and Attainability of Goals) explained some of the causes for a lack of: 1) credibility in the budgetary process, and 2) stimulus to motivate financial managers. Based upon my research observations, I offer the thesis that there is a causal relationship between the two sets of circumstances. My thesis would seem to be supported by the fact that the lower-graded membership of the Budget Working Group is apparently in violation of paragraph 3-13 a, AFM 172-1, Volume III, USAF Budget Manual which stipulates that this committee:

> ---would be comprised of the Budget Officer (Chairman), Supply Squadron Commander, Manpower Officer, and other designated individuals. This committee could be called the Budget Working Group and should review program and cost factors used in computations, methods of computation, comparison with prior year costs, review justification, evaluate performance against estimates periodically, etc., and in essence submit to the next higher committee a recommended operating budget and/or distribution of same.

The rank, experience, and expertise of the incumbents to the above prescribed positions generally exceed what I observed regarding the memberships of Budget Working Groups.

Summary (9.7)

Based upon the above information, I can only conclude that budgetary review at installations is not as thorough as it could be--or as thorough as the cited budget manual contemplated (9.0:9.7).

Approval (9.8)

Not even the approval facet of the Air Force budget is simple or clear-cut. Grim details which support this statement are included in section 9.4 of this chapter (Credibility and Attainability of Goals). "Spoon-feeding" budget authority to the financial manager seems to encroach insidiously on his understanding that there is really such a thing as a final approved budget figure beyond which no further dollar support will be forthcoming.

For example, one base I visited received the following major command guidance concurrently with their FY 70 operating budget: "Your fund administration should be based on the assumption that no additional funds will become available except for military pay and civilian wage-board increases." One of the unit commanders had an FY 70 approved operating budget for supplies which was only 87% of what his financial plan listed as minimum mission essential. Did he base his fund administration on the lesser figure?

No, he went right ahead ordering and assembling resources for projects in excess of his approved budget based upon the assumption that he would be, as in years past, "spoon-fed" additional funds as the year progressed. I am not recounting an isolated instance. Based upon observations, when the mission remains the same or is increased and the operating budget is reduced, I would say the above reaction is fairly common.

Summary (9.8)

Final budget approval for the Air Force as a whole is often belated and at the base operating budget level is often regarded as less than specific or final (9.0:9.8).

Chapter Summary

Budget oriented problems comprise the other big danger to the implementation of PRIME (a lack of appropriate IT&E being the first--reference Chapter VIII): a lack of IT&E and vigorous, dedicated leadership has enabled ingrained thoughts and actions to prevail--the concept of diffused financial responsibilities is yet to be achieved (9.1, 9.3); the base-level manager's perceived lack of control over costs (Chapter X) is a specter in the budget process which has yet to be dealt with (9.2); whether PRIME is excessively costly will be dependent upon whether it achieves its potential (9.6); budget review should be more thorough at base level (9.7); "spoon-fed" budgets nurture the ingrained thoughts and actions that regard approved operating

budgets as less than specific or final (9.8); and, most importantly, credibility of the budgetary process and reasonableness of the operating budgets have yet to be achieved on a broad base at installation level (9.4).

At this point Dr. Horngren's words bear repeating:

> The importance of these human aspects cannot be overemphasized. Without a thoroughly educated and cooperative management group at all levels of responsibility, budgets are a drain on the funds of the business and are a hindrance instead of a help to efficient operations. A budgetary program per se is not a remedy for weak managerial talent, faulty organization, or a poor information system.[14]

It is inconceivable to think of the Air Force without a budget. That leaves us with the task of solving our budgetary problems. The talent exists--but how about the will and desire?

---

1. Charles T. Horngren, Cost Accounting a managerial emphasis, 2d ed., Prentice-Hall Inc., Englewood Cliffs, N.J., 1967, p. 119.

2. Pressure, in varying amounts, is a part of almost every job responsibility. Used with care, pressure motivates toward goals and is thus desirable. However, the word pressure has unappealing connotations and usually indicates unreasonable, unbearable stress.

3. Horngren, p. 120.

4. Ibid. p. 121.

5. Ibid. p. 122.

6. Robert N. Anthony and James S. Hekimian, Operations Cost Control, Richard D. Irwin, Inc., Homewood, Illinois, 1967, p. 102.

7. Ibid. p. 106-07.

8. Ibid. p. 108-09.

9. AFM 172-1, Volume III, USAF Budget Manual, May 7, 1969, paragraph 2-2.

10. Ibid. paragraph 2-3.

11. Ibid. paragraph 2-6a.

12. Robert N. Anthony, "Management Uses of Expense Information," Before Thirteenth National Awards Banquet, Armed Forces Management Association, October 13, 1966.

13. Audit Report, Precertification of Funds, July 17, 1969, p. 3-4.

14. Horngren, p. 120.

CHAPTER X

CONTROLLABILITY OF COSTS

Purpose of Chapter

My principal concern in this chapter will be controllability of costs from the responsibility centers (RC) point of view. This chapter begins with paraphrased articles by authorities who: define controllable costs, discuss associative benefits, and enumerate important problems of differentiating the degree of cost control exercisable by certain managers within specified time frames. With the civilian-oriented point of view defined, the chapter proceeds with a quotation from AFM 178-6, Resource Manager's Handbook, which puts control of costs into perspective in the military environment.

Whether the benefits associated with control and flexibility in resource application are achieved will be dependent upon how much these benefits are affected by: the continuing strong trend toward centralization in DoD, the degree of motivation of Air Force financial managers, and how well the accounting and reporting system supports cost controllability concepts. Figure 11, Cost Controllability, reflects these relationships of variables and serves as a framework for the balance of the chapter; each independent

variable (Degree of Centralization, Managerial Motivation, and Systems Support) becomes the subject of a separate section in which its relationships to the dependent variable (Benefits of Control/Flexibility in Resource Application) are discussed.

Introduction

Dr. Anthony's[1] discussion makes it clear that cost controllability is a controversial subject in the civilian environment:

1) Ideally, the control system should separate items that are controllable by the responsibility center manager from those that cannot be controlled. But as a practical matter, a clear cut distinction is difficult to make. Only in rare cases does one individual have complete control over all the factors that influence a given cost element. Although the head of a responsibility center may never have the sole responsibility for any element of cost, if he has a significant influence on the amount of costs incurred, such elements are properly considered "controllable."

2) Some people argue that the separation of controllable from noncontrollable costs is not enough; they insist that noncontrollable costs should not even be recorded in a management accounting system. Actually, there may be a good reason for charging all, or certain types of, noncontrollable costs to responsibility centers. One reason is that management may want the supervisor to be concerned about such costs, the expectation being that his concern may indirectly lead to better cost control.

3) In any event, when noncontrollable costs are charged to responsibility centers it is important that they be clearly separated from the cost element that the supervisor is expected to control. Also, the term "controllable costs" refers to costs controllable by the particular RC; all costs, of course, are controllable by someone.

Dr. Horngren[2] warned his readers not to expect a crystal-clear, practical concept of controllable cost:

1) Despite the unavailability of a crystal-clear, practical concept the accountant must grapple with the problem, even though his approaches are often coarse.

2) The distinction between controllability and uncontrollability also has a time dimension. In the long-run all costs are subject to at least some degree of managerial control.

3) Modern opinion favors excluding the uncontrollable items from a performance report. The countervailing view is that there may be some benefit in including uncontrollable items to create an awareness of the whole organization and its costs. The important point is that the controllable and uncontrollable items, when appearing together, should not be commingled indiscriminately.

4) Some guides to deciding the appropriate costs to be charged to a person (RC manager) are as follows:

a) If the person has authority over both the acquisition and the use of the service he should be charged with the cost of such service.

b) If the person can significantly influence the amount of cost through his own action, he may be charged with such costs.

c) Even if the person cannot significantly influence the amount of cost through his own direct action, he may be charged with those elements with which the management desires him to be concerned, so that he will help to influence those who are responsible.

The Air Force's intentions and hopes regarding the manager's control of resources under PRIME are stated in paragraph 2-2, AFM 178-6, Resource Manager's Handbook, March 31, 1969:

> 2-2. Control of Resources:
> a. In a practical sense, what does this mean to the operating manager? It means that the typical manager has the responsibility for developing his operating budget and controlling (to the extent possible) more of the expenses of his unit: military and civilian personnel, temporary duty (TDY) travel and per diem, supplies, equipment, etc. There is justifiable concern about this aspect of the new system based upon the fact that there is little or no control at base level over the cost of some resources. This is cause for caution and careful deliberation about selection and timing of resources to be budgeted at cost center level. Extremes should be avoided. Extension of the system, in all its detail, should not be made merely for the systems sake. Conversely, the matter of limited control should not be used as an excuse to unduly curtail system implementation. In weighing the trade-off between administrative cost and system benefits, keep in mind that:
> (1) Even though many costs, such as those for military personnel, are beyond the control of the local manager, the way in which he uses the resources represented by these costs is largely within his control. To budget for and know the cost of resources may improve the effectiveness (doing the right thing) and efficiency (doing a thing right) of resource use.
> (2) A system which ties together programming, budgeting, accounting and reporting improves the capability of the base manager to allocate and use resources

in response to mission requirements and to measure and assess results in relation to plans. Likewise, under such a system there would be increased assurance that resources and programs would be kept in balance with the decisions of higher authority or, if not, that the consequence (for example, program increases without increased resources or resource reductions without reducing programs) would be more apparent and measurable.

(3) In the competition for resources, the decision favors those who can best relate resources needs to assigned mission.

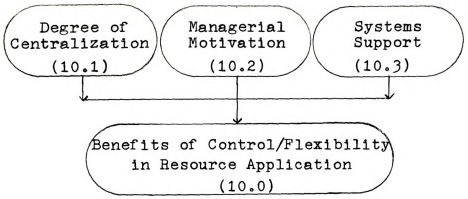
(4) If there is neither control over resource cost nor apparent or anticipated management benefit from budgeting for resources by cost center then this part of the system should not be implemented.

b. The intent and hope of the authorities who established the broad outlines of the system was that greater operating level financial involvement will result in increased efficiency. Put another way the goal is improved mission accomplishment at the same cost, or the same mission accomplishment at less cost. The process is not automatic, however. Only when the manager begins to use the additional expense data for critical comparison with the planned cost of operation, and exercises his basic ingenuity in striving for improved results because of this comparison, will the system begin to function as originally intended.

The three authoritative sources cited (Anthony, Horngren, and the Resource Manager's Handbook) agree that the managerial benefits associated with controllability of costs are wide ranging. The schematic comprising Figure 11 depicts certain of the independent variables which cause the wide range of benefits which accrue to managers from controllability and flexibility in resource application.

Degree of Centralization (10.1)

Chapter III was devoted to The Military Environment. From this discussion a general conclusion followed that: the military environment is characterized by a strong, continuing trend toward centralization which is probably



COST CONTROLLABILITY

Figure 11

irrevocable, desirable, and beneficial considering all the factors which comprise the military environment. And that this level of centralization impacted adversely on the authority, responsibility, and flexibility of the base level manager was equally clear. I concluded Chapter III with a statement to the effect that all was not lost despite the existent level of centralization in the Air Force. This chapter should lend substance--and urgency--to my statement that all is not lost.

Urgency--Managerial Attitude

One of the common complaints I heard from managers during interviews was that centralized decision-making by commands, HQ USAF, and OSD deprived them of significant influence over the costs they were incurring. As I explained in Chapter IX (The Budget Process), many of these managers should have extended their lists to include those who formulate and cast the deciding votes for the Appropriation Acts--the ultimate determinants of the mission and, hence, resource

usage. In effect, how much of their operating budget are many of the managers disclaiming responsibility for?

The amount of operating budget will vary from base to base but the following figures which are representative of a base I visited will serve to put the preceding question into perspective:

Total Operating Budget			$21,000,000(100%)
Less: Noncontrollable Costs			
	Military Personnel	$7,500,000	
	Civilian Personnel	9,500,000	
	Aviation POL	1,000,000	18,000,000(86%)
	Balance A		$ 3,000,000(14%)
Generally Acknowledged as Controllable			
	Supplies	$1,200,000	
	Equipment	400,000	1,600,000(8%)
	Balance B		$1,400,000(6%)

You should be duly startled by the fact that many managers hasten to disclaim responsibility for 86% (or more) of their resource usage. In the preceding statement lies the urgency of this situation: 1) the number of managers who disclaim responsibility, and 2) the fact that the disclaimer encompasses a preponderance of the operating budget dollars. In fact, in the extreme, I interviewed managers who contended that supplies and equipment usage, temporary duty travel, transportation, and communication costs (the latter three are included in Balance B above) were really determined largely by decisions made at higher levels, therefore, they too were costs for which the local manager could logically disclaim responsibility. For those who are still in the dark about

why I maintain that this situation is urgent and requires immediate top-level attention, I offer this thought: If the managers at the operating level disclaim responsibility for the resources they use, the Air Force has a poor seedbed from which to expect a bountiful crop of efficiency. A continued disclaimer philosophy could leave us with only one prong of a much needed two-pronged attack--effectiveness only, instead of effectiveness and efficiency. What can be done to get back on the track of the much needed two-pronged attack? Sections 10.2 and 10.3 of this chapter deal with this question in some detail but first we need to be more specific in our discussion of costs. Military personnel costs will become our principal point of focus; as an element of expense, they are one of the most difficult to control at base level.

Military Personnel Costs

Mr. Michael E. Simon did a fine job of explaining why most managers contend that military personnel costs are one of the most difficult to control at base level:

> The types of tradeoffs envisioned for operating managers between military personnel costs and other resources are severely constrained by two practical realities: (1) separate appropriations for military personnel and operation and maintenance costs exist and will probably continue, and (2) there is a universally recognized requirement for central management of the military forces. OSD has recognized that with separate appropriations the portion of the operating budget identified for military personnel expenses can be used for no other purpose. Similarly, OSD has acknowledged the requirement for central management because of the long lead time and planning necessary to change either the size or structure of military manpower programs; extensive coordination required for recruitment, training, promotions, and rotation of military personnel; the need to control rank and grade

> structures, and the selection board concept used for military personnel promotions. Clearly, the ability of the manager below departmental headquarters level to control directly the size and skill levels of forces assigned to him is sharply circumscribed. He can, of course, make his views known through channels so that the centrally managed system may be made more responsive to his requirements.3 (Underlining added)

The centralization trend is supported by the Management Engineering Program (MEP) which was explained to me during an interview with the commander of an MEP team. MEP teams, operating as field extensions of the major command headquarters, develop engineered standards for manpower requirements (numbers and skills) at wing/base level. These engineered standards are incorporated into Unit Detail Listings (UDLs) which are used by Hq USAF and commands for planning and for allocating resources to subordinate levels.

In September 1969 Mr. Michael E. Simon prepared an article which expressed very well the opposing views regarding military personnel costs:

> Opponents of budgeting at installation level for military personnel base their arguments upon the fact that the wing/base commander has little or no control over the numbers or skill levels of members assigned to him nor the dates of their assignments and reassignments. They believe that there is no useful purpose served in asking a manager to budget for a resource which he cannot control.
>
> Those who favor including military personnel in the wing/base operating budget freely concede the fact that under the centrally managed military personnel system used by all the Services the local commander has little control over either the numbers of people assigned, their skill levels, or the effective dates of their reporting in and out. Proponents make two points in supporting the concepts of budgeting at local level:
>
> 1. Although the wing/base commander has little control over how many military members are assigned to him, once they are assigned to him he has a great deal of control over what they

do. Budgeting at wing/base level holds the wing/base commander accountable for his stewardship over the considerable military personnel resources with which he's provided.

2. The centrally managed system is expected to be responsive to local needs as well as those of the force as a whole.

A central manager intent on maintaining the effectiveness of his system needs to encourage feedback from the users of the system in the field. Most would concede the value of encouraging the man in the field - where the action is - to express his views constructively, particularly if he speaks out when he believes he's been assigned too many as well as when there are too few. Those who favor including military personnel costs in the operating budget at wing/base level believe that ultimately this will happen. Commanders will "lean against" the central system for managing military personnel by seeking authority for some tradeoffs between military personnel and other resources.

Even though trade-offs between resources are impeded when they are financed from separate appropriations, recent budget reduction exercises have demonstrated that the opportunity for trade-of exists. In both fiscal years 1969 and 1970 the Air Force was faced with the requirement to cut its budget by amounts approximately $1 billion in each year at about the same time as the fiscal year was to begin. In each instance Hq USAF established a dollar reduction target for each major command and asked each command to propose the program cuts necessary to meet the dollar target. In essence, the commands were asked to propose cutting the programs of least priority to the mission without regard to whether the costs were funded from the operations and maintenance or military personnel appropriations. This gave them the opportunity to match their available resources to their mission requirements and propose what amounted to their assessment of the optimum program and optimum mix of resources for a given level of resources. The result in each year was that the commands proposed actions which enabled Hq USAF to make substantial reductions in the military personnel program as well as in the operations and maintenance appropriation. Note that the integrity of the central system for managing military personnel was not compromised; the final decisions continued to be made in Hq USAF. However, the decision makers had the benefit of the views of the major commander who, by having to consider the total resources made available (including those that were "free" before PRIME), was motivated to determine and report the optimum mix of resources needed to perform his mission.[4]

My research indicated that there were far more managers who disclaimed responsibility for personnel costs than there were managers who searched for ways to "lean against" the centralized system to gain efficiency. Are the managers who contend that military personnel costs are not their responsibility overreacting to the MEP and the related assignment system? To answer this question one must examine certain characteristics of the MEP in a bit more depth.

Management Engineering Program (MEP)

From the management point of view, there are several significant aspects of the MEP when deciding whether the base level manager has a responsibility for military personnel costs. Overall, the MEP is an important element in the necessary centralized control system for military personnel. However, MEP can result only in a coarse measure as far as efficient utilization of military personnel resources is concerned. The discussion points that follow explain why this is so.

1) It can take two years or more to make an engineering study and disseminate the results for world-wide use. Considering the rate at which operations change, there can be a significant time lag between the origination of personnel needs and subsequent authorization to meet those needs. The base level manager must identify these lags quickly and bridge them to achieve efficient use of military personnel.

2) When an engineering study is completed, the skill levels and numbers of people authorized are representative

of "average" performance based largely on past experience. There are several important points to consider in regard to the acceptability of "average" performance: a) "average" may not be good enough in the less than benign budgetary environment; b) "average" is really a mathematical concept--an "average" performer does not exist except in a mathematical sense (more on this point later); and, c) individual managers accepting "average" performance as a goal could easily cause built-in stagnation and unacceptable overall performance.

3) The engineered standards are representative of skills and numbers of people needed to accomplish certain work as described in applicable directives. This directive basis may be the best available but it should prick the manager to alertness: a) directives are not always the essence of communicative excellence; b) innovative managers should be encouraged to accomplish a <u>total effort</u> as efficiently as possible--in contrast to thinking in terms of <u>functional, fragmented efforts</u> which is often the case with directives; and, c) there are often peak work loads involved which are difficult to reflect in establishing the numbers of people of particular grades required to do a specific job under average circumstances for an extended period; efficient operations will result when the managers act in concert to do the best overall job with total resources available. During the field research, it was pointed out to me that a good example of peak work loads occurs during the summer months in the transportation activity.

"Average" Performance

Managers must strive for a much better military personnel cost performance than will be achieved if engineered standards are accepted as efficient utilization of available military personnel resources. In fact, RMS concepts envisage that local managers will not be satisfied with "average" performance when they are exposed to and cognizant of related costs. The blunt facts are that in the military, as in all large organizations, the managers' skills vary on a wide continuum. The less capable (below "average") managers incur high costs as they are not able to make efficient use of the personnel resources provided. So, to achieve even an "average" performance there must be provisions for the good managers to make "better than average" use of their personnel resources--provisions for the more capable manager to carry the less capable one in order for the overall performance to be "average." How can this minimal objective be accomplished? Sections 10.2 and 10.3 which follow deal with this question.

Summary (10.1)

There is a strong, continuing trend toward centralization in the military environment which reduces the control and flexibility in resource application by base level financial managers (10.0:10.1). Based upon the existence of this high degree of centralization there is an equally strong trend for base level managers to disclaim responsibility for a preponderance of their incurred operating costs. Unfortunately, an operating philosophy based upon such a disclaimer of

responsibility would, in effect, remove efficiency as an achievable goal within our centrally directed military environment.

Managerial Motivation (10.2)

The present attitude of many base level managers, disclaiming responsibility for a preponderance of the operating costs, must be changed. How? As usual the first step should involve an appropriate application of IT&E. All aspects of cost controllability should be discussed and put into proper Air Force perspective. The type of material included in the Introduction to this chapter could be expanded as a first step. Of course, the central theme of the whole endeavor should be that the Air Force cannot live with the current patterns of thought and action; the only point open for serious discussion should be "what is the best available alternative for influencing the current patterns of thought and actions?"

What Can Be Done

Judging by my research results, a viable program to effect the desired change in managers' patterns of thought and action would include:

1) A discussion of the strong continuing trend of centralized decision-making in the military environment--to explain why centralization is probably irrevocable, desirable, and beneficial considering all the factors which comprise the military environment.

2) A discussion in depth, preferably of military personnel costs, to explore the significance of base level managers blindly accepting the numbers, skills, and timing dictated by the centrally derived decision process. If the base level manager doesn't take an active role in making significant improvements upon the resource allocations dictated by this centralized process the Air Force may be doomed to experience an "average" (or worse) level of efficiency.

3) Examples of what the more innovative, ingenious managers have done to improve upon central allocation of resources.

4) Provisions to reinforce such a cost effectiveness improvement program to include a tailored plan to provide rewards and sanctions (reference Chapter XI).

Such a cost effectiveness improvement program would give the base level manager a fighting chance to understand the problem and give him a solid basis for effecting the necessary change in patterns of thought and action regarding controllability of costs. But again, as has been discussed several times before in this dissertation, success of such a program seems dependent upon the development and implementation of a tailored centrally directed and controlled IT&E package. A suggested control device for RMS is discussed in Chapter XIV (ORI for RMS) which may be an ideal management tool to evaluate both the IT&E package and the progress toward achieving the desired change in patterns of thought and action during the post IT&E program period.

Management Controls at Base Level

Ideas regarding simple, minimal controls to serve as a starting point toward cost effectiveness are included in paragraph 3-11, Vol III, AFM 172-1, USAF Budget Manual:

a. Civilian Overtime and Overhire. Control can be achieved by requiring overtime and overhire requests to be approved by a key executive to be designated by an RC manager or commander. The manager should review reports frequently which tell him of the status of overtime and overhire.

b. TDY Travel. Final approval should be vested in key official(s) designated by the RC manager or commander. Points to consider are:

(1) Is the TDY travel necessary.

(2) Requests for TPA (travel by private auto) should be carefully screened.

(3) Travelers should consider use of military transportation when available.

(4) Military personnel should be required to occupy available government quarters.

(5) Number of people involved, availability of Government quarters at destination, and length of TDY, should be thoroughly investigated by the approval officer.

c. Contractual Services. Discipline should be exercised to control use of contractual services. Existing contracts should be reviewed periodically (not less than annually) by the Base Budget Review Group to determine if that type of service is required for future budget periods. New proposed contracts should be screened for essentiality by the group or board or other designated review authorities and approved prior to implementation.

d. Supply Consumption Should Be Controlled by RC Managers. A system that controls the amount an organization can requisition in any given time frame is effective.

e. Utilities should be conserved. There must be an effective utilities conservation program.

f. Staff Coordination. People who plan operational exercises, establish new logistics concepts, etc., must insure that resources are available for support of their planned activities before the fact.

g. Other. The above-mentioned items are but a few of the management controls that can be effected at base level. Other examples are control over: use of staff cars; installation of complex communications equipment; base bus routes; etc.

Paragraph f (Staff Coordination) is worthy of further discussion. One of the fallout benefits of the RMS concept should result from the simple fact that resource usage is measured in aggregate dollars of cost rather than (or in addition to) other common quantitative measures such as a specified number of a certain stock numbered item (e.g., 12 each of 1234567890 vs $12,000.00 of Supplies Expense). Our society as a whole, and the financial manager in particular, is accustomed to thinking in dollar terms. Stating alternatives in terms of dollar costs often enhances the rationality of ensuing decisions; it adds another valuable reference point. Now let's see the punch line. The staff agencies who are often unjustly accused of glutting even an insatiable paper mill ought to be given an additional responsibility: <u>before a directive is submitted for approval its dollar cost impact should become an integral part of the supporting package.</u> In other words, new or altered directives should be subject to the "dollar test." The above notion was reinforced during one of my interviews when an RA recounted the effects of what at first appeared to be an inconsequential new directive. But, in reality, the innocuous appearing directive jeopardized his whole funded program for maintaining desired occupancy levels in government furnished quarters. Had this directive been subject to the "dollar test," it would not have jeopardized his funded program.

Aviation POL provides another example of possible efficiencies in the utilization of scarce resources. During

interviews I encountered significant numbers of managers who said that dollars of POL costs were meaningless below major command or possibly even HQ USAF level. However, certain facts should be considered:

1) Aviation POL costs can vary significantly for a given mission depending upon how the aerospace vehicle is programmed to complete the mission.

2) Although broad guidance regarding use of aerospace vehicles is centrally derived, the local managers have considerable decision-making latitude in how they will be used. There are a host of factors to consider; many of these factors may be more important than related costs--safety, for example. But all I'm saying is that costs must be elevated to an appropriate stature in the decision process. In the above circumstances, the cost of aviation POL should be a cognizant factor in selecting the best alternative for accomplishing a mission. This suggestion can be contrasted to aviation POL being the quantity of a stock numbered item necessary to support a given mission--a mission which was determined without cognizant consideration of the cost of this scarce resource.

Other examples of base level managerial actions that should be taken to improve efficiency include:

1) Managers should encourage innovations which will reduce manpower needs. Managers so inclined to improve efficiency should "lean on the system" to delay filling vacancies until such innovations can be field-tested. When

innovations are successful, authorized numbers and/or skill levels should be altered accordingly.

2) Installation commanders (as senior responsibility center commander) should impress upon subordinate RC commanders that the total manpower pool is provided to accomplish the total base mission. Only by acting in concert can the RC commanders achieve efficiency by overcoming the "average" performance which is built into the system by the centralized decision-making process. One manifestation of such a concerted endeavor would be a greatly expanded program of lending and borrowing personnel to overcome peak workloads.

3) Loaning people should not be regarded as a means of "unloading undesirables." Handled properly, the loaning action would provide the better people a chance for cross-training and increased visibility which should contribute to accelerated promotion.

When I discussed the above possibilities at base level, the less knowledgeable, less motivated managers hastened to describe the multitude of obstacles to be overcome e.g., reluctance to loan people--irrespective of whether "good" or "poor," reluctance to cross Air Force Specialty barriers, lack of knowledge of the centralized personnel system, etc. The obstacles cannot be denied; neither can the necessity for overcoming these obstacles to achieve vital economies. Judging by my research, one of the most troublesome obstacles may be the wide proliferation of directives that "foot dragging" managers can cite as reasons why something can

not be done. Hopefully, as managers begin to understand RMS better (through appropriate IT&E and experience) they will look for directives which allow (or at least do not deny) innovative practices that result in increased efficiency. Where directives prove to be an obstacle to efficient operations, managers should be encouraged to "lean against" the centralized system--to cause higher-level, directive creating managers to acknowledge financial system improvements. Concurrently, top-level managers should encourage operating managers to exercise their ingenuity and "lean against" the centralized system--not "beat them over the head" with the directives as a reward for exercising ingenuity to gain efficiency.

Managerial Evaluation

As in any progressive organization, a continuous search is being made in the Air Force for better ways of evaluating performance. The degree of success managers achieve in fostering RMS concepts would seem to provide valuable input to individual performance evaluations. Why? The resources provided by centralized decision-making provides only a coarse approach to efficient utilization of scarce resources. The fine-tuning to achieve significant efficiencies results from how well the individual manager uses the resources provided to him. Each manager with a similar mission has roughly the same basic resources provided by the centralized decision-making process--at least this is the logic offered by most base level managers who disclaim responsibility for

incurrence of these costs. So, what better method is available for evaluating individual performance than a comparison of efficiency achieved in use of the given resources to achieve common objectives? Ideally, of course, these evaluations would also be used as input to an overall system of rewards and sanctions to reinforce the individual evaluations and make them more effective.

During an interview I was apprised of a set of circumstances related to this suggestion regarding evaluations/rewards/sanctions--but in reverse. A printing plant at a base was doing a very cost effective job. By fortuitous circumstances hard work, appropriate IT&E, and enlightened supervision these people developed an operation that caused their operating reports to reflect a high level of efficiency. In fact, when I was there, an operations report had been returned to them by command with an annotation to the effect that the figures should be rechecked--they were out of line with comparable activities at other locations! This was probably an isolated example, but it was made to order for the proper exercise of managerial evaluation of resource utilization and the concurrent exercise of the enjoyable aspects of rewards and sanctions.

"Fat in the System"

In an organization the size of the Air Force there is unquestionably "fat in the system." Part of the "fat" is a product of the strong trend toward centralization. Using military personnel as an example, numbers and skills are

assigned based on average needs. The better the people and/or the supervision the higher the "fat content" in the job.

Also, there are strong forces in a bureaucracy which tend to build up the personnel structure. For example, tying supervisory grade levels to the number and grades of subordinates inhibits supervisors from recommending reductions in numbers or grades of their subordinates. When a normal bureaucratic tendency to overstaff is not refuted by credible cost performance as envisioned by RMS, budget cuts and additional workload are often expected to be absorbed within available resources. With the popular cost-cutting methodology being an across-the-board reduction, the "lean outfit" is hurt the most; and, the trend toward "building fat to protect the lean" during cost-cutting periods perpetuates itself. This vicious circle must be broken if real economies of performance are to be achieved. In contrast, when GM lays off 10,000 workers, top-management doesn't expect to produce the same number of automobiles. Similarly, when a decision is made to reduce the armed forces, a concurrent responsibility for reduced mission objectives should be assessed; when additional objectives are selected, a concurrent funding action should be affected.

Again, this section emphasizes the complexities in the military environment that inhibit the military managers' immediate recognition of efficiency as a dual objective with effectiveness. But the more knowledgeable manager surely recognizes that the stakes are high regarding the achievement

of RMS objectives. And since "there's no free lunch," the Air Force will probably have to pay a steep price to break out of the vicious circle preparatory to elevating efficiency as a dual objective with effectiveness in the lexicon and practice of Air Force financial managership.

Summary (10.2)

An effective, centrally directed and controlled IT&E package should be used to alter existent manager thought and action patterns regarding controllability of costs.

Efficient utilization of resources should become an enhanced element in the managerial evaluation process; ideally, the evaluation process would provide input to a related program of rewards and sanctions.

There are strong forces inhibiting the recognition of efficiency as a dual objective with effectiveness for the Air Force financial manager.

The benefits associated with proper regard for controllability of costs are opposed by strong forces involving the motivation of financial managers (10.0:10.2).

Systems Support (10.3)

I am using systems support in this context to mean the accounting and reporting system which gathers, assimilates, and reports the accounting data.

I observed only a limited effort to analyze and explain costs with regard to controllability; this apparent lack of concern is reflected in the management reports where there is

no differentiation of costs with respect to controllability.

Instances were described to me during interviews of increasing signs that the military services are expected to play a significant role in fostering certain socially-oriented programs. In the field of personnel, socially-oriented programs such as Project 100,000, The Youth Summer Hire Program, and various other programs for hiring hard-core unemployed and disadvantaged groups have been implemented in the past few years. Burying the added costs of socially-oriented programs in the overall personnel costs (especially during austere periods when Reductions in Force (RIFs) are the order of the day) may contribute to the lack of credibility of reported personnel costs as measures of efficiency.

On the subject of military personnel costs, during an interviewing session I saw a good example of the significant role that the accounting and reporting system can play in affecting manager's thought processes. Some of the same managers who disclaimed responsibility for military personnel costs in the aggregate evinced considerable interest in the Military Pay Expense Distribution List which is a detailed printout that shows the build-up of aggregate figures by cost center by individual. This may be the first signs of metamorphosis by osmosis. But I still think metamorphosis by osmosis is a poor substitute for an appropriate, centrally directed and controlled IT&E package.

Chapter Summary

Controllability of costs is a controversial subject matter which warrants increased management attention because it appears to be the key issue in upgrading efficiency as a dual objective (with effectiveness) for financial managers.

The benefits associated with control and flexibility in resource application are reduced considerably by: a strong continuing trend toward centralization; a force of financial managers many of whom believe that they cannot significantly influence a preponderance of the costs they incur; and, an accounting/reporting system that does not differentiate regarding controllability of costs. (10.0:10.1, 10.2, 10.3).

---

1. Robert N. Anthony and James S. Hekimian, Operations Cost Control, Richard D. Irwin, Inc., Homewood, Illinois, 1967, pp. 9-11.

2. Charles T. Horngren, Cost Accounting a managerial emphasis, 2d ed., Prentice-Hall Inc., Englewood Cliffs, N.J., 1967, pp. 273-4.

3. Michael E. Simon, "PRIME 69--An Interim Assessment," The Air Force Comptroller, April 1969, p. 4.

4. Michael E. Simon, Article entitled "Project PRIME and the Air Force," September 3, 1969.

CHAPTER XI

MOTIVATION/REWARDS/SANCTIONS

Purpose of the Chapter

Since many eminently qualified social scientists have produced disappointingly little consensus after spending years exploring human behavior in organizations, I am well aware of the complexity and controversy associated with motivation/rewards/sanctions (MRS). But since MRS appears to be vital to Air Force financial managers striving for effectiveness and efficiency, this chapter was written to:

1) Outline applicable theories advanced by "selected" social scientists. The word "selected" was used advisedly as the library shelves are virtually loaded with books describing what motivates man to behave as he does and the types of rewards and sanctions best suited to cause him to behave in a desired way. I solicit the readers condescension to read the extensive quotations from "selected" social scientists; in most cases, quoting appeared to be better than running the risk that lies in a layman's paraphrasing of complex passages which are crucial to the message of the chapter.

2) Present certain observations about MRS in the Air Force environment, drawn from my field research at AF installations.

To accomplish the above objectives, this chapter was divided into four parts:

1) The Introduction puts MRS into perspective in the Air Force environment.

2) The Conceptual Theories section presents theories "selected" from a vast field of social scientists. Admittedly, I have been exposed to only a limited number of the vast array of conceptual theories related to MRS. And I admit to only modest competence to evaluate these theories, as theories; however, when those theories are placed within the pragmatic framework of AF operations, common sense suggests the applicability of certain of them to the working problems of AF resource management. One must be careful not to be diverted from real problem solutions by the niceties of theoretical argument. Adaptation of relevant theories to the "real" environment will help us get on with constructive, objective approaches to our resource management problems. Also, the magnitude, complexity, and controversy associated with MRS should put the need for appropriate IT&E into perspective as an essential Air Force requirement in support of RMS.

3) The Research Observations section includes results from my field research effort which can be related to the "selected" theories espoused.

4) The Chapter Summary assimilates this considerable subject matter area and offers some approaches to the related problems.

The idea that motivated the writing of this chapter long after time and energies were on the wane was as follows: If motivation/rewards/sanctions were in proper focus in the Air Force, the issues discussed in Chapter IV through X would be under control rather than jeopardizing the continued credibility of RMS concepts.

Introduction

A quotation used to close the INTRODUCTION (page 26) keeps echoing back from the pre-PRIME implementation days in 1965:

> ---teach resource managers how to use the powerful data then available to them; to influence their attitudes; to motivate them; to broaden their authority so they can use these data effectively. ---develop objective standards of economic efficiency; measure performance against those standards; reward the efficient managers; snarl at the inefficient. ---do all these things without, in any way, tarnishing the cardinal goal of maximum combat effectiveness.[1]

Authorities in social science research at the University of Michigan, Katz and Kahn sounded an appropriate word of warning:

> Though knowledge about motivational principles has been growing as a result of psychological experimentation and research, there has been little systematic application of this body of knowledge to the specifics of organizational functioning. In brief, the approach taken in dealing with organizational problems has been oversimplified and too global. People have either assumed that the organization was like a single individual, or that there was a single problem of motivation for the entire organization with a single answer, or that organizational structures and processes could be ignored in dealing with the psychology of the individual. The use of rewards in blanket fashion for all organizational members is an instance of the first type of oversimplification, the concept of a global morale an

example of the second. Examples of the third type are provided by the research on small groups and the human relations approach, both of which neglect the formal structure of organization. While the older theory of scientific management looked at the organization and forgot about the people in it, some recent psychological approaches look closely at people and forget their structured interdependence in the organizational context.[2]

Schein's "Complex Man" description enables us to visualize how much work lies ahead regarding MRS because a viable motivational system must be prefaced by at least a conceptual understanding of man:

> Complex Man. Organization and management theory has tended toward simplified and generalized conceptions of man. Empirical research has consistently found some support for the simple generalized conception, but only some. Consequently, the major impact of many decades of research has been to vastly complicate our models of man, of organizations, and of management strategies. Man is a more complex individual than rational-economic, social, or self-actualizing man. Not only is he more complex within himself, being possessed of many needs and potentials, but he is also likely to differ from his neighbor in the patterns of his own complexity. It has always been difficult to generalize about man, and it is becoming more difficult as society and organizations within society are themselves becoming more complex and differentiated.
>
> What assumptions can be stated which do justice to this complexity?
>
> a. Man is not only complex, but also highly variable; he has many motives which are arranged in some sort of hierarchy of importance to him, but this hierarchy is subject to change from time to time and situation to situation; furthermore, motives interact and combine into complex motive patterns (for example, since money can facilitate self-actualization, for some people economic strivings are equivalent to self-actualization).
>
> b. Man is capable of learning new motives through his organizational experiences, hence ultimately his pattern of motivation and the pyschological contract which he establishes with the organization is the result of a complex interaction between initial needs and organizational experiences.

c. Man's motives in different organizations or different subparts of the same organization may be different; the person who is alienated in the formal organization may find fulfillment of his social and self-actualization needs in the union or in the informal organization; if the job itself is complex, such as that of a manager, some parts of the job may engage some motives while other parts engage other motives.

d. Man can become productively involved with organizations on the basis of many different kinds of motives; his ultimate satisfaction and the ultimate effectiveness of the organization depends only in part on the nature of his motivation. The nature of the task to be performed, the abilities and experience of the person on the job, and the nature of the other people in the organization all interact to produce a certain pattern of work and feelings. For example, a highly skilled but poorly motivated worker may be as effective and satisfied as a very unskilled but highly motivated worker.

e. Man can respond to many different kinds of managerial strategies, depending on his own motives and abilities and the nature of the task; in other words, there is no one correct managerial strategy that will work for all men at all times.

Implied Managerial Strategy. If assumptions such as the above come closer to the empirical reality, what implications do these have for managerial strategy? Perhaps the most important implication is that the successful manager must be a good diagnostician and must value a spirit of inquiry. If the abilities and motives of the people under him are so variable, he must have the sensitivity and diagnostic ability to be able to sense and appreciate the differences. Second, rather than regard the existence of differences as a painful truth to be wished away, he must also learn to value difference and to value the diagnostic process which reveals differences. Finally, he must have the personal flexibility and the range of skills necessary to vary his own behavior. If the needs and motives of his subordinates are different, they must be treated differently.[3]

It is important to recognize that these points do not contradict any of the strategies previously cited. I am not saying that adhering to traditional principles of organization, or being employee-centered, or facilitating the work of subordinates is wrong. What I am saying is that any of these approaches may be wrong in some situations and with some people. Where we have erred is in oversimplifying and overgeneralizing. As empirical evidence mounts, it is becoming apparent that

the frame of reference and value system which will help the manager most in utilizing people effectively is that of science and of systems theory. If the manager adopts these values toward man, he will test his assumptions and seek a better diagnosis, and if he does that he will act more appropriately to whatever the demands of the situation are. He may be highly directive at one time and with one employee but very nondirective at another time and with another employee. He may use pure engineering criteria in the design of some jobs, but let a worker group completely design another set of jobs. In other words, he will be flexible, and will be prepared to accept a variety of interpersonal relationships, patterns of authority, and psychological contracts.[4]

Dr. Anthony had this to say on the subject of motivating DoD financial managers:

> The problem of motivation is the most difficult problem that we have to solve, and I frankly don't think we have found a good solution so far. People don't deliberately waste money, but neither do they put much attention toward saving money unless they have a strong incentive to do so, and we have not yet found the right mix of incentives.
>
> Indeed, our incentives today can very easily produce the opposite result from what we want. This is how it can happen. We strive mightly to get the manager interested in being efficient. We provide him with tools he needs, such as operating budgets and expense accounting by responsibility centers. We make it clear that his performance will be judged in part by how well he manages the resources made available to him. If this effort is successful, the manager will save money, and he will be warmly congratulated by his superiors. But--and this is the important point--the way the system works today, his budget for next year may well be cut by the amount he saves. If the practical effect of an effort to save money is a cut in the budget, then managers are not likely to be as enthusiastic about saving money as they should be.
>
> We have explored various ways of getting at this problem. One possibility is to guarantee that the manager can retain savings for one or two years and that he can use this "extra" money for projects which, although desirable, are not essential enough to include in his regular plans. We might couple this with a rule that if inspectors, auditors, or other outside people discover the opportunity to make savings, then the manager will lose the money forthwith. This combination of carrot and stick might motivate the manager to work hard to discover opportunities for savings

before someone else does.

But in any event, the fact is that we simply don't have the built-in incentive for efficiency that exists in a profit-seeking company, and there is a tremendous need to find a workable alternative.[5] (Underlining added)

Conceptual Theories

With some idea of the state of DoD motivation and incentive needs in mind and with some idea of how complex the MRS problem is, we may be prepared for conceptual theories.

French provides a logical starting point with the following discourse on "Motivation Based on Needs." It is important that managers understand how individuals respond to needs--including both satisfied and unsatisfied needs.

> Needs are the basic motivators in human behavior. The dynamics are relatively simple: the individual is compelled by inner urges to find ways to satisfy his needs. As Maslow states it, "Man is a perpetually wanting animal."[6]
>
> Figure 3-1 diagrams the basic ingredients of motivation. The individual has needs (tensions), he searches for ways of satisfying these needs, he perceives ways (goals) of satisfying these needs, he attempts to attain his goals, and he achieves the goals. Such goal-seeking may have a negative aspect as well as a positive. If the tension is fear, for example, the individual may perceive the goal of running away as a way of reducing the tension.
>
> Of course, the person may be frustrated in his attempt to attain his goal, in which case he will either aim for alternative goals (Figure 3-2) which hold promise of satisfying his need, or he will exercise some kind of defensive behavior (Figure 3-3) in an attempt to assuage his feelings, i.e., to reduce the tensions.[7] The term "defense mechanism" is typically used to describe such behavior.
>
> Defense Mechanisms
>
> A defense mechanism can be defined as a non-rational attempt to reduce the tension from needs which are not satisfied, or a non-rational attempt to avoid the loss of some satisfier. Non-rational defensive behavior is that of which the individual is either not aware or over which he has little or no control, in

FIGURE 3 - 1

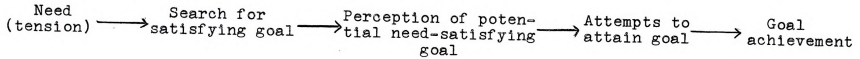


FIGURE 3 - 2

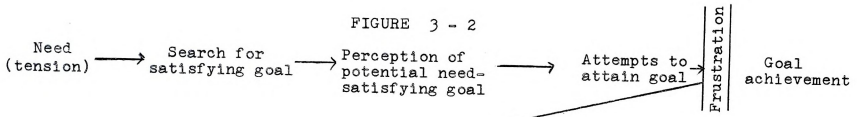


FIGURE 3 - 3

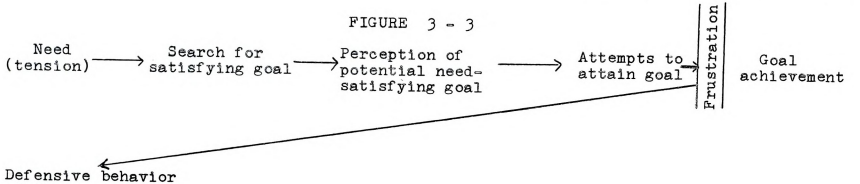


FIGURE 3 - 1

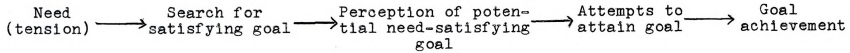


FIGURE 3 - 2

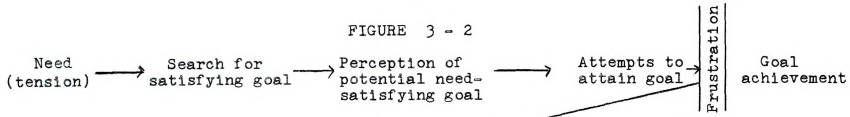
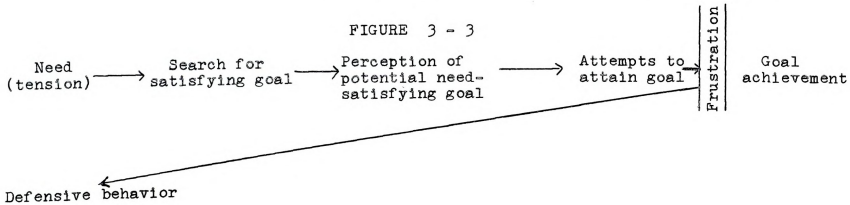


FIGURE 3 - 3



contrast to consciously-decided-upon courses of action chosen from alternatives.

Much defensive behavior must be considered "normal" in the sense that some use of defensive mechanisms is seen in most people at all levels of the organization, although with differing degrees of intensity and frequency. When such use of defensive behavior becomes chronic and seriously interferes with interpersonal relationships or performance, the term "neurotic" is appropriate. The psychotic person, of course, is one whose defenses are so strong and rigid that he has lost contact with reality and cannot distinguish between his inner defense mechanisms and the real world around him. As a result, his behavior becomes conspicuously bizarre. Thus, what is "normal," "neurotic," or "psychotic" behavior is a matter of degree.

While psychotic behavior occasionally appears in the organizational setting and becomes a medical-psychological problem of emergency proportions, the behavior with which we are primarily concerned here is the range of behavior extending from the "normal" use of defensive behavior to that bordering on neurotic. Some of the more common manifestations of defense mechanisms are as follows:

Displacement. In displacement, the emotions attached to one object are displaced to another. A popular illustration is the employee who, when reprimanded by the boss, comes home and lectures his wife, who in turn punishes the child, etc. Displacement has more serious consequences for the organization when, for example, the foreman publicly bawls out a union shop steward who, in turn, vents his hostilities on the chairman of the company negotiating team.

Projection. The previously cited experiment of the hungry people who saw more food-related items in ambiguous pictures than did non-hungry people is a good example of projection. Another example would be a sales manager who feels insecure in his job and who fights back at ordinarily inconsequential slights which he now perceives as threats to his job security.

Rationalization. Rationalization is the act of offering to others or to oneself socially acceptable reasons or excuses for what one wants to do, when these reasons are not the real reasons. An example might be a department head who insists upon remaining in his present office rather than move to larger, remodeled offices elsewhere, because he needs "to be close to the boss for quick communication," while his real reason is a fear of loss of status.

Attention-getting. Through this defense mechanism, a person attempts to obtain recognition and appreciation by calling attention to himself. An example would

be an employee who brings numerous insignificant questions and problems to the attention of his boss in an attempt to gain need satisfaction.

Identification. Identification appears in attempts of people to imitate other people. Many subordinates take on some of the characteristics of their superiors and imitate them, probably as a defense against feeling inadequate.

Fantasy. Daydreaming is a prevalent defense mechanism through which people attempt to attain satisfaction of needs through fantasy. When engaged in to an extreme, this mechanism can obviously impair the individual's productivity.

Ailments. Ailments can be another kind of withdrawing defense. People literally become ill to avoid threatening situations and are often unaware of the function which their illness performs. Such psychosomatic illnesses account for a substantial amount of organizational absenteeism.

Absenteeism and Turnover. Although of perhaps a more rational nature, staying away from work is a common defense mechanism to avoid non-rewarding work. Quitting is often just a more extreme manifestation of such avoidance.

Negativism. A particularly costly defense mechanism in most organizations is negativism. When people perceive proposed changes as threatening their need fulfillment, they may simply resist or "drag their feet." Slowness to act and resistance to change are common examples. Managers are not immune to this mechanism and, for example, may resist perfectly legitimate union requests as a result.

Apathy and Depression. In many instances, in difference or apathy can be considered a defense mechanism. The individual is so preoccupied with avoiding the pain and discomfort of lack of basic need fulfillment, such as the lack of affiliation, affection, or fair treatment, that he has no energy left over with which to be emotionally and constructively involved in his job. In a more extreme form, the individual suffers from depression, in which hostilities based on lack of need fulfillment are turned upon himself. The person becomes apathetic, blue, out of sorts, and, in many cases, chronically unhappy. Depression, of course, is the antithesis of expression of the need for self-actualization.

Sabotage and Stealing. Actual damage to property, equipment, or raw materials is not extremely prevalent, but it happens with enough frequency in industry and in such institutions as the public schools to warrant concern. Although also morally reprehensible, some sabotage may be interpreted as employees' fighting back at management because of inadequate or reduced

need fulfillment. Thievery, which is much more prevalent than sabotage, probably stems from the same causes in many instances.

Strikes. Many strikes, including wildcat stoppages, can be interpreted as "getting back" at management, or an attempt to "show those guys." Since the loss in wages in many strikes greatly exceeds the economic gains derived, socio-psychological defense mechanisms are probably operating.[8]

The statement that "Man is a perpetually wanting animal" (cited by French at the end of the first paragraph in the preceding quotation) is elaborated upon by Chruden and Sherman. The authors describe a hierarchy ranging from basic physiological needs to self-actualization (realizing ones full potential).

Classification of needs. Since human needs cannot be seen but must be inferred from human behavior, it may be expected that there will be different theories about them. One classification that is widely accepted comes from Maslow, a psychologist who has developed a theory of human motivation. He has organized or classified human needs into five categories: (1) the physiological needs, (2) the safety needs, (3) the belongingness and love needs, (4) the esteem needs, and (5) the need for self-actualization.

1. The physiological needs. Included in this group are the needs for food, water, air, rest, etc., that are required for maintaining the body in a state of equilibrium.

2. The safety needs. These include the need for safety and security, both in a physical and psychological sense. The need to be protected from external dangers to our bodies and our personalities are included in this group. Most employees for example, desire to work at jobs that are free from physical and psychological hazards, and that provide tenure.

3. The belongingness and love needs. The need for attention and social activity are the major needs in this category. An individual desires affectionate relationships with people in general and desires to have a respected place in his group.

4. The esteem needs. These include the desire for self-respect, for strength, for achievement, for adequacy, for mastery and competence for confidence in the face of the world, and for independence and freedom. Also, included in this group is the desire for reputation or prestige or respect and esteem from other people.

5. The need for self-actualization (realization). This refers to a man's desire for self-fulfillment; namely, to the tendency for him to become actualized in what he is potentially. "What a man can be, he must be." This tendency might be phrased as the desire to become more and more what he is, to become everything that one is capable of becoming.[9]

The fact that human needs have been analyzed and categorized should not cause us to believe that we have a complete explanation of human behavior. In analyzing the motivation of an individual, attention cannot be focused on any one of the needs to the exclusion of the others. Behavior is multimotivated; therefore, several needs usually demand satisfaction concurrently.[10]

French offers some enlightening observations regarding the above described basic needs hierarchy. He explains interrelationships of each hierarchical need, universality of needs among cultures, and how needs affect an individual's perception of the world around him.

The Interrelationship of Needs. Maslow postulated that the needs listed above are organized into what he calls "... a hierarchy of relative prepotency."[11] That is, once the physiological and security needs of a person are satisfied with sufficient frequency, the "higher" needs such as esteem and self-actualization emerge with greater predominance. In the case of the self-actualization needs, Maslow states that "the clear emergence of these needs; usually rests upon prior satisfaction of the physiological, safety, love, and esteem needs."[12] Thus, Maslow theorizes that the various needs are interdependent, with the maximum development of potential of the individual and the maximum expression of need for accomplishment emerging with the satisfaction of the more basic needs.

The Universality of Needs. Although the above list is based on the American culture, there is probably a great deal of community among all cultures. Certainly the basic assumptions made by Leighton about people in general--assumptions drawn from anthropology, psychology, and psychiatry--would suggest that this list is universally applicable.[13] Furthermore, a study by Haire et al. found that managers in a wide variety of cultures believed that managers had these needs and that they were important.[14] It is probable, however, that the importance attached to the satisfaction of different needs varies from culture to culture.[15]

Needs and Perception. In general, people tend to interpret the world in terms of their least-satisfied needs. Stagner reports two studies in which hungry people reported a large proportion of food items or instruments such as knives and forks when ambiguous figures were projected onto a screen. Well-fed people reported a smaller percentage of hunger-related items.[16] These people were unconsciously searching for ways to satisfy their least-satisfied needs. Thus, whether at an unconscious or a conscious level, people tend to give their least-satisfied needs the highest priority.[17]

To give the reader a respite from the rather "heavy going" just traversed, Dr. Anthony is again called upon for a quotation from the accounting laity:

Strength of Motivation

Motivation is in the subject area of psychology, but an adequate discussion of psychological principles is outside both the scope of this book and the competence of its authors. Furthermore, social psychologists regard the currently accepted principles of the behavior of individuals in groups as extremely tentative. There are, however, generalizations relevant to the design of a management control system on which many psychologists agree. Some of these are as follows:

1. An individual strives to satisfy his needs. Among these needs are the following:
   a) Physiological considerations, such as food, bodily comfort, and sex.
   b) Realistic recognition of his abilities and achievements by his colleagues and superiors.
   c) Status and social acceptance as a member of a group.
   d) Self-esteem, a sense of personal worth.
   e) Security, including an understanding of what is expected of him and a belief that his performance will be judged fairly.

f) Autonomy, the freedom to exercise discretion.
g) The opportunity for aesthetic experiences (for some persons).
h) The opportunity to be creative (for some persons).[18]

2. Reward is the satisfaction of a need, and punishment is the deprivation of satisfaction. Individuals tend to be more strongly motivated by reward, or expectation of reward, than by punishment or fear of punishment.

3. Monetary compensation is an important means of satisfying certain needs, but beyond the subsistence level the amount of pay is not necessarily so important as nonmonetary rewards. Nevertheless, pay is often important indirectly as an indication of how achievement and ability are regarded. (A man earning $20,000 a year may be unhappy if a colleague whom he believes has no more ability receives $21,000 a year).

4. The effectiveness of reward or punishment diminishes quickly the longer the time between an action and the reward or punishment administered for it.

5. Needs may be unconscious, or they may be expressed as aspirations or goals. Motivation is weakest when the individual perceives a goal as either unattainable or too easily attainable. Motivation is strong when the goal can be attained with some effort and when the individual regards its attainment as important.

6. An individual tends to accept evidence of his performance more willingly and to use it more constructively when it is presented in a manner that he regards as objective, that is, without personal bias.

7. Individuals are receptive to learning better ways of doing things only when they personally recognize the inadequacies of their present behavior.

8. Beyond a certain point, pressure for improved performance accomplishes nothing. This optimum point is far below the maximum amount of pressure that conceivably could be exerted. (When the coach says, "Don't press; don't try too hard," he is applying this principle).

9. Individuals differ greatly in the importance they attach to various need satisfactions. Their attitude also changes with time and circumstances and is heavily influenced by the attitudes of their colleagues and superiors.

In view of the differences among individuals mentioned in point (9) above, precise rules for designing control systems could not be constructed even if the above list of generalizations were fully substantiated by experiment. They nevertheless seem to be sufficiently valid so that useful concepts for control can be derived from them.[19]

Koontz and O'Donnell[20] provided an appropriate conclusion for the Conceptual Theory section of this chapter in their discussion of: What Good Motivation Does; What a Sound System Must Be; and, What a Sound System Provides. For the sake of space and time, I have paraphrased their presentations briefly.

What Good Motivation Does

Man is so complex there cannot be a single source of motivation; a system of motivation is required--a coordinated set of inducements (positive and negative) available for selective application to elicit the best efforts of individual managers. A sound motivational system is based on motivational principles (such as those discussed earlier in this chapter), practices of the organization, and convictions concerning the ends of man. Certain general bases to be incorporated into a motivation system are discussed below.

Satisfies Needs. - Managers must attempt to understand their subordinates in order to select intelligently effective elements of a motivational system to be applied to individual subordinates. This is difficult because each individual's needs are different, and his needs are insatiable and ever shifting. About all the manager can do is devise a flexible system which will respond to a variety of needs. The amount of effort expended and the accuracy of identifying the needs will determine the level of need satisfied.

Saturates Basic Needs. - After basic needs are met, greater rewards applicable mainly to the satisfaction of basic needs can be ineffective. For example, organizations whose reward system is confined to pay find that more pay will not satisfy social and ego needs.

Releases Work Capacity. - Differences in productivity reflect the quality of motivation. There is abundant evidence that people have immense reservoirs of physical and mental capabilities untapped by employers. A good motivation system should release this resource.

Enhance the Firm's Image. - Sometimes what the organization does will attract the attention and spark in an individual. Any attributes of the organization which are held in high esteem may stimulate employees to higher productivity. Therefore, any such organizational attributes which may spark enthusiasm and stimulate productivity should be built into its motivational system.

Depends on Proper Selection and Orientation of Personnel. - Better qualified and trained people reduce the need for and cost of motivation and make possible a simpler system. The part played by leadership can be critical as no motivational system can explain itself or put itself into effect. And, good leadership can overcome a deficient system; poor leadership can ruin even a good system.

What a Sound System Must Be

A sound system, after meeting the above requirements, must also be productive, competitive, comprehensive, and

flexible.

Productive. - Obviously, the motivational system must be productive in the sense that employees are induced to work effectively and efficiently. Measuring the productivity of a manager can be a problem. If competition exists, results can often be compared to measure relative productivity. This availability of factors external to the organization (competition in the above instance) should be incorporated into the motivational system.

Competitive. - A carefree excursion into establishing a motivational system is a luxury that few enterprises can afford. In the economic sense, the cost of the motivational system, at the margin, should not exceed its marginal productivity. To construct a system with this degree of accuracy appears to be impossible. But the managers should use ingenuity and innovations to keep the motivational system in reasonable balance--by keeping increased system input costs in balance with increased productivity.

Comprehensive. - The motivational system must be comprehensive:

First, a system aimed only at basic needs is ineffective and arouses criticism; so, reaching the higher needs must be incorporated into the system. But this is not a simple proposition because competition for human resources force organizations to continuously meet basic needs--sometimes a heavy cost burden in itself.

Second, the system must be integrated with external sources of motivation such as the needs of dependents and the desire for the respect or envy of neighbors and friends. The manager should plan to supplement rather than substitute for them in the motivational system.

Third, a tough decision must be made regarding which needs will be incorporated in the system in individual cases. Organizations exist to meet their own goals--not to see how "satisfied" they can make their employees. So, increased costs to achieve levels above basic needs (on the needs hierarchy) should be considered in the light of expected increased productivity.

Flexible. - A proper motivational system needs to be flexible through time to meet the wide variance and changing needs of individuals. Such flexibility requires a discerning, knowledgeable manager and a comprehensive arsenal of stimuli to respond to varying individuals' needs. Differential application of motivational stimuli to different individuals should be built into the system.

What A Sound System Provides

Koontz and O'Donnell said that the broad provisions for inclusion in a motivational system deal specifically with managers, but applications may also be made to non-managers.

Financial Opportunities. - Men of managerial caliber are not concerned primarily with basic needs. But financial independence equates with personal freedom so he is interested

in financial opportunities--an opportunity to build an estate. The motivational system should incorporate appropriate means of meeting these needs.

Growth in Stature and Responsibility. - After basic needs are provided for, there is no question but that managers yearn for stature and responsibility; it may be the most important aspect of motivation.[21] To achieve this provision of the system, the organization must: 1) organize in such a way that individuals are afforded an opportunity to be innovative, creative, and productive; 2) provide a means to recognize and measure performance "above and beyond the call"; and, 3) develop an appropriate reward system to cause the rewards to be immediate and public in order to contribute to ego, status, and self-development needs and to satisfy the desire for recognition.

Use of the Golden Rule. - One of the best guides for developing an appropriate motivational system may be the biblical admonishment "to do unto others as you would have them do unto you." If the Golden Rule were truly followed, the system would be headed in the right direction at least. Of course, to maximize the motivational effect, one must diagnose the individual's particular needs.

Discipline. - In a broad view, discipline might be achieved through positive as well as negative motivation, by inducing desired behavior through rewards as well as punishments. But this view is not adopted here. Since subordinates are expected to conduct themselves properly

and to work effectively, they are not to be rewarded for realizing these expectations. Rather, rewards are to be used to elicit superior performance, innovation, and creativity. Consequently, discipline is associated with negative motivation. Subordinates who do not conform to normal expectations are punished in varying degrees depending upon the nature and circumstances of the lapse. At this point, Koontz and O'Donnell discussed the attributes of discipline:

1) Nature. Discipline is attuned to the future welfare of the organization. Therefore, disciplinary action should contribute to improved behavior of subordinates--not serve as fruitless retribution or humiliation. Subordinates need to know what is expected of them to include knowledge of negative motivations which will be applied and under what circumstances each will be used.

2) Quality. The quality of discipline appears to be affected by two important factors. First, "the strongest disciplinary force evidenced in human history, the power of faith."[22] Mooney relies upon the history of the church and military organizations to illustrate this contention. The second factor in the quality of discipline is leadership. Mooney[23] said that, "the discipline was dependent entirely upon the disposition, mood, and character of the leader, variable in reason and justice, and temporary in value." Fayol[24] observed, "When a defect in discipline is apparent or when relations between superiors and subordinates leave much to be desired, responsibility for this must not be cast

heedlessly, and without going further afield, on the poor state of the team, because the ill mostly results from the ineptitude of the leaders." A high quality of discipline is only one result of strong leadership, but it is, "absolutely essential for the smooth running of business, and without discipline no enterprise could prosper."[25]

So, discipline is the responsibility of the leader. He must know what to do and, most importantly, have the fortitude to do it.

3) Techniques. Negative incentives take many forms so they should be tailored to the circumstances by the immediate supervisor who is in the best position to select the appropriate means of raising the quality of discipline in his organization.

4) Formalities. The standards of acceptable behavior derive from agreements between the organization and the individual. These standards and the freedom that the supervisor has to enforce discipline may be taken for granted or specified with great care.

5) What subordinates expect. Employees know when they are out of line and expect to be disciplined. It is important to fulfill their expectations promptly and fairly. A supervisor who procrastinates loses his subordinates' respect and forfeits his power to insist on an efficient operation.

6) Distasteful aspects. Most managers like to give out rewards; few managers enjoy administering discipline. But if a manager fails to administer discipline, he fails

as a manager.

Morale. - Morale is exceedingly important to both the theoreticians and practicing managers. Attributes of morale include:

1) Nature. Although variously defined, "prevailing mode and spirit conducive to willing and dependable performance" and "whole-hearted cooperation in a common effort" describe its main elements. Morale will tend to exist when people see their personal needs and goals satisfied by their organizational environment. Morale appears to be a spiritual quality that reflects zeal and confidence. A subordinate whose morale is high will work with vigor, confident in his own ability and in the ability of his fellow workers to achieve a given objective, as a team. Morale is a quality that subsumes good discipline and unity of command. Consequently, it is a net result of effective direction by individual superiors. Good morale is a fragile thing; a poorly developed or administered motivational system can easily destroy it.

2) Variations. Measures of morale remain inexact. High morale does not depend upon good news and favorable circumstances. In fact, morale is elusive and baffling in its variability, and although the fact is well known, the causes are often not clear.

3) Relation to productivity. Research has not proven that there is a high correlation between morale and productivity--although such a correlation is often assumed. But

much of this research related morale with job satisfaction. Koontz and O'Donnell relate morale to a spiritual quality reflecting zeal and confidence. People perform with confidence if properly trained and informed and with zeal if properly led. In this sense, there is evidence from the long experience of many managers that morale does materially influence productivity.

Research Observations

The simple, forthright idea offered on page 213 would bear repeating at this point: If the Air Force had an effective motivational system in support of RMS the critical issues included in Chapters IV through X would be much closer to resolution. In other words, financial managers who were motivated in support of RMS concepts would have accomplished much more than has been accomplished. As the preceding section on Conceptual Theories aptly describes, motivation and the related subject of productivity are elusive, complex, and controversial. Therefore, I readily confess to a lack of sufficient knowledge to pinpoint the problem areas and list the solutions. But during the field research I made several observations (in addition to developing the above idea) which have a bearing on the subject of motivation, rewards, and sanctions (MRS).

Visibility

One base held a semiannual recognition program for civilian employees which maximized visibility when recognizing

achievement by doing the following:

1) Inviting award recipients' families to attend the program which was held in the base theater.

2) Having key operating officials attend--including supervisors of award winners and the Base Commander.

3) Allowing various important operating committees to report on their operations: Civilian Advisory Council, Incentive Awards Committee, and Air Force Suggestion Award/ Cost Reduction Program Committees.

4) Including other individuals whose performance merited recognition to include: those who had accummulated 1000 and 2000 hours unused sick leave; awards for 10, 20, and 30 years service; and, performance awards for sustained superior performance, quality salary increases and outstanding performance ratings.

5) Publicizing the names and ceremonial details in the air base news media with wider local coverage whenever possible.

This full-blown affair with appropriate news coverage can be contrasted with what happens at many bases: the immediate supervisor routinely distributes the award--with possibly a "nice going, Jim (or Mary)."

Sponsorship

OSD PRIME Survey Team visitation reports categorized sponsorship as an important element in implementing PRIME:

"The variation of implementation within a Service is sometimes as great as between Services. The enthusiasm of

Commanders appears to be directly related to the implementation progress."[26] "Implementation progress in Europe is directly related to the enthusiasm exhibited by Commanders and Comptrollers. Most activities displayed attitudes of complete acceptance of PRIME objectives with the desire to effectively implement the system."[27]

During my research, the essentiality of the commander's sponsorship was patently obvious--but difficult to document. At bases where the commander was knowledgeable regarding PRIME and/or enthusiastically supported its implementation his key people were infected with a proper attitude which spread to the rest of the managers and, as a result, the PRIME implementation progressed on a positive note. Just the opposite effect was even more obvious where the commander did not support the implementation or gave it only "lip service." Under the latter circumstances, PRIME was not accorded the attention necessary to make it more than "an accounting system for gathering expense data for higher headquarters purposes."

Appeals to Individuals' Needs

The compensation received by individuals in the military establishment is determined largely by a centralized decision-making process. But local managers told me they have several means available to them to supplement subordinates' basic salaries. Although the dollars involved aren't always significant, when they are coupled with the associated recognition aspect they appear to be well worthwhile and as

such should be utilized to the maximum extent. Examples of such means include the Air Force Suggestion Program, quality salary increases (civilians only), and cash awards associated with outstanding performance (also civilians only). The Suggestion Program now includes military members; the awards were recently increased. In the case of young airmen who are paid at the poverty level, these awards can contribute significantly to fulfilling their basic physiological needs.

Since a majority of the financial managers affected by PRIME are compensated sufficiently to fulfill their basic needs, emphasis should be placed on their higher order needs. The Ph.D. candidate (A. B. Horniman) who spent three or four days a week at the Quonset Point Naval Air Station when RMS concepts were being tested had this to say:

> One of the important determinants of behavior is the degree of reward associated with a particular activity. It would seem to follow that one of the motivating forces behind the use of a new system like RMS would be the extent to which managers and staff people were rewarded for their interest and efforts. From the CO's standpoint there was no perceived reward from his superior for his interest in RMS. At the department level none of the department managers felt that their interests or efforts in the RMS had been rewarded. Within the five departments there were some twenty-one people who felt there was no particular reward for their special RMS efforts. On the other hand, there were eight officers and civilians (excluding Comptroller personnel) who felt their RMS efforts had been rewarded. Four of the eight, were personnel responsible for maintaining the RMS in the departments. In Department B there were at least three officers who felt their RMS efforts had been rewarded, and interestingly enough, they were division heads and the assistant department head. The Comptroller felt that his efforts had been rewarded, and all the comptroller people felt that their efforts had been rewarded.[28] (Underlining added)

One should keep in mind that the above reported lack of recognition occurred during a period when considerable extra effort was required due to the newness of the program and the pressures associated with a test situation. Horniman's findings align very well with my research: managers do not uniformly take advantage of opportunities to appeal to individuals' higher order needs when justified by meritorious performance.

The predominant single cause for lack of managerial motivation was the budget process. Chapter IX adequately documented why the budget process was an effective demotivator of financial managers.

Importance of Rewards and Sanctions

Throughout the INTRODUCTION and Parts I and II, the continuing trend toward centralization was emphasized as a military environmental factor that the local financial manager would have to learn to cope with to achieve the dual objectives of effectiveness and efficiency. Those financial managers who learn to cope with this environmental constraint will, in effect, be "leaning against" the system that is geared to average performance (reference Chapter X). These managers must be identified and appropriately awarded. Conversely, adopting the RMS concepts will require a severe departure from past financial management practices. Abrupt change will naturally be resisted in varying degrees by financial managers. Those managers who persist in their resistance to necessary change must also be identified and

appropriate sanctions applied. In the words of the Air Force Vice Chief of Staff "---where we find archaic attitudes on the part of supervisors, either the attitudes or the supervisors must go."[29]

Chapter Summary

In the Introduction, Dr. Anthony and General Brown discussed the monumental task involved in developing a motivational system in the military environment. Schein described his "Complex Man" which helps to explain why developing a viable motivational system is a monumental task.

The Conceptual Theories section started with the "Complex Man" and then proceeded to explain that:

1) Man's motivation is based on needs including what is likely to happen when the achievement of his needs is frustrated: defense mechanisms may be invoked.

2) Man is a perpetually wanting animal and his needs are arranged in some sort of needs hierarchy within which the interrelationships, the universality, and the needs perceptions can be quite involved.

3) Despite the conceptual aspect of available information on motivational systems, it was possible to discuss the definitive attributes of: What Good Motivation Does, What a Sound System Must Be, and What a Sound System Provides.

Based upon Research Observations and borrowing from the Conceptual Theories section, I concluded that an appropriate motivational system may be the key to implementing the RMS

concepts. Some of the important factors which affect such a motivational system include:

1) The strong, continuing trend toward centralization in the military environment will shift a heavy burden upon the individual financial managers. The centralized system is aimed primarily at basic needs--the shotgun effect associated with centrally determined remuneration. The higher level individual needs can be diagnosed only by rifle-like accuracy on the part of local managers. The next logical point is the clear-cut need for indoctrination, training, and education (IT&E) to develop the necessary knowledge associated with diagnosing individual needs and prescribing appropriate rewards or sanctions.

2) The importance of sponsorship at base level is unmistakable. Immediate action should be taken to insure that the PRIME implementation is appropriately sponsored by the installation commanders. The suggestions in Chapter XIV to use an Operational Readiness Inspection System (ORI) for RMS may provide a viable approach to this problem.

3) Without some basic improvements in the budget process as described in Chapter IX, it is going to be very difficult to motivate financial managers to wholeheartedly support the PRIME implementation.

---

1. Brig. Gen. George E. Brown, "Financial Information for Resource Management," The Armed Forces Comptroller, January 1966, p. 4.

2. Daniel Katz and Robert L. Kahn, The Social Psychology of Organizations, John Wiley & Sons, Inc., New York, 1966, p. 336.

3. Theorists like Argyris, Likert, and McGregor have argued for more diagnostic ability and skill--flexibility in managers. My argument here summarizes theirs and attempts to make it more explicit and general. A similar analysis and generalization has also been made by W. G. Bennis in "Revisionist Theory of Leadership," Harvard Business Review, 1961, 39, 26 ff, cited by Edgar H. Schein, Organizational Psychology, p. 61.

4. Edgar H. Schein, Organizational Psychology, Prentice-Hall Inc., Englewood Cliffs, New Jersey, 1965, pp. 60-61.

5. Robert N. Anthony, "The Challenge of Service Accounting," Address to American Accounting Association, August 30, 1967.

6. A. H. Maslow, "A Theory of Human Motivation, "Psychological Review, 50:370, July 1943, cited by French, p. 25.

7. Maslow defines frustration as a "threatening deprivation." See Maslow, Motivation and Personality, p. 156. See also Gardner Murphy, Personality (New York: Harper & Brothers, 1947), pp. 144-145, 305, cited by French, p. 25.

8. Wendell French, The Personnel Management Process: Human Resources Administration, Houghton Mifflin Company Boston, 1964, pp. 25-28.

9. Paraphrased and adapted from A. H. Maslow, Motivation and Personality (New York: Harper & Brothers, 1954), pp. 80-106, cited by Chruden and Sherman, Personnel Management, p. 293.

10. Herbert J. Chruden and Arthur W. Sherman, Jr. Personnel Management, 2d ed., South-Western Publishing Company, Cincinnati, 1963, pp. 292-93.

11. A. H. Maslow, Motivation and Personality, (New York: Harper & Brothers, 1954), p. 83, cited by French, p. 24.

12. Ibid., p. 92.

13. See Alexander H. Leighton, Human Relations in a Changing World (New York: E. P. Dutton & Co., 1949), pp. 76-79, cited by French, p. 25.

14. Mason Haire, Edwin E. Ghiselli, and Lyman W. Porter, "Cultural Patterns in the Role of the Manager," Industrial Relations, 2:108-117 (February 1963), cited by French, p. 25.

15. Muzafer Sherif and Carolyn Sherif, An Outline of Social Psychology, Revised Edition (New York: Harper & Brothers, 1956), p. 379, cited by French, p. 25.

16. Ross Stagner, Psychology of Industrial Conflict (New York: John Wiley & Sons, 1956), p. 25, cited by French, p. 25.

17. Wendell French, Personnel Management, pp. 24-25.

18. Many social psychologists, following Maslow, believed that these needs are arranged in a "need hierarchy," running from (a) through (h), and that a higher need has little or no force until all lower needs have been satisfied. For example, recognition of ability is unimportant until the purely physiological needs have been satisfied. See A. H. Maslow, Motivation and Personality (New York: Harper & Brothers, 1956), cited by Anthony. p. 7.

19. Robert N. Anthony and James S. Hekimian, Operations Cost Control, Richard D. Irwin, Inc., Homewood, Illinois, 1967, pp. 7-8.

20. Harold Koontz and Cyril O'Donnell, Principles of Management, an analysis of managerial functions, 4th ed., McGraw Hill Book Company, New York, 1968, pp. 577-88.

21. F. Herzberg, B. Mausner, and B. B. Snyderman, The Motivation to Work, John Wiley and Sons, Inc., New York, 1959, p. 130, cited by Koontz and O'Donnell, p. 584.

22. J. D. Mooney, The Principles of Organization, Harper & Row, Inc., New York, 1947, p. 177, cited by Koontz & O'Donnell, p. 585.

23. Ibid.

24. Henri Fayol, General and Industrial Management, Pitman Publishing Corporation, New York, 1951, p. 23, cited by Koontz and O'Donnell, p. 586.

25. Ibid., p. 22.

26. PRIME Survey Team Visits - October 28 - November 15, 1968 dated November 29, 1968.

27. PRIME Survey Team Visits - January 20 - February 4, 1969 dated March 4, 1969.

28. Alexander B. Horniman, "Some Observations and Suggestions Developed From the Naval Air Station Test," date unknown (test made in FY 68).

29. General John C. Meyer, "Managing the USAF: The Now and Future Challenges, "Air Force and Space Digest, January 1970, p. 52.

PART III. PRIME 70

Chapter | Page

XII. PRIME 70..... 242

PART III is devoted to what has happened or is expected to happen in FY 70 regarding the issues included in Chapters IV through XI.

CHAPTER XII

PRIME 70

Purpose of Chapter

Chapters IV through XI considered issues that are important to the successful implementation of PRIME. These issues were discussed in the light of research conducted predominantly in FY 68 but extending into September 1969. Therefore, these eight chapters include information from both FY 69 and the initial quarter of FY 70. So this chapter will highlight what has happened or is expected to happen in FY 70 with regard to the issues included in Chapters IV through XI.

FY 70 In Brief

Distributing Service Unit Costs (Chapter IV)

The most important circumstance regarding distributing service unit costs is the decision to continue testing during FY 70. Hopefully, the mistakes made during the test phases conducted during FYs 66-67-68-69 will be corrected to enable the Air Force to evaluate objectively the concept during FY 70 and to proceed with its implementation as soon as possible.

Developing Output Measures (Chapter V)

The Output Measurement Program has also been retained on a test status for FY 70--a status that was first invoked in July 1966. And apparently the testing and development is to continue with a secondary priority. Unfortunately, this secondary priority may jeopardize the use of PRIME management reports as administrative means of fostering efficient operations at base level, because aggregate costs by expense element are far less valuble as management tools than costs per unit of output.

Performance Reports (Chapter VI)

In most cases, the expense-based performance reports intended for local financial managers in FY 69 were nonexistent or ineffective. The exception to this statement involves the stock fund issues of supplies and equipment processed by the Univac 1050-II system. The interviewees indicated that the 1050-II reports were timely and useful.

In FY 70 the local financial managers will be getting acquainted with expense-based performance reports. As stated in Chapter VI, manpower support and the level of managerial expertise may be inadequate to take full advantage of the reports.

During FY 70 some managers may benefit from the Air Force plan to combine several programs (supported by different computers) into an improved, integrated system to be processed on the new generation computer--a Burroughs 3500.

Internal Audit Support of PRIME (Chapter VII)

Internal audit support of PRIME continues in FY 70 but on a much lower key than in FY 69. Hopefully, the reduced effort will be concentrated on systems weaknesses and important issues such as embodied in this study--rather than on "compliance-type" audits concerned with whether operating personnel are complying with directives emanating from higher headquarters.

Indoctrination/Training/Education (Chapter VIII)

I saw no signs of major improvement in Indoctrination/Training/Education (IT&E) during the first quarter of FY 70. IT&E will probably continue during FY 70 as a vital missing link in the PRIME program because necessary centralized direction and attendant control doesn't appear to be forthcoming.

The Budget Process (Chapter IX)

Judging by my observations during the first quarter of FY 70, some budgetary lessons were undoubtedly learned during FY 69. However, most of the fundamental problems described in Chapter IX remain to be solved in FY 70 (and later). There appears to be hope for future years because documentation made available to me during this study indicate that some of these problems are not only recognized but are being discussed openly and objectively at the top levels of DoD.

Controllability of Costs (Chapter X)

The controllability of cost picture will probably continue to be bleak until an effective IT&E program can significantly affect the deeply ingrained thought and action

patterns nurtured by the continuing strong trend toward centralization. Improvements in the budget process would also improve managers' attitudes toward costs. And, as discussed in the two preceding sections, FY 70 does not look like a particularly good year for IT&E and the budget process.

Motivation/Rewards/Sanctions (Chapter XI)

Since this chapter was conceptual in nature, it applies equally well to FY 70 as it did to FY 69. Hopefully, as with the social scientists, the Air Force will learn more about the complexities of man and how to develop a motivational system attuned to the needs of "Complex Man." Recent innovations such as the steady improvement of the career development program for officers, encourages one to believe that a reasonable motivational system will evolve and will consist of much more than a pay raise in election years and/or when the defense budget will sustain it.

Conclusions

Judging by the above chapter analyses, one is forced to characterize FY 70 as a year of limited improvement concerning the PRIME implementation. A real danger may be that the much heralded PRIME system will "die on the vine" unless more vigorous support is given the program to cause it to live up to its potential. Atrophy could cause PRIME to become an expensive system for collecting cost data and, as a result, the Air Force will have missed another opportunity to elevate efficiency into proper perspective with effectiveness.

PART IV. CONCLUSIONS

Chapters		Page
XIII.	SUMMARY OF COMMENTS.....	248
XIV.	OPERATIONAL READINESS INSPECTION FOR RESOURCE MANAGEMENT SYSTEMS (ORI for RMS)....	256

Chapter XIII summarizes the subsets of concepts developed in Chapters IV through XII and then derives a general concept by assimilating the chapter subsets. Chapter XIV suggests that Operational Readiness Inspections (ORIs) be used as a control device to support the RMS program.

CHAPTER XIII

SUMMARY OF CONCEPTS

Purpose of Chapter

The principal objective of this chapter is to present a set of viable concepts which should enhance the financial managers' chances of attaining the benefits associated with enlightened responsibility center management. Structurally, this chapter is comprised of:

1) An Introduction which presents a visual reminder (Figure 12) of the chapters which have contributed subsets of concepts.

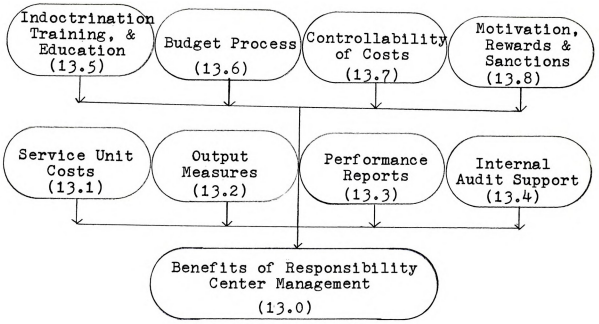
2) A Set of Concepts section which amounts to a summarization of chapter subsets.

3) A General Concept which relates to Figure 12 and serves as a conclusion regarding the PRIME implementation and the future of RMS.

Introduction

In the Methodology section (pp. 4-11) the reader was given a preview of how the subsets of concepts from Chapters IV through XI were to be assimilated. Using the suggested methodology and resultant materiality of chapter subsets of concepts as bases, I have concluded that the three basic

propositions stated on page 4 have been confirmed. The chapter subsets of concepts are presented in the following format: a conclusion regarding benefits plus recommendations how to achieve these benefits. Figure 12 is repeated here to give the reader a pictorial reference to support the summarization of chapter subsets which comprises the next section.



GENERAL CONCEPT

Figure 12

Set of Concepts

The following is a summary of the concepts developed from Chapters IV through XII:

Distributing Service Unit Costs (13.1)

The potential for more efficient use of resources by distributing service unit costs exists, and apparently

exceeds the related administrative cost (13.0:13.1). But there are several managerial actions to be accomplished before the potential benefits will be realizable:

1) The Air Force should develop a set of credible test results to cause Congress to lift its "hold" on distributing service unit costs.

2) A carefully planned and controlled program for distributing service unit costs should be implemented as soon as Congress removes the "hold."

3) A Service Unit Cost Distribution Program should be supported by an appropriate centrally developed and controlled IT&E package.

Developing Output Measures (13.2)

An Output Measurement Program appears to be justified by the vital role output measures play in enhancing the usefulness of cost data and adding credence to the much desired shift of managers' focus from financial inputs to performance outputs (13.0:13.2). Certain management actions are indicated:

1) The longstanding test phase should be replaced by a limited operational phase as soon as possible.

2) The operational phase should be preceded by appropriate Air Force-wide, centrally directed and controlled indoctrination and training to insure that the ever present negative connotations commonly associated with output measures (see page 86) do not cause rigormortis to overtake the Output Measurement Program before its benefits are manifest.

Performance Reports (13.3)

Expense based performance reports serve an important purpose as control devices in the financial management process, so benefits from their use should be maximized (13.0:13.3). But these benefits will not be maximized unless several actions are taken:

1) Now that acceptable management reports can be produced, emphasis should shift to upgrading the financial managers' ability to fully utilize the data being made available to them. Again, appropriate use of centrally developed and controlled IT&E packages is indicated.

2) Plans should be made for incremental sophistication of the basic, initial versions of performance reports to include: differentiation of costs based on controllability; incorporation of service unit cost distributions and output measures; and, computer assisted variance analysis.

3) The reporting system should be continuously monitored to insure that reports are: timely, responsive to managers' changing needs, distributed in sufficient numbers, and representative of the sophistications available to electronic computer supported reporting systems.

4) Top-level Air Force leaders should insure that the PRIME reporting system is not jeopardized by the philosophy of "making do from available resources."

Internal Audit Support of PRIME (13.4)

In both the military and the civilian environments, internal audit services make a valuable contribution to the

control element of the basic management process (13.0:13.4). Control in support of RMS concepts would be enhanced if the following recommendations were accepted:

1) Audit support of the RMS concept should emphasize the identification of systems weaknesses and critical issues (such as identified in this study).

2) The audit findings should be accorded maximum visibility through strong, effective presentations at the highest levels attainable by the USAF Auditor General consistent with the gravity of the findings.

3) The depth and duration of audit support afforded RMS should be commensurate with the vital role RMS can play in lending credence to Air Force efforts to upgrade efficiency into perspective with effectiveness as managerial objectives.

Indoctrination, Training, and Education (13.5)

An effective Indoctrination/Training/Education (IT&E) program is important to the PRIME implementation because: deeply ingrained thought and action patterns of certain financial managers should be changed; significant personnel turnover is a continuous problem; complex, integrated systems characterize Air Force operations; and, the need for increased efficiency in the use of scarce resources is becoming intensified (13.0:13.5). The following actions should be taken to foster an effective IT&E program:

1) Of preeminent importance is the need for centralized planning, direction, and control of the IT&E program from USAF HQ level.

2) The second most important aspect involves the need to recognize how formidable and never ending the IT&E task is and how important it is that appropriate IT&E packages be made available to the field at the earliest possible moment.

The Budget Process (13.6)

The budget process in the Air Force is so essential as a control device in the highly centralized management process that nothing more need be said about its benefits (13.0:13.6). However, certain aspects of the budget process require intensified management attention:

1) An effective IT&E program and strong sponsorship by commanders should be used to change ingrained thought and action patterns of certain financial managers and to achieve the concept of diffused financial management responsibility associated with PRIME.

2) Top-level Air Force leaders should do everything possible to instill credibility in the budget process and reasonableness in the operating budgets because "spoon fed" and/or "feast-or-famine" budgets demotivate financial managers very effectively.

Controllability of Costs (13.7)

Significant benefits can be gained by solving the problems associated with cost controllability because it appears to be the key issue in upgrading efficiency as a dual objective (with effectiveness) for financial managers (13.0:13.7). But to achieve these benefits, managers will have to take certain actions:

1) Local managers should be enlightened by appropriate IT&E regarding the seriousness of their renunciation of responsibility for all but a small percentage of the total expenses they incur--in effect, the Air Force loses efficiency as a dual objective with effectiveness at the local level where expenses for operations and maintenance are incurred.

2) Within the strongly centralized Air Force environment, top-level Air Force officials should provide for a maximum of flexibility for local financial managers. Local managers should be encouraged to exercise ingenuity and innovative practices to gain increased overall Air Force efficiency. Top-level managers should realize and make necessary provisions for the fact that to increase efficiency in this manner will probably require local managers to "lean on the centralized system."

Motivation/Rewards/Sanctions (13.8)

An effective motivational system is essential to efficient use of the most important of the scarce resources--man himself (13.0:13.8). There are certain aspects of MRS that require management attention:

1) Sponsorship by installation commanders is so essential to a successful implementation of PRIME that it should be a matter of special concern in the control system. The suggestion in Chapter XIV that an Operational Readiness Inspection (ORI) for RMS be developed should be considered as a possible solution to the sponsorship problem. An ORI for RMS would undoubtedly have a positive effect by focusing

increased attention on the role of sponsorship and how well it is being fulfilled.

2) Since the higher order needs of subordinates must be diagnosed and met at base level, the key role of local managers in any motivational system should be a matter of serious concern to top-level Air Force officials. At the least, this knowledge should trigger the application of appropriate IT&E to upgrade the local managers' knowledge of "Complex Man," how to diagnose his needs, and what means are available to satisfy those needs.

General Concept (13.0)

The general concept derived by assimilating the subsets of concepts from Chapters IV through XI is inevitable: the full benefits associated with enlightened responsibility center management are far from being achieved (13.0:13.1-13.8). However, in order to complete this study on a positive note, I must add that solving this formidable array of problems is well within the state-of-the-art and available managers' capabilities. And, looking beyond the rather modest goals of PRIME, I am convinced that the potential benefits of RMS are well worth the years of effort that will be involved in achieving them.

CHAPTER XIV

OPERATIONAL READINESS INSPECTION FOR RESOURCE MANAGEMENT SYSTEMS (ORI for RMS)

Purpose of the Chapter

This chapter suggests that Operational Readiness Inspections (ORIs), which have been used so successfully to enhance the operational side of the Air Force (Strategic Air Command in particular), be adapted to facilitate implementation of Resource Management Systems (RMS) concepts. Structurally, the chapter consists of:

1) An Introduction which refers to the monumental task ahead, defines terms, philosophizes a bit, and cites officials in positions of authority.

2) An ORI Methodology section which discusses the general characteristics of a financial management oriented operational readiness inspection.

3) A Summary of chapter contents.

Introduction

The gist of this study was incorporated in the General Concept section of Chapter XIII: PRIME is well worthwhile; although there are numerous problems to be solved, the techniques and managerial capabilities are available to solve

them. Then what further must be done? In brief, the financial managers' attention must be refocused to put RMS concepts into proper perspective.

There is ample top-level guidance regarding what constitutes proper perspective. The highest ranking officer in the Air Force said:

> Today, we have the best equipped, trained and most experienced air force in the world. Vietnam again has shown that airpower is indispensable in conventional war at any level, just as aerospace power is the key to nuclear deterrence. Few informed people question the competence of the Air Force as a fighting force.
>
> It now appears that the focus of public attention has shifted from operational capability to management, where it is likely to remain in the years ahead. This is an understandable product of frustration over the long and expensive Vietnam war, balanced against the undeniable demands of a range of domestic problems that have intensified drastically since 1960. All the institutions of American life, perhaps foremost the military, are being examined in an effort to establish national priorities that will satisfy--efficiently and at minimum cost--the needs of both the common defense and domestic tranquility.
>
> ---
>
> I am confident, however, that the resources needed for continued security will be provided if the people are convinced that their investment in defense of the future still is essential and will be administered with wisdom and without waste. The problem, then, is essentially one of the management in the broad sense of the word: establishing goals, planning the wherewithal to reach them, and administering the allocated resources with unimpeachable efficiency.[1] (Underlining added)

Mr. Michael E. Simon, one of the foremost authorities in the Pentagon on the subject of PRIME, had this to say which elaborates on General Ryan's challenge to Air Force managers:

Potentially, the PRIME system can be a valuable tool in meeting the challenge. The system focuses on the cost of programs; it provides the kind of visibility and feedback which enables central authorities to provide more financial flexibility to local managers with a minimum of risk; and it can, particularly with future development of valid output measures, provide the means of measuring efficient performance. In order to judge whether PRIME will be useful in meeting the challenge we need to do two things:

1. Convince commanders that the Air Force is serious about operating efficiently and that commanders will be judged by the efficiency as well as the effectiveness of their operations.

2. Make sure that our financial management practices conform to our management philosophy of delegating authority to commanders commensurate with the responsibilities they have been assigned. Thus we need to make it clear all the way down the line that budgets are to be evaluated and administered by considering the total cost of organizations in relation to their performance AS WELL AS by considering the obligation status of individual elements of expense.

Once we have done these two things we can give PRIME a fair test as a management system. We will then learn whether the consumption of centrally managed resources can be influenced significantly at base level and whether affording the wing commander some flexibility to trade-off resources within his operating budget will result in greater efficiency. It is too early to say whether PRIME is useful or not in the management of operating activities; the fact is we haven't tried it yet.[2]

A combination of the above guidance and my research findings triggered the idea that the key to this whole situation is "getting the financial managers' attention." An ORI for RMS is my candidate for the most effective, viable means of "getting the financial managers' attention."

ORI Methodology

I must, of necessity, keep this discussion of methodology on a very general plane because of the classified nature of the directives associated with ORIs, and because

of my lack of personal experience with the performance of ORIs. All I want to do is "plant the seed"; there are experts available to develop and implement the idea if it has merit.

In general then, the ORI should embody the following characteristics:

1) The objective of the inspection should be to measure an organization's operational effectiveness with regard to RMS objectives--which, in reality, is a measurement of efficiency in the use of resources. Let's use a more specific term than ORI and gain the additional advantage of differentiation--differentiation of operations from management--by coining the phrase Resource Utilization Inspection (RUI). Now we have a RUI for RMS which could be defined as: An inspection to determine whether an organization is manned, equipped, and trained to utilize its resources efficiently in accomplishing broad RMS objectives.

2) The RUIs should be conducted by an <u>independent agency</u> at USAF level which has <u>requisite experience</u> and <u>motivated people</u> to accomplish successfully this task: the Inspector General of the Air Force. One of the most difficult tasks of such an inspection group may be to measure the progress being made in changing deeply ingrained thought and action patterns. The Air Force Vice Chief of Staff had this to say on the subject:

> We must get rid of any Mickey Mouse and Bunny Rabbit programs that are left over from the days when airmen and junior officers were less well educated

> and less sophisticated than today. Where we find archaic attitudes on the part of supervisors, either the attitudes or the supervisor must go. We must disabuse ourselves of fascination with the superficial aspects of tradition that may no longer be important while retaining and enhancing those that are--in the modern vernacular--relevant.[3] (Underlining added)

As was discussed in several of the chapters, sponsorship is extremely important to the successful implementation of PRIME--a sponsorship that does not uniformly exist. Therefore, any key officials who persist in stifling RMS concepts must be identified and appropriate sanctions applied. To foster the imposition of necessary sanctions will require (a) the services of an independent agency with an appropriate organizational stature and personnel expertise such as possessed by the Inspector General of the Air Force and (b) support from top-level officials who are determined to eliminate inefficiency--as stated in the above quotations by the two highest ranking officers in the Air Force.

3) The RUIs should be unannounced with each organization being vulnerable for an inspection unless exempted specifically. Jerome Castle, the vital, young No. 1 man at Penn-Dixie Cement Co., uses an aggressive inspection method that relates to this point:

> "There is nothing like eye-to-eye confrontation. Like a doctor seeing a patient," he reasons. What's more, "I like surprise attacks--I always arrive unannounced. When your meetings are unannounced, they are more effective. When visits are announced, you know everyone is going to have their hard hats on and floors are going to be swept clean. So most of my arrivals are at night."[4]

In effect, unannounced RUIs by the Inspector General should give the Air Staff a reliable sample of the actual state of RMS implementation in the field. During my research, I observed a significant variation in beliefs as to the state of the PRIME implementation depending upon whether the official being interviewed was in the Pentagon or out in the field. An effective RUI for RMS should provide ungarbled communications from the field to the Pentagon.

4) The inspections should be structured carefully and executed with appropriate pomp and ceremony. Evaluating the timeliness of performance reports is far removed in excitement and (possibly) interest from how long it takes to scramble a formation of B-52s, but efficient utilization of resources seems to be "grabbing the headlines" right now. In other words, the management inspections themselves should create a proper attention-getting atmosphere by clearly conveying the gravity of the circumstance that appear to justify the use of what may be an unprecedented management control device--especially if one considers the intensity and purpose of the inspection. Of course, the most effective attention getting feature of the RUI should be the rewards and sanctions associated with the inspection results.

Summary

My impression of the ORIs (as used by Strategic Air Command) was that they contributed significantly to making SAC the finest strategic fighting force the world has known.

Ideally, RUIs for RMS would provide a similar stimulus for the RMS program in future years.

The Air Force has expressed a desire to upgrade efficiency as a dual objective with effectiveness in the lexicon of financial managers. PRIME represents the initial systems advancement toward this goal. But the PRIME implementation can "die on the vine." In this chapter I have suggested a means of giving the faltering PRIME program a "shot in the arm" which, if successful, may provide a viable managerial control device to foster the achievement of the broader, long-range RMS objectives.

---

1. John D. Ryan, General, USAF, Chief of Staff, "The 1970s--A Challenge to Management," The Air Force Comptroller, October 1969.

2. A staff paper by Michael E. Simon, "PRIME and the Air Force," January 22, 1970.

3. John C. Meyer, General, USAF, Vice Chief of Staff, "Managing People," Supplement to the Air Force Policy Letter For Commanders, Number 11-1969, p. 4.

4. Article authored by Donald E. L. Johnson, "Management is Like Running Race Horses," Generation magazine, November 1969, p. 15.

APPENDICES

		Page
A.	BUDGETING FOR AIR FORCE NEEDS.....	263
B.	FIVE-YEAR DEFENSE PROGRAM (FYDP).....	284
C.	RESEARCH METHODOLOGY.....	293

APPENDIX A

BUDGETING FOR AIR FORCE NEEDS[1]

Purpose of the Appendix

Appendix A has been arranged to suit the discriminating reader:

1) In Air Force Budget Implications, General Pitts does an excellent job of explaining the budgetary process at Air Force HQ level to include the board structure, the committees/ panels, and the three year budget cycle. The various Air Force budgetary contributions are tied into appropriate points of the three year cycle and associated with related efforts by the Joint Chiefs of Staff, the Bureau of Budget, and the Secretary of Defense forces.

2) In OSD Budget Implications, Dr. Anthony presents a very readable description of budgetary problems from the Secretary of Defense's point of view.

3) In Budget Implications of PRIME, Mr. Simon completes the budget picture by taking the reader down to the base level to explain certain of the budgetary effects of PRIME.

Air Force Budget Implications

The "Budget Business" in the Air Force is an extremely technical and complex operation involving a high order of specialization. However, it is also a business which a great number of Air Force personnel must understand in order that their actions will be in agreement with the legal and regulatory requirements of the Federal Government.

Everyone on the Air Staff is in the budget business. The budget is simply the means by which we obtain finances to support approved Air Force programs. Only the Congress can authorize an agency to obligate the United States Government. The administration can and does tell the Congress how much obligational authority is needed and for what. The administration can also place limits on obligations within the authority given by the Congress, but it can increase the authorization only by requesting the Congress to raise the ante.

Congress does not appropriate money. But the Congress does deal in New Obligational Authority, which in effect, authorizes somebody to go out and buy something for the Government. When we talk about the President's Budget or the Congressional Budget, we are really talking about the New Obligational Authority which we want the Congress to appropriate.

The Treasury, on the other hand, is concerned with the Government's cash position--sometimes referred to as the "Administrative Budget." They--the Treasury officials--have only an academic interest in how much New Obligational Authority is appropriated every year, but they are very much interested in knowing how many (and at what time during the year) checks are actually going to be written by disbursing officers to pay for goods and services. They collect taxes and borrow money to meet those payments and not the obligations. This is an important point.

We in the Air Staff have four principal jobs which come under the heading of Budget:

1. Every year we must estimate Air Force requirements in terms of the New Obligational Authority we need to obtain from the Congress.

2. We must justify these requirements in detail through the Department of Defense, the Bureau of the Budget, and the Congress.

3. We must obtain release by the Administration of available obligational authority. This calls for additional justification before the Department of Defense and the Bureau of the Budget.

4. Once we have the "funds" in hand, we must administer their use (obligations and expenditures) to see that we meet all the requirements of law and

Congressional intent, as well as to insure the best possible support of National Defense and Air Force programs, policies, and objectives.

New Obligational Authority is appropriated to us by the Congress in eight appropriations. We cannot transfer obligational authority between appropriations without specific authority by law. We can, and do, however, transfer between programs and purposes within the individual appropriations.

The steps we follow in the administration of funds (obligational authority) are essentially these:

1. We obtain release from the Bureau of the Budget (the apportionment process).

2. We direct the field commands to carry out the program--to fly so many hours, to hire so many people, or to buy certain types and quantities of equipment. On the Budget side, we authorize the commands to obligate funds for each of these purposes (the allocation process).

3. The directives we have given to the field commands are passed on down to the lower echelons by the headquarters concerned. In doing this, the subordinate activities are told how much they can obligate (the allotment procedure).

4. The buyer or the unit commander estimates what each required task will cost, and the accountant makes a reservation of enough obligational authority to cover those estimated costs (the commitment process).

5. Next, an order is placed. In doing this, a contractor (or whoever is actually going to do the job) offers to provide the services or goods we need, and signs an agreement to that effect. The buyer or other agent then accepts the offer for the Government (the obligating process).

6. Based on the agreement, the contractor actually delivers the goods, so to speak, and the disbursing officer writes a check paying for those goods (the expenditure process). If we are buying services, such as the pay of military or civilian personnel, the check will, in all probability, be written during the fiscal year for which the Congress has appropriated the obligating authority. If, on the other hand, we are buying hardware, such as an airplane or a missile, the last of the checks to pay for it may not be written for as much as five years into the future. This has a tendency to complicate the business of fund administration, and is a source of many problems for the Treasury.

To establish Air Force requirements which are ultimately resolved with materials and services funded in the Defense Budget, a comprehensive planning programming and budgeting process continuously operates within the Air Staff.

Fundamental to this process is the Air Force Board Structure. These boards provide a mechanism for enhancing management of Air Force programs. Specific senior Air Force officials are caused to meet collectively, so that their judgment and experience can be brought to bear on important matters in adjunct to the normal decision process of the headquarters.

These boards review the programs constituting USAF forces that exist now and are in development. Weapons Systems are coordinated through the Board Structure, are submitted to OSD, and when approved, are entered into the Five Year Defense Plan. As part of the USAF budget, they are funded and subsequently are achieved.

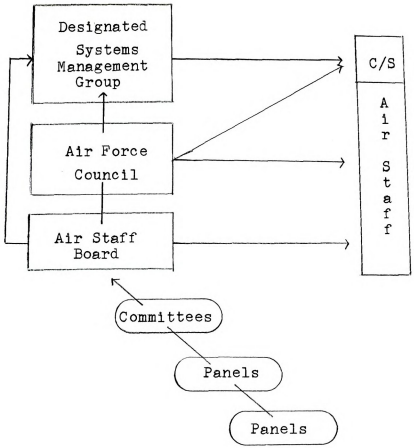
There are some four echelons of Air Force review. FIGURE 1. The highest, chaired by the Secretary of the Air Force, is the Designated Systems Management Group (DSMG).

THE DESIGNATED SYSTEMS MANAGEMENT GROUP

The DSMG is a significant management tool for keeping the Secretary of the Air Force fully informed on Air Force Systems of greatest importance. The DSMG is used by the Secretary to review specific weapons systems programs designated for special management attention due to their significance to national defense, the necessity for rapid and compressed development, the use of significant resources, or because of their political or national impact. Members of the DSMG who meet with the Secretary for these systems reviews are the Air Force Chief of Staff, the Undersecretary, Vice Chief of Staff, Assistant Secretaries, and the Systems and Logistics Command Commanders.

THE AIR FORCE COUNCIL

The highest Air Force military board is the Air Force Council chaired by the Vice Chief of Staff. It is the Air Force Council to which the Chief of Staff turns to provide him with recommendations on major issues which require detailed consideration and for which several functional agencies of the Air Staff have an interest or responsibility. The Council will meet about 50 times a year on some 75 subjects. The range of subjects is unlimited and includes such items as requirements for forces, weapons systems, additional funding, and personnel.



DEPARTMENT OF THE AIR FORCE
BOARD STRUCTURE

FIGURE 1[2]

THE AIR STAFF BOARD

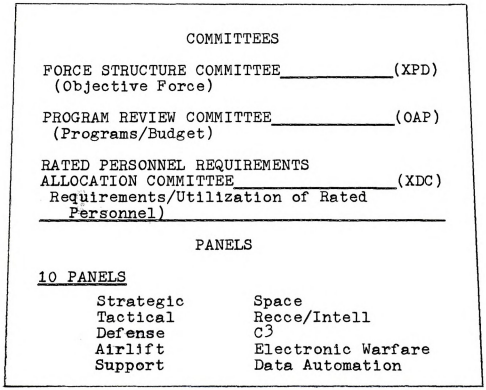
The next lower Echelon contains the Air Staff Board. More than 75% of the subjects considered by the Air Force Council previously have been reviewed by the Air Staff Board and by one or more of the Board's subelements. The Air Staff Board is distinctive from the Council and the DSMG principally because of the broad base of technical support organizationally provided to the board by committees and panels which enable it to perform in-depth evaluations of the programs, systems, or problems under review.

The Air Staff Board meets about 75 times a year to consider approximately 150 subjects. The Board produces recommendations for additional efforts by the Air Staff and decisions for actions which fall within the purview of the two star authority of this board.

COMMITTEES AND PANELS (FIGURE 2)

Three committees headed by general officers and ten panels chaired by senior Colonels support the Air Staff Board. Committees are the Force Structure Committee, for the development of the Air Force Objective Force, the Program Review Committee, for the development of the budget and allocation of resources, and the Rated Personnel Requirements and Allocation Committee, for the use of rated personnel. The ten panels address areas appropriate to their titles: Strategic, Tactical, Defensive, Airlift, Support, Space, Reconnaissance/Intelligence, Command Control & Communications, Electronic Warfare, and Data Automation.

This completes our overview of the Board Structure. These boards, committees, and panels provide active management during the review and evaluation activities of the budget process.

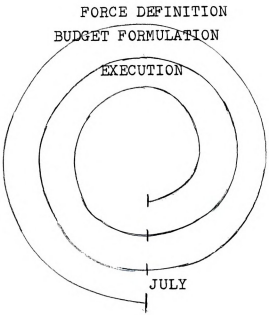


COMMITTEES AND PANELS

FIGURE 2[2]

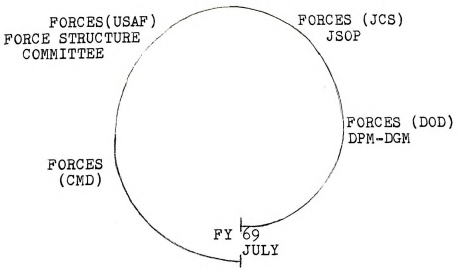
THE BUDGET PROCESS (FIGURE 3)

Let us turn now to the specifics of the Budget Process. The budget process is divided into three phases--Force Definition, Budget Formulation, and Budget Execution. All three phases are concurrently in action in that the FY 1969 budget is in execution, the FY 70 budget is in formulation and review, and the FY 71 budget is in force definition. Let us take the FY 71 budget and trace it through these phases.



THE BUDGET PROCESS

FIGURE 3

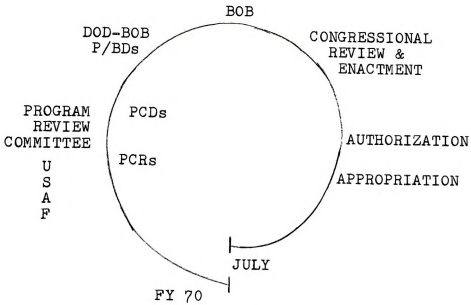


FORCE DEFINITION

FIGURE 4[2]

The Force Definition phase (FIGURE 4) for the FY 71 budget began last summer at the start of FY 69 with a request from the headquarters to the commands of the Air Force for their FY 71 force requirements. The Force Structure Committee then convened in the fall. It was given the intelligence threat, the force recommendations obtained from the field commands, and voluminous briefings on Air Force plans and programs by Air Staff agencies. It was charged to develop the USAF Objective Force for FY 1971. This Objective Force was structured to counter the intelligence threat projections with a force mix designed to fulfill Air Force requirements in an optimum manner. The force is developed with minimal budget constraint. The objective force is reviewed through the Air Force Board Structure and submitted by the Air Force to the JCS for the Joint Strategic Objectives Plan. Additionally, this force, with its supporting rationale, is valuable documentation of an approved Air Force position for support of the many weapons programs being recommended within the Air Force by planners and programmers.

In the latter part of FY 69, OSD, using the JCS Objectives Plan, establishes its recommendations for FY 71 forces in Draft Presidential Memoranda. Similarly, support requirements are stated in similar Memoranda. This definition by OSD of recommended forces completes the force definition of the budget process.



BUDGET FORMULATION

FIGURE 5[2]

The Budget Formulation phase (FIGURE 5) is more resource related than was the objective world of the first phase. It is in this phase that the real world of an actual dollar submission to OSD and the President must be developed.

During the first quarter of this phase the Air Force responds to the force and support memoranda with Program Change Requests (PCR's) containing the costing of forces recommended by OSD and, where appropriate, alternative force recommendations. OSD, in turn, reviews the PCR's and issues Program Change Decisions (PCD's) for the current, budget and outyears of each program. These decisions update the Five Year Defense Plan. During this time of the PCR-PCD review process, the Air Force Program Review Committee convenes in almost continuous session to review all Air Force programs in detail in order to draft the budget submission normally due to OSD on 1 October for the subsequent fiscal year. This committee makes recommendations relevant to the impact of resources limitations on the major tasks and programs comprising the Air Force. Through a hard-headed approach, they relate requirements to resources, draft a budget, and present it through the Air Force Board Structure in time for submission to OSD on 1 October.

An addendum budget, consisting of those additional requirements considered essential by the Air Force but not approved by OSD as of the time of the budget submission, is presented with the basic budget.

Upon receipt of the budget on 1 October, OSD and the Bureau of Budget conducted a joint review. OSD issued Program Budget Decisions (PBD's) that approved the details of Air Force Programs and the dollar amounts that would be requested in the Presidential Budget for them. Upon receipt of each batch of PBD's from OSD, a rump session of the Air Staff Board is convened to provide the initial selections of decisions for reclama action. The Director of Programs, the Director of the Budget and other Air Staff Directors as appropriate to the decisions being considered select the decisions that must be resubmitted. When reclamas are readied, the Secretary of the Air Force Chief of Staff are briefed on their content. The reclamas are then administratively forwarded to OSD by the Assistant Secretary of the Air Force for Financial Management.

Some of the critical items are selected as Budget Issues and are offered to the Secretary of the Air Force for his personal intercession with the Secretary of Defense. Every effort is made to resolve these issues with the Secretary of Defense before he must forward the Defense Budget to the Director of the Bureau of the Budget.

This year, because of the new administration, there have been additional budget reviews and revisions. With Congressional Review, the budget processes become alike for the Army and the Air Force. Congressional authorizations and appropriations are ultimately enacted, and the apportionment, allocation, and spending process of budget execution follows in the respective fiscal year.[1]

The above article by General Pitts enables the reader to visualize the budget process in the Air Force. However, when you get down to the actual detailed work of submitting a budget what really happens? In the extreme, the problems can be monumental and are best exemplified during periods of hostilities--of which we have had three that significantly affected more than half the budgets in the past thirty years!

OSD Budget Implications

The following very readable article by Dr. Anthony (who was then OSD Comptroller) certainly represents a knowledgeable source--although possibly a biased one. I mention bias because Anthony's explanation makes no mention of the political expediencies involved in the various budgetary machinations employed during the Vietnam conflict.

For those of you in a hurry or for those who are allergic to accounts of how many billions were spent in support of the Vietnam Conflict, this next article by Dr. Anthony is not absolutely essential to understanding the balance of my dissertation. However, it does give you good insight that budgets and standards are certainly not the same "breed-of-cat" in the military environment.

> In the military establishment, financial controls traditionally have been pretty much abandoned in periods of hostilities. In World War II, for example Congress appropriated money in great chunks, with no explanation of what it was going to be spent for. When the till got a little low, the Army and Navy simply asked for, and received, an ample replenishment. The controls were physical, rather than financial - for materiel they were built around the physical quantities of steel, copper, and aluminum.
>
> In the Korean conflict, some degree of financial control was exercised, but the budgets were submitted on a piecemeal basis. In Fiscal Year 1951, the first year of the Korean war, the Defense Department came to the Congress with three separate supplemental requests. Supplemental requests were also made in each of the following two years. These estimates were not backed up by detailed studies of specific requirements; they were in the form of large aggregates.
>
> The estimates of funds needed in the Korean conflict turned out to be considerably overstated. The magnitude of the overstatement can be seen from the following figures: The Congress appropriated a total of $156 billion for the Department of Defense in the three fiscal years 1951, 1952, and 1953; but the amount

actually expended in these three years was only $102 billion. Unexpended balances rose from $11 billion at the end of Fiscal Year 1950 to $62 billion by the end of Fiscal Year 1953. It took about five years to work the unexpended balances down to a normal level. During the four fiscal years 1955, 1956, 1957, and 1958, not one dollar had to be appropriated for Army procurement; the Army lived off its inventories and excess funds appropriated during the war.

A major problem with such a financial planning policy is that it is difficult for both the Congress and the Executive Branch to exert effective budgetary control when the authority to spend is granted in undefined terms and exceeds actual needs.

Financial Planning for Vietnam

We have tried to learn from the Korean experience. We have, therefore, taken a very different approach for financing the conflict in Vietnam.

The President announced his decision to build up United States forces in Vietnam in July 1965. In less than four months we deployed 100,000 men to Southeast Asia and during the fiscal year we added nearly 440,000 men to our armed forces. During the same period, the Viet Cong and North Vietnamese military strength in South Vietnam was also rising rapidly.

In the fall of 1965 no one knew how rapidly our commitments would rise. No one could predict the level at which we would eventually level off. No one could forecast the reaction of the enemy.

And yet this period of uncertainty about the financial future was precisely the time when it was necessary for us to prepare the fiscal 1967 budget request. We were planning in November and December for 12 months of financial requirements that would begin the following July.

And this was being done while the buildup curve was streaking upward. The eventual requirement for forces was still uncertain. The scope of the air activity rested on military and political decisions which had not yet been made.

Furthermore, there were many unknowns. How good were the estimates we were making of attrition? How rapidly would equipment wear out in Southeast Asia? How accurate would be our early estimates on amount of munitions consumed and amount of supplies required? What degree of fire power would be judged most desirable by the military after some months of experience? The Vietnamese situation was quite unlike the Korean conflict, and the guidelines and consumption rates developed during that war were inadequate as indicators of

the rates to be expected in Vietnam.

Obviously, the outlook at the time that the fiscal year 1967 budget request was prepared was clouded by great uncertainty as to the future.

In view of this uncertainty, we decided to construct the FY 1967 budget on the assumption that combat operations would be financed only through June 30, 1967. This didn't mean, of course, that we were predicting that hostilities would cease on June 30. It was simply a way of constructing the budget that would permit the minimum amount of uncertainty in the estimates, because with this arbitrary cut-off date the budget explicitly excluded funds for the purchase of items that would be needed in FY 1968 and beyond, should the war continue. With such an assumption, it was apparent that if the conflict was thought to continue beyond June 30, 1967, or if activity rates increased beyond those forecast, then additional funds would be needed before the year was over.

The budget developed in accordance with this assumption contained requests for spending authority totaling $59.9 billion.

Between January, 1966, when the FY 1967 budget was presented to Congress, and October, 1966, when it was enacted, major developments occurred in the Southeast Asia situation. A possible end of the period of rapid buildup of forces became foreseeable and the dimensions of the probable extent of our commitment began to emerge. It became clear that we could not with prudence assume that hostilities would cease by the end of FY 1967. Furthermore, the actual rate of buildup was exceeding the rate assumed in the preparation of the FY 1967 budget.

Some suggested that additional funds should be requested in the summer of 1966, but there still was not a good basis for estimating the total needs for FY 1967. For example, at one stage the Congress added $549 million to the Appropriations Bill for additional military personnel costs as an indication that more funds would be needed, whereas the actual additional requirements for military personnel turned out to be closer to $1.4 billion.

Instead of requesting additional funds on the basis of inadequate estimates, it was decided to operate for a time with available funds, and hold the request for additional funds until the needs could be estimated more closely.

Early in 1966, we had only a feel for a broad range in which the need for additional funds might fall. As the year proceeded and the level at which our buildup would likely flatten became more apparent, we were able to narrow this range greatly. In contrast with the unsubstantiated broad estimate that would have been

necessary if the request had been submitted earlier, the Supplemental request submitted in January 1967 was based on a careful analysis of requirements, and was prepared and submitted in the same detail as our regular budget requests. Hence, the Congressional Committees were able to examine it just as they examine any budget submission.

We believe that events have shown this policy to be a good one--a policy that was in the national interest, but it in fact has caused us a great deal of trouble--not trouble in handling Defense operations, but, rather, trouble in gaining public understanding. Certain columnists and others have given a version of the facts I have just described in such a way as to give the impression that we deliberately understated the cost of SEA combat, that we have tried to hide the facts from the public. Actually, the exact opposite has been the case.

Secretary McNamara took every available opportunity to explain our policies. He described them to each of the Congressional Committees before which he appeared. He explained them to the Press. Chairman Russell of the Senate Appropriations Committee, and Chairman Mahon of the House Appropriations Committee, explained the situation on the Floor. On August 18, Senator Russell stated "If the buildup in Vietnam continues at the present rate, I do not think there is any question that there will be a very substantial supplemental request the first of the year, which may be $10 billion; it may be more." On August 25, Congressman Mahon said, "It is generally estimated that a supplemental will be required next year ... in the sum of $5 to $15 billion."

But our attempts to plan carefully and to describe these plans fully had no effect on our critics. And even today, there is still talk about the "$10 billion goof," as if the size of our 1967 budget, instead of being carefully calculated, really represented poor financial planning.

In preparing the FY 1968 budget, we were able to follow a quite different planning assumption from that used in the preceding year. Our basic budgetary assumption for FY 1968 was that the war would continue indefinitely. Accordingly, we included in the FY 1968 budget funds for the procurement of items that will be consumed in periods ranging from six months to 18 months beyond the end of FY 1968, the length of time being governed by the procurement lead time for these items. Thus, barring an unexpected significant change in the level of activity in Vietnam, or a new contingency elsewhere in the world, the FY 1968 budget as submitted represents a statement of our total defense needs for that year.

The main reason why we chose to base the FY 1968 budget on this different set of assumptions was that we felt that we had a much better basis for estimating our total needs than we had had the year before. By the end of calendar year 1966, the major portion of our projected force buildup was completed. Also, we were beginning to obtain attrition and consumption data from Vietnam and therefore were no longer required to use the obsolete rates based on the Korean experience.

Our request for obligational authority to Congress for FY 1968 is $75.3 billion. It is important to understand that what Congress actually appropriates is obligating authority, that is, authority to enter into contracts. The press usually discusses the budget in terms of expenditures, which are essentially the same as cash disbursements, checks written. Expenditures in a given year may result from work contracted in that year, as is essentially the case with operating costs, or they may result from contracts entered into one, two, or even more years in the past. We forecast expenditures in about the same way that an industrial company forecasts its cash flow, although since we have thousands of disbursing offices, our forecasting job is considerably more complicated than most. Obviously, in times of uncertainty such as the present, these forecasts are especially difficult to make, but nevertheless we have been coming fairly close. In FY 1966, the forecast was $54.2 billion, and actual expenditures were $55.4 billion. In FY 1967, which ends next Friday, our forecast was $68.0 billion. It now appears that our actual will be slightly higher, perhaps 1% higher.[3]

Post-Hostilities Planning

While we base our current program on the assumption that hostilities will continue indefinitely, we are also making preparation for the contingency that they might end at any time. We call these our T-Day, or Termination-Day Plans. We have been making such plans for well over a year, and we continually work at keeping them current.

One of the keys to a successful transition is the right inventory policy. In peacetime, we must maintain large reserves of combat materiel so that the forces can be adequately supported between the time hostilities begin and the time that additional materiel flows from expanded production facilities. Once this expansion of production has occurred, however, we no longer need this degree of inventory protection. We can instead rely on the then existing production lines. Thus,

during hostilities, inventories can safely be maintained at lower levels than is necessary in peacetime. We call this lower level the "hot-base" level, the level that is necessary when a hot production base exists.

When hostilities end, inventories must be built back up to the "cold-base" levels, the levels necessary to give the required degree of protection when production lines are cold. The necessity for making this buildup provides an important cushion in the transition period. Instead of an immediate cessation of all Southeast Asia related production when hostilities cease, we can plan on a gradual reduction, using the excess output above the then current consumption needs for the buildup in inventory.

The implementation of this general policy is, of course, difficult because while the conflict continues, we must be sure that current production is at least great enough to meet consumption requirements at the end of the production lead time, and this is at least six months, and maybe as long as 18 months ahead. To be on the safe side, we inevitably do some overbuying. You can easily appreciate why this occurs: we deal with about 3,000,000 items, and we actually stock hundreds of thousand of items in Southeast Asia. Demand forecasts are bound to be wrong on some of these items, and for this and other reasons they will not always be available when they are needed and at the place they are needed. So every once in a while, a soldier may not be able to draw the size 11b shoe that he has requisitioned. If, as sometimes happens, he writes to his Congressman about this, stories of a supply shortage get started, and these are embarrassing. We know we cannot be perfect, but anything less than perfection is a ground for criticism. Quite naturally, therefore, there is a tendency in times of uncertainty to order more than is needed in order to avoid criticism. During wartime, you get criticized only for shortages. It is in peacetime, after hostilities end, that you get criticized for excess inventories.

Within limits, we must accept this tendency, but we must balance it against the desirability of keeping inventories at reasonable levels, so as to provide a cushion for the transition period when hostilities cease.[4]

The last section of the above quote should clarify a commonly misunderstood aspect of the Vietnam Conflict as it relates to post-conflict budgets--the flow of dollars should not cease when the last bullet is fired in anger. In fact,

the situation is worse than he described as he did not mention the extremely heavy attrition to our Air Force weapons systems due to time, losses, and heavy usage under corrosive combat conditions. And to make matters even worse, the Air Force aspects of the conflict were generally waged with weapons systems that were in being in 1961--during the protracted conflict much of the bomber and fighter forces have become obsolete (the attrition related to time). For some reason, information such as this is not disseminated broadly.

Budget Implications of PRIME

Now to complete the discussion of budgeting in the military environment, we need to include the effects of PRIME on a base level operating activity. Mr. Michael E. Simon, Deputy Assistant Comptroller of the Air Force for Accounting and Finance, gave me a copy of an article he was drafting in September 1969 which included the following well written discussion of budgeting at base level:

Reader's note: In the interest of readability, Figure 2 will start at the top of the next page.

BUDGETING AT OPERATING ACTIVITIES

Before PRIME Operations & Maintenance Appropriation Allotment Budget Program 450 (Operational Support)		Budget Item ($ in thousands) (a)	Now Operating Budget MFP II - General Purpose Forces
$ 0	(b)	Mil personnel	$22,010
14,620		Civ personnel	14,620
380		TDY	380
2,490	(c)	Supplies	4,490
310	(d)	Equipment	110
0	(b)	POL	3,620
1,760		Contract services	1,760
$19,560	(e)	Subtotal	$46,990
-	(f)	Change in undelivered orders outstanding	100
$19,560	(e,g)	Total	$47,090

Figure 2

(a) Before PRIME, a typical "budget" at wing/base level consisted of a specific allotment of a budget program of the operations and maintenance appropriation. Now, the wing/base receives an operating budget which combines the resources funded from both the operations and maintenance and military personnel appropriations and which is stated in terms of the major force programs of the FYDP.

(b) The allotments issued to wing/base level before PRIME excluded costs of both military personnel and petroleum, oil and lubricants (POL). In essence, these resources were furnished at no dollar charge to the wing/base commander.

(c) Before PRIME, the allotment included obligating authority to acquire locally procured supplies. Centrally procured supplies were furnished at no charge to the wing/base commander. Under PRIME, new divisions of the Air Force Stock Fund were established at base level to finance the acquisition of both locally acquired and centrally procured consumable supplies. The wing/base operating budget includes expense and obligational authority to buy these supplies from the stock fund. The significance of the change is twofold: First, the stock fund rather than the wing/base operating budget finances the buying and holding of the supplies inventory. The operating budget is charged only when supplies are used, i.e., at the time of receipt from the stock fund. Second, the wing/base

operating budget is charged for the cost of all consumable supplies used, including those which are purchased and warehoused centrally by the Air Force Logistics Command.

(d) One of the principal tasks under PRIME was to adopt a uniform distinction between investment costs and expenses. Investment costs relate to relatively durable items which maintain their integrity throughout their cycle of use--planes, missiles, vehicles, buildings, machinery and the like. Expenses are the costs of labor, services, and consumable materials required to operate the Air Force. After defining these two types of cost the appropriations used to finance them were "purified": Expenses, or operating costs, were to be funded exclusively from the annual operations and maintenance and military personnel appropriations; investment costs were to be funded from the continuing procurement RDT&E and military construction appropriations. As a result of the "purification" process, locally acquired equipment costing $1,000 or more, which was formerly funded from operations and maintenance is now funded from the "Other Procurement" appropriation. This accounts for the fact that the dollars included in the wing/base's O&M allotment before PRIME are greater than the amount now included for equipment in the operating budget. (The operating budget included authority for operating costs only, not investment costs).

(e) The amounts shown as "subtotal" and "total" in the "before PRIME" column represents the obligating authority issued to the base. This was a formal subdivision of the operations and maintenance appropriation and the amount shown is a limitation subject to the sanctions of RS 3679, the Antideficiency Statute. The "subtotal" for the operating budget under PRIME represents the total expense authority (as distinct from obligating authority) included in the budget and is a target rather than a limitation. A useful, if not all-inclusive, distinction between "obligation authority" is that the former represents authority to acquire resources whereas the latter represents authority to consume resources.

(f) The bridge between obligations and expenses is termed "undelivered orders outstanding." Before PRIME, there was no requirement to budget for undelivered orders outstanding because the allotment was in terms of obligations. PRIME in its focus upon resources consumed also focuses attention upon the bridge. An example will illustrate: Base XYZ enters into a large contract with ABC Co. to provide building maintenance services for a twelve month period. An obligation occurs the moment the contract is entered into. However, expenses are not incurred until the services are actually provided. The difference between the total

amount of the contract (the obligation) and the cost of the services performed to date (expenses) represent undelivered orders outstanding. The fact that the obligation for a given transaction takes place in one fiscal period and the expense may not be incurred until another period makes budgeting for the transaction somewhat more complex than formerly. However, there are two mitigating factors: Under PRIME, material ordered from the local stock fund does not become an obligation until it is received from the stock fund, at which time it also becomes an expense. Thus, the undelivered orders outstanding category in operating budgets applies almost exclusively to contract services. Second, the distinction between expenses and obligations is preserved only where a significant amount of dollars are involved. At present the threshold is $10,000. Contracts below $10,000 are expensed at the time they are obligated.

(g) As can be seen in Figure 2 and the foregoing paragraphs, the operating budget is structured in a way that focuses attention on expenses, but it also includes obligation authority for all resources included except for military personnel and aviation POL costs. (Obligations for these latter two are managed centrally in Hq USAF with supporting data flowing in from other parts of the accounting system). While the total of the operating budget is a target rather than a limitation, the portion of the operating budget representing obligating authority on the operations and maintenance appropriation continues as a limitation subject to RS 3679 on a cumulative quarterly basis. In Figure 2 the amount subject to RS 3679 would be $21,460, the sum of the expense authority for civilian personnel, TDY, supplies, equipment and contract service and the change in undelivered orders outstanding (if we assume that undelivered orders outstanding at the beginning of the period were zero).

---

1. Brig. Gen. William F. Pitts, Director of Budget, USAF, "Budgeting for Air Force Needs," The Armed Forces Comptroller, April 1969, p. 17-21.

2. Explanation for abbreviations:

Figure 1	C/S	Chief of Staff, USAF
Figure 2	XPD & XDC	Deputy Chief of Staff, Plans and Operations
	OAP	Deputy Chief of Staff, Programs and Resources
	C3	Command Control & Communications

Figure 4	CMD	Major Air Command
	JCS	Joint Chiefs of Staff--the Air Force Chief of Staff is a member
	JSOP	Joint Strategic Objectives Plan--planning document of JCS
	DPM	Draft Presidential Memoranda
	DGM	Designated Systems Management Group (see Figure 1)
Figure 5	BoB	Bureau of the Budget
	P/BDs (PBDs)	Program Budget Decisions

3. Robert N. Anthony, "Management Control Problems in Defense," Annual Conference of National Association of Accountants, June 26, 1967, pp. 1-7.

4. Ibid., pp. 8-10.

APPENDIX B

FIVE-YEAR DEFENSE PROGRAM (FYDP)

Introduction

PRIME has as one of its important goals the development of an expense accounting system (called the Accounting System for Operations) that interfaces with OSD's FYDP. In effect, basic operating expense data is input to the operating budget and the FYDP at installation level (cost center) by the accounting system for operations. Therefore, it is important that the reader understands the budget process, the FYDP, and how the accounting system for operations relates to them. Chapter IX discusses budget ramifications at installation level; Appendix A emphasizes budget ramifications at the USAF Hq, OSD, BoB, and the Congressional level; and, this Appendix (B) describes the FYDP. The five figures in Appendix A (especially Figures 4 and 5) are helpful in relating the budget to the FYDP. From reading Appendices A and B you should be able to visualize the decision processes and program cycles that support the Air Force's portion of the DoD budget that is included in the President's January budget message to Congress. Just what is this OSD Five-Year Plan?

Description of FYDP

In his inimitable style, Dr. Anthony described the FYDP to the 3rd NATO Defense Planning Workshop on 9 October 1967:

> To start with what is visible, we can describe our Five-Year Defense Program as a thick book of statistical tables. These tables have columns for the current year and for at least the next five years. Some of them have columns for years that extend as far into the future as 1975. Some of these tables deal with physical forces: numbers of Army battalions of various types, number of ships, numbers of aircraft squadrons. Others deal with manpower. Still others contain financial information. These show cost figures for each of the next five years, for each of the elements into which the Department of Defense program is divided. There are approximately 1100 of these program elements: B-52 squadrons, development of FX aircraft, supply depots, are examples. The question I propose to address is: what do the numbers in these columns mean?
>
> There is a short but precise answer to this question: <u>the numbers reflect our best estimate of the future implications of decisions already taken</u>.
>
> The principal misconception about these numbers arises when people read them as a statement of what is actually going to happen in the future. This is not at all how they should be read. Suppose, for example, that the amount in the 1970 column of the financial plan opposite the item F-4 fighter squadrons is $100 million (you understand, of course, that I am using fictitious figures). This number means that our top management has made decisions about the number of F-4 aircraft in a squadron, the number of such squadrons, the hours they are to fly, the costs of operating them, and the cost of new equipment. All of these decisions taken together lead to an estimate of $100 million as the cost of F-4 squadrons in 1970. I emphasize that management decisions already have been made on each of the elements entering into this calculation, and any actions that must be taken up to the present time--that is up to 1967--to implement these decisions already have been set in motion. Thus, the $100 million represents not what someone wishes would happen, or hopes would happen. Rather it represents what management has decided <u>should</u> happen. Moreover management presumably has started the necessary actions to insure that it <u>will</u> happen.
>
> Above all else, it is important to recognize this point: that figures in the five-year plan are not schemes, or desires, or dreams, or propaganda, or shopping lists. They are the reflection of decisions

that have been made.

The mere decision to operate F-4 fighters in 1970 at a cost of $100 million does not automatically guarantee that this will in fact happen. Steps must be taken to insure that the decision is implemented. It follows that intimately connected with the five-year planning system there must be a control system--a system that communicates decisions to those who must implement them, and that reports back to management information that shows whether the implementing actions are in fact being carried out, and if not, who is responsible.

Let us look briefly at something else that the number in the Program does not mean. The fact that today's five-year plan shows a figure of $100 million for F-4 fighters does not mean that in 1970 we necessarily will spend $100 million on F-4 fighters. There are two reasons--or, more accurately, two classes of reasons--why this is so.

First, new decisions may be made between now and 1970 that affect the operation of F-4 fighters. We may decide to have more of them, or less of them. It is extremely important that everyone recognize that the plan is subject to change, for if the impression is created that once having formulated the plan, we cannot change it--or even if the impression is created that once having formulated the plan we have difficulty in changing it--progress would be hindered. Obviously, we must encourage everyone to think of new, improved, and less costly ways of accomplishing our objectives. The planning mechanism must facilitate, not hamper, such efforts. Mr. McNamara has described the program as a "rolling" program, and by this phrase he means that it is constantly changing.

Although the plan is subject to change, it is an obvious fact that as we move closer to the year 1970, management's ability to make changes affecting 1970 becomes increasingly circumscribed. Because of the time required first to obtain the necessary authority from our legislative branch and then to order the planes and have them built, management could not, except with extraordinary action, decide today to increase the $100 million for 1970 by any significant amount, even if it wanted to. If management wanted to provide additional electronics gear to existing aircraft in 1970, the decision must be made in the near future, both because of the time required to obtain the gear, and also because of the time required to set up a program that will train the men who are to operate and maintain it.

Management can, even in 1970, decide to operate F-4s more intensively, or to use them in combat, or to make minor economies in the ordinary operating costs, and these decisions also help to explain why the actual costs may turn out to be different than $100 million.

The second class of reasons why the figure for 1970 may well not turn out to be $100 million, is that as we get closer to 1970, we will be able to make better estimates of the cost of a given number of F-4 squadrons in that year. Changes in labor costs, material prices, and other cost factors are to be expected, and these lead to revised estimates for the cost of carrying out our plan.

For these reasons, then, it is highly unlikely that we actually will spend exactly $100 million for F-4 fighter squadrons in 1970.

This statement immediately raises a question: if the figures in the Five-Year Defense Program are not likely to turn into reality, what good are they? Is the whole program merely an exercise that keeps several hundred people employed in filling out forms and compiling tables, that gives us an excuse for holding a workshop in this beautiful city, and that provides statements for popular consumption about how carefully we plan ahead?

If the whole effort could be characterized in this manner, it would be only a facade. But the fact that the concept of five-year programming is spreading so rapidly around the world indicates that it is much more than a facade. In the United States, the system introduced in the Department of Defense in 1962 is being extended throughout the whole of the Federal Government. Similar systems are being developed in at least eight of our fifty states, and in a number of our largest cities. Governments of a number of the countries represented in this room have five-year programs, and a number of other governments are beginning to construct them. Clearly, a growing number of managers are convinced that the approach has merit.

I shall try to state why we think it desirable that we have a book in 1967 that contains numbers for each of the years 1968 through 1972, even though we know full well that these numbers probably will not reflect the realities of those years when they occur. There are at least five such reasons.

First, by requiring people to write down these numbers, we force them to think about the future consequences of proposed policies; we force both those who propose new policies and those who made decisions on these proposals to do this in a systematic, disciplined manner. Now it is true, of course, that every policy-maker thinks about the future consequences of his decisions. But there is a great difference between a hasty, superficial, vague view of these consequences and the numerical statement of cost and manpower implications that one is forced to make in order to enter figures in the five-year program. Theoretically, it might be possible to devise some other way of getting

people to think systematically about the future consequences of their proposals. We might, for example, issue a strong directive that this should be done, and top management might stress the necessity for doing so in speeches. As a practical matter, however, we have all seen the difficulty of accomplishing such worthwhile goals by the mere publication of directives and the giving of speeches.

As a practical matter, then, we set up and enforce the simple rule that no proposal will be considered or decision made until its future consequences have been estimated and reduced to writing according to a prescribed format. The programming system makes it feasible to require this disciplined approach to decision-making.

Second, the Five-Year Defense Program gives us a view of the aggregate effect of all the decisions of our policy-makers. This is essential as a means of studying the balance that exists in the defense program. A single decision may have a number of constituent parts, and the interrelationships of these must be examined. For example, if we decide to replace one type of tactical fighter aircraft with another, we must carefully consider the effect of this transition, year by year, on the bases where these fighter squadrons are located; on the training establishment where the pilots, the maintenance people and others will be trained; and on the depots where the aircraft will be maintained. If the new squadrons require more personnel than the old squadrons, we must take into account the effect on recruitment, on basic training, on specialized training of various types, on our medical establishment and hospitals, on recruiting and training medical people, and so on. If the new aircraft require a different mix of spare parts, these must be considered. The Five-Year Defense Program facilitates putting all these facets together.

It does not do this perfectly, of course. One never can foresee all the implications of a decision in a complicated environment such as ours. But the fact that our environment is complicated is all the more reason why we should try as hard as we can to write down all the consequences of our decisions, and having done so to search for internal inconsistencies and take the steps necessary to eliminate them.

The program not only helps show interrelationships of the pieces, but it also gives us an over-all picture of the total. Are we, for example, making decisions that in the aggregate lead to a larger defense budget in 1970? If so, management should know this fact so that it can decide whether, on balance, such an over-all increase is warranted by the world situation.

The third reason for having a five-year program is that it serves as an invaluable starting point for

considering new proposals. The 1970 column of the five-year program says to us: if management makes no new decisions, and if prices and other factors are correctly estimated, this is what 1970 is going to look like. Now suppose that someone comes along with a new proposal that has an effect on 1970, as well as other years. He must demonstrate that this new proposal is, all things considered, better than our present plan for 1970. If it adds to the cost, he must convince management that it will add even more to the defense posture. If it adds to the cost but has no effect on our overall defense posture, he must demonstrate that some other part of the program is being corresponding reduced, because there is no point in spending additional money unless it leads ultimately to an improvement in our posture.

A fourth value of the program is as a means of communication. We have a strict rule that the only place where decisions are recorded is in the programming system. If there is any question, therefore, as to what management has approved and what it has not approved--and such questions arise frequently in any large organization--the program is the place to go for the answer. It is, of course, inevitable that impending decisions circulate via the informal grapevine, but the grapevine is likely to be wrong as often as it is right. When the decision is actually made, it will be reflected in a revision of the program.

Finally, the five-year program is part of a control system. Control consists, in part, of measuring progress toward the accomplishment of objectives. The program shows our objectives--the forces that we have decided should be in existence--and it also shows the costs that we expect will be required to procure and operate these forces. It therefore provides a starting point for control.

These, then, are some observations on what a five-year program is, what it is not, and what value it has.

Now that we have Dr. Anthony's non-technical explanation of the FYDP we can turn to the opposite end of the budget/accounting/program process (the installation-level) and verbally work back toward his FYDP. Paragraph 3-3, AFM 178-6, Resource Manager's Handbook, 31 March 1969 serves this purpose very well.

Accounting System for Operations

a. One of the basic considerations in the design of any accounting system is the structure of the accounts used to accumulate the data collected by the system. In the FY 1969 accounting system for operations, the organizational structure is the basis for the various accounts used in the system. These accounts aline with the "grass roots" organization; for example, engine buildup shop, motor vehicle service station, etc. (cost centers). Uniform codes are used in the accounting system to identify every cost center account established. Each transaction entered into the accounting system is identified or coded to a cost center. Cost center codes are employed in every functional area of the base (for example, personnel, supply, procurement, transportation, maintenance, etc.) to identify expense incurred to a cost center.

b. In addition to cost center codes, the accounting system further identifies the category of resource (element of expense); for example, civilian pay, military pay, TDY, supplies, etc. Through the use of codes identifying each cost center and element of expense applicable at that particular base. the system summarizes these actual expenses and relates them to the approved phased/annual expense authorization in a series of monthly management reports provided for managers. The management reports display the programmed and actual expenses in the format most useful to management at each succeeding level of responsibility.

c. Besides identifying organizations to collect expenses for local management, the accounting system also collects expenses for major command, HQ USAF, and OSD level managers. These managers receive highly summarized expense data structured as follows:

(1) Major Force Programs (MFPs). There are 11 MFPs, three of which are:

(a) Strategic Forces.
(b) General Purpose Forces.
(c) Intelligence and Communications.

(2) Progam Elements (PEs). There are 400 PEs in the 11 MFPs. The first digit identifies the MFP; the letter suffix F indicates that PE is an Air Force program. See examples in (a) through (c) below:

(a) 11114F--B-58 Squadrons.
(b) 27129F--F-111 Squadrons.
(c) 31013F--Defense Attache System.

(3) Functional Categories (FCs). There are 13 DoD functional categories, three of which are:

(a) Mission Operations.
(b) Supply Operations.
(c) Maintenance of Materiel.

d. Every cost center code at base level translates to an OSD MFP, PE, and FC. This translation is important since both budget estimates and reports are presented in this OSD account structure and the approved operating budget is made by MFP. By translating cost centers to the OSD account structure, the accounting system satifies higher headquarters' reporting requirements, compares base expenses against an operating budget stated in the OSD account structure, and still retains the capability to prepare local management reports in meaningful organizational displays ---.

e. Every cost center also translates to a budget program (logistical support, training support, etc.) of the conventional appropriation structure. By that means, appropriation status reports can be made to OSD, the Bureau of the Budget, and the Treasury Department.

The AFM 178-6 outline of how the accounting system for operations works should have established that operating expense data are initially gathered at the cost center level. These data become the basis for financial management reports which compare resources actually used with the approved operating budget for the local operating unit. These same data are translated into a structure of accounts suitable for commands, Hq USAF, and OSD level managers (in the vernacular of the FYDP). i.e., major force programs, program elements, and functional categories. And because Congress and certain executive agencies still want Air Force dollar needs expressed in terms of the conventional appropriation structure, another electronic translation is also made for this purpose.

Conclusion

By implementing PRIME, a closed-loop financial management system was established. What happened? The financial manager's act of incurring an expense to operate a weapons system at base level was linked-up with the OSD decision to use that

particular weapons system and with the Congressional and Presidentail decisions to fund it.

APPENDIX C

RESEARCH METHODOLOGY

Pages 8 through 14 of the INTRODUCTION provide a general description of research methodology. This appendix elaborates upon that general description.

Interviews

No fixed interview pattern was followed, but generally the official designated as focal point for PRIME was interviewed first--usually the budget officer. The budget officer then became a means of gaining appointments with his superiors, the comptroller and various commanders, as well as his advisees, the resource advisors assigned to functional, operating activities. Also, certain individuals outside the line hierarchy, such as the USAF Resident Auditor and the Management Engineering Officer, were readily accessible through the focal point for PRIME.

Interview Guide

1. Conduct introduction
    a. Purpose and approach of study
    b. Confidential treatment of data
    c. How interview to be conducted

2. Obtain respondent data
   a. Base phone directory
   b. Base organization charts
   c. RC/CC structure
   d. Recent operating reports
   e. Operating budget
   f. Selected financial management directives
3. Use interview checklist (reference next section)
4. Dictate/write notes immediately following each interview.
5. Check set of interviews completed against RC/CC structure for completeness of coverage
6. Conclude interviews and obtain names and addresses for follow-up correspondence

Interview Checklist

1. Distributing Service Unit Costs
   a. Knowledge of subject
   b. Experience with such distributions
   c. Service unit cost concept
   d. Managerial interest/motivation
2. Developing Output Measures
   a. Knowledge of subject
   b. Experience with subject
   c. Output measurement concept
   d. Manager's interest/motivation regarding dual objectives--effectiveness and efficiency
   e. Variance analysis/composition of costs/standards

3. Performance Reports

   a. Management reports received/used

   b. Evaluation of reports

   c. "Snowed under by paperwork?"

   d. Reports serve management--or vice versa

   e. Interest/motivation of managers regarding communication of need for reports

   f. Manpower implications (numbers and expertise)

   g. Need for indoctrination/training/education regarding reports/reporting

4. Internal Audit Support of PRIME

   a. RMS/PRIME concepts

   b. Audit support provided (copies of reports)

   c. PRIME implementation by the particular base/command

   d. Depth and duration of audit coverage

   e. Continuing role of the auditor

5. Indoctrination, Training, and Education (IT&E)

   a. IT&E received/planned/evaluated

   b. RMS/PRIME implications for IT&E

   c. Centralized vs. fragmented IT&E

   d. Managerial interest/motivation

   e. Continuing need

6. The Budget Process

   a. Knowledge of subject matter

   b. Budget oriented IT&E received/required

   c. Experience--FY 69/FY 70

d. Sponsorship and participation espoused/practiced

e. Budget vs. cost controllability

f. Credibility and attainability of operating budget goals

g. Accounting support of budget process

h. Budget working group and budget advisory committee operations

i. Idealized RMS concept regarding budgeted funds

j. Comptroller staff's changing role

k. Interest, motivation, and evidence of ingrained thoughts and actions involving financial managers

7. Controllability of Costs

a. Trend toward centralization

b. Individual's philosophy regarding "significant influence" over costs

c. Individual's acceptance of responsibility for cost

d. Desired performance reporting support

e. Specific topics: military personnel costs and aviation POL

f. "Average" performance related to centralized control

8. Motivation/Rewards/Sanctions

a. Current/desired practices

b. Sponsorship/participation

c. Successful implementation of RMS

d. Dual objectives of effectiveness and efficiency

e. Key factors: budget process and IT&E

f. Rewards (credible/visible); sanctions (equitable)

LIST OF REFERENCES

LIST OF REFERENCES

Books

Anthony, Robert N. and Hekimian, James S. Operations Cost Control. Homewood, Ill.: Richard D. Irwin, Inc., 1967.

Chruden, Herbert J. and Sherman, Arthur W. Jr. Personnel Management. 2d ed. Cincinnati 27: South-Western Publishing Company, 1963.

French, Wendell. The Personnel Management Process: Human Resources Administration. Boston: Houghton Mifflin Company, 1964.

Horngren, Charles T. Cost Accounting a managerial emphasis. 2d ed. Englewood Cliffs, N.J.: Prentice-Hall Inc., 1967.

Kahn, Robert L. and Katz, Daniel. The Social Psychology of Organizations. New York: John Wiley & Sons, Inc., 1966.

Koontz, Harold and O'Donnell, Cyril. Principles of Management. 4th ed. New York: McGraw-Hill Book Company, 1968.

March, James G. and Simon, Herbert A. Organizations. New York: John Wiley & Sons, Inc., 1958.

Matz, Adolph, et al. Cost Accounting. 2d ed. Cincinnati: South-Western Publishing Company, 1957.

Schein, Edgar H. Organizational Psychology. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1965.

Articles and Periodicals

Anthony, Robert N. "What's Ahead." The Armed Forces Comptroller, 1966.

Brown, George E., Major General, USAF. "Financial Information for Resource Management." The Armed Forces Comptroller, January 1966, pp. 1-4.

Johnson, Donald E. L. "Management is Like Running Race Horses." Generation. November 1969, p. 15.

Keck, James M., Brig. Gen., USAF. "Another in a Series of Comptroller PRO FILES MEET----." The Air Force Comptroller, April 1969, p. 1.

Meyer, John C., General, USAF. "Managing the USAF: The Now and Future Challenges." Air Force and Space Digest, January 1970, p. 52.

Perry, Michael, Captain, USAF. "Yesterday, Air Application-Today, Aerospace Technology." Aerospace Historian, Winter 1969, p. 12.

Pitts, William F., Brig. Gen., USAF. "Budgeting for Air Force Needs." The Armed Forces Comptroller, April 1969, pp. 17-21.

Ryan, John D., General, USAF. "The 1970s--A Challenge to Management." The Air Force Comptroller, October 1969.

Simon, Michael E. "PRIME 69 an interim assessment." The Air Force Comptroller, April 1969, pp. 3-4.

Other

Air Force Films: FR 993, 994, 995

Air Force Study: "Financial Management Study, Wing/Base Level (Seymour-Johnson AFB, N. C.)," 1965.

Anthony, Robert N. Speeches delivered on: Oct. 13, 1966, June 14, 1967, June 26, 1967, Aug. 30, 1967, Oct. 9, 1967, and Jan. 10, 1968.

Auditor General USAF Policy Letter: "Auditor General Participation in Resource Management Systems (RMS)," January 22, 1968.

Horniman, A. B. Ph.D. graduate study papers: "Some Suggestions for an Inter-Service Test Effort," date unknown; "Some Observations and Suggestions Developed From the Naval Air Station Test," date unknown.

OSD PRIME Survey Team Reports dated: Oct. 1968, Nov. 1968, Jan. 1969, and March 1969.

Personal interviews with financial managers at the Pentagon and at 10 air bases in 7 different major commands to include selected documentation in support of views expressed.

"Resource Management in the Air Force, The Background of Current Changes," April 1967.

Simon, Michael E. Draft copy of an article entitled "Project PRIME and the Air Force," September 3, 1969.

_____. A staff paper entitled "PRIME and the Air Force," January 22, 1970.

Special Studies: Selected from Management Analysis Abstracts of Special Studies (AFAMA) which were related to my research: ACIC 68-5&6; AFAFC 68-15; ATC 68-10 & 14; SAC 68-5 & 69-20; SYS 69-8; and, TAC 68-18.

USAF Auditor General: PRIME Information Letters through Nr. 27 dated March 6, 1969.

_____. Summary audit reports listed in Table 2.

USAF directives to include: AFM 178-6; AFM 172-1, Vol III; AFM 177-101, Ch. 3, Atch. 7 (C5).

General References

Air Force directives in support of my research.

Audit Quick Fire Survey, "Documentation in Selected Responsibility Centers/Cost Centers, January 16, 1969.

Bergquist, George W., speech entitled "Better Ways of Doing Business in the DoD," July 20, 1966.

Design Criteria for System Model, date unknown--probably about May 1967.

DoD directives in support of my research.

DoD Financial Management Improvements: System Description, March 19, 1968.

Kopp, W. Brewster. "Let Managers Manage." Armed Forces Comptroller, April 1966.

Merrell, J. G., General, USAF. "How Air Force's Project FIRM Could Help Wing/Base Level Commanders." Air Force Comptroller, April 1966.

Resource Management System Model--The General System, AFAAFF, June 13, 1967.

MICHIGAN STATE UNIVERSITY LIBRARIES
3 1293 03144 9816