DOCUMENT RESUME

ED 125 495 HE 008 088

AUTHOR Nwagbaroacha, Joel O.; And Others
TITLE Program Planning Budgeting System (PPBS).
INSTITUTION Institute for Services to Education, Inc., Washington, D.C.; Technical Assistance Consortium To Improve Coll. Services, Washington, D.C.
SPONS AGENCY Office of Education (DHEW), Washington, D.C.
PUB DATE [75]
NOTE 134p.

EDRS PRICE MF-$0.83 HC-$7.35 Plus Postage.
DESCRIPTORS Administration; *Budgets; Evaluation; Guidelines; *Higher Education; Information Processing; *Input Output Analysis; *Management Information Systems; Program Descriptions; *Systems Analysis; Systems Approach
IDENTIFIERS *Planning Programming Budgeting System; PPBS

ABSTRACT

PPBS is a process by which priorities among the kinds of services a college may provide are weighed, objectives are stated in operational terms, alternative means to accomplish the given objectives are analyzed, and a choice among competing means is made according to criteria for efficient utilization of resources. This manual attempts to highlight four basic issues inherent in the development of a PPBS in higher education: (1) how the PPBS program structure of a college could be developed; (2) what output measures, parameters, or indicators are most appropriate, and how they could be organized; (3) what kind of analysis is appropriate for a college setting and how it could be conducted; and (4) what are likely strategies for development of the PPBS in operational contexts. (Author)

INSTITUTE FOR SERVICES TO EDUCATION, INC.

PROGRAM PLANNING BUDGETING SYSTEM (PPBS)

Technical Assistance Consortium
to Improve College Services

INSTITUTE FOR SERVICES TO EDUCATION, INC.

The Institute for Services to Education was incorporated as a non-profit organization in 1965. Its initial sustaining grant came from the Carnegie Corporation. ISE is an educational research and development organization, specializing in the problems of equalizing educational opportunity. ISE is involved in the design of educational materials for students and in teaching strategies to decrease attrition among educationally neglected Black Americans.

The curriculum development work requires long term interaction with college presidents, other administrators and faculty involved in dealing with educationally neglected college entrants. ISE has developed close insights into the obvious and subtle problems of predominantly Black student populations in large and small, urban and rural settings.

The research program of ISE has been involved with annual surveys of the academic, demographic and motivational characteristics of students, with particular emphasis on entering freshmen. This has required large scale collection, management, file development and analysis of educational data from financial aid data, to income distributions, to self-concept, to perceptions of their educational environment. This experience has been instructive in the subtleties of interpreting quantitative data collected on Black populations.

MANAGEMENT INFORMATION SYSTEMS DIRECTORATE

Management Information Systems is one of the two TACTICS programs of ISE. Its goals are to improve the quality of information on the historically Black colleges and universities participating in TACTICS and through this process assist in the improvement of the information management procedures on the individual campuses. Its major accomplishments to date include: (1) The development of an automated data base which provides a manipulative capability to handle key data elements on enrollment degrees granted, and revenue/expenditures on some 113 institutions; (2) The establishment of a cooperative data collection and reporting approach between the United Negro College Fund (UNCF) and the office for the Advancement of the Public Negro College (OAPNC). This effort significantly reduces the data collection demands on the college; and (3) The sponsoring of Summer Information Management Training Institutes for college administrators and researchers responsible for data collection. Out of this program should come accurate appraisals of the Black colleges in terms of growth patterns, internal enrollment and degree patterns, patterns of financial support and trends in the growth or non-growth of that support. With the management orientation of higher education, this program is being pushed hard to become valuable to all small colleges in mastering data collection and manipulation programs which undergird sound management decision making. MIS is developing model procedures for effective data flow and management reporting. Documentation based on experiences with TACTICS institutions will be made available to all institutions in the consortium.

MIS STAFF

Frederick A. Fresh, *Director*

Antoinette Bowler, *Assistant Director*

Edward F. McDuffie, *Programmer*

James R. Crawford, Jr., *Research Associate*

Clifton C. Fitzgerald, *Junior Programmer*

Theodore Matthews, *Data Clerk*

This document is a product of the Management Information Systems Directorate, a component of TACTICS sponsored by the Institute for Services to Education, Inc., its Assisting Agency.

TACTICS is a unique consortium of eight (8) technical service components servicing historically Black Colleges and Universities. These components are provided personnel and technical support by their Assisting Agencies, and are:

Assisting Agency	TACTICS Components
The Institute for Services to Education (ISE)	■ Cooperative Academic Planning (CAP)
	■ Management Information Systems (MIS)
The Robert R. Moton Memorial Institute, Inc.	■ Moton Consortium on Admissions and Financial Aid (MCAFA)
	■ Moton College Service Bureau (MCSB)
The Phelps-Stokes Fund	■ Management Development Program (MDP)
United Board for College Development (UBCD)	■ Academic Administration (AA)
	■ Educational Technology (ET)
University Associates, Inc.	■ Technical Assistance (UA)

All Assisting Agencies have programs other than their TACTICS involvements.

The unique distinction enjoyed by TACTICS (Technical Assistance Consortium To Improve College Services) stems from the continuous cooperation between the agencies, components and coordinating office where all are working together for the good of their colleges and universities. This thrust is represented by the unifying TACTICS logo displayed by all TACTICS component's publications.

TACTICS is supported by the Office of Education under its Title III Developing Institutions Program.

Funding for this document was made available under Title III of the Higher Education Act of 1965, through the U.S. Office of Education, Department of Health, Education and Welfare.

INSTITUTE FOR SERVICES TO EDUCATION, INC.

PROGRAM PLANNING BUDGETING SYSTEM (PPBS)

Technical Assistance Consortium to Improve College Services

ACKNOWLEDGEMENTS

This work was commissioned by the Management Information Systems (MIS) component of TACTICS and performed by the Institutional Planning and Management Program (IPMP) of the Institute for Services to Education. The research and writing of this manual was under the leadership of Dr. Joel O. Nwagbaroacha, Director of IPMP. Principle technical contributions were made by Louis W. Parker with assistance by Clyde Mason.

Project direction and institutional liaison was performed by Frederick A. Fresh, Director of MIS. The principal editing responsibilities were handled by Ms. Jacqueline Williams, MIS consultant. The assembling and typing of drafts was lead by Mrs. Barbara Cummings, IPMP secretary.

MIS gratefully acknowledges the participation of Mississippi Valley State University (MVSU) as Itta Bena, Mississippi as the model institution. Dr. Ernest Boykins, President, graciously committed his staff and institution to the process of implementing a Planning, Programming and Budgeting System in cooperation with the MIS staff. The MVSU Planning & Management Team provided much of the support during the data collection and analysis phase. The principal contributers were:

Dr. Ernest Boykins, President
Dr. William A. Fingal, Coordinator, Planning/Management
Mr. John A. James, Director of Institutional Research
Dr. J. R. Buck, Dean of Instruction
Dr. Silas Peyton, Chairman of Faculty Senate
Mr. J. V. Parham, Business Manager
Mrs. M. E. Fingal, Director of Development
Mr. Norman Brinkley, Dean of Students
Mr. Lawrence Sutton, Registrar and Director of Admissions
Dr. C. W. Howard, Associate Dean & Director 13-College Curriculum Project
Dr. O. P. Lowe, Administrative Vice President

FOREWORD

The purpose of this document is to provide the reader with a concise summary of the work involved in planning and implementing a Program Planning Budgeting System (PPBS). This is the first attempt of the ISE staff to put together a "working package," and an overview of a PPBS manual.

This document will be reviewed, pilot tested, and revised for general distribution. In view of the fact that the contents are still evolving, numerous additions and deletions will be made. Field testing and further analysis are necessary before utilizing this document.

The major focus is to assist ISE staff and the BIDP institutions in developing and implementing a PPB System. The ISE staff is searching for a set of principles to guide their efforts in this arduous and very sensitive project:

- First, the PPBS manual should be useful to the decision-making and planning processes of the institutions involved.
- Second, the conventions and procedures for implementing the system must be uniform.
- Third, information regarding the PPBS should arise from uniformly defined terms.
- Finally, the PPBS manual should facilitate and improve the basis for major program decisions at small colleges.

Simply stated, the PPBS is a process by which priorities among the kinds of services a college may provide are weighed, objectives are stated in operational terms, alternative means to accomplish the given objectives are analyzed, and a choice among competing means is made according to criteria for efficient utilization of resources.

This manual attempts to highlight four basic issues inherent in the development of a PPB System in higher education:

1. How the PPBS program structure of a college could be developed.
2. What output measures, parameters, or indicators are most appropriate, and how they could be organized.
3. What kind of analysis is appropriate for a college setting and how it could be conducted.
4. What are likely strategies for development of the PPB System in operational contexts.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

INTRODUCTION

CHAPTER 1

Introduction

Planning, Programming, Budgeting System is a system for planning and control. It is a process under which:

- Priorities among kinds of services a college may provide are weighed.
- Objectives are stated in operational terms.
- Alternative means to accomplish the given objectives are analyzed.

PPBS process consists of:

1. Developing alternate implementation programs to meet objectives
2. Estimating the resource requirements and possible benefits of each program
3. Selecting among alternatives
4. A managerial technique designed to merge the planning process with the allocation of funds
5. A comprehensive planning process that includes program budgeting as its major component.

It attempts to structure a cohesive decision-making procedure in such a way that resources are allocated efficiently to achieve specified objectives.

This document is designed to provide the reader with a comprehensive picture of what a Planning, Programming, and Budgeting System is and how a system might be implemented through an evolutionary process. Sufficient details are given, including examples, to permit an institution to independently implement a PPBS, provided adequate resources are allocated. In any case, with this document as a guide, only minimal consultant assistance would be required. The consultant would lend technical expertise, function as a stimulus for change within the institution, and provide continuity over the time span of an evolutional implementation process.

This PPBS Manual is organized as follows:

Chapter 1–Introduction.
A definition of PPBS is provided here. However, Appendix A should be referenced for additional definitions to be used in this manual.

Chapter 2–An Approach to Designing a PPB System.
Four basic considerations inherent in the development of a PPB System in higher education are discussed. Components of a PPBS are summarized.

Chapter 3–PPBS Functional Description.
Each subsystem of the total planning system is specified. Design and implementation procedures for a basic PPBS are discussed, and should assist institutional administrators in independently establishing their process.

Chapter 4–Basic Components and Methodology for Analyzing PPBS.
A framework for evaluating existing planning processes is presented. Such evaluation provides a point of departure for evolution into a PPBS.

Chapter 5–PPBS Sequential Operating Scheme.
All the activities required for an operational PPBS are outlined, giving the personnel and time frame associated with each activity.

Chapter 6–PPBS Report Forms.
The forms used to facilitate an operational PPBS are listed, accompanied by a generalized narrative on their use. Sample forms are included in Appendix B.

AN APPROACH TO DESIGNING A PPB SYSTEM

CHAPTER 2

An Approach to Designing a PPB System

The activities of planning, programming, budgeting, and evaluating go on at every college in one way or another, but are not integrated as implied in the PPBS concept. The way these functions can be operationally related through a PPB System has never been clarified in its application to institutions of higher learning, and no guiding principles exist in the literature. Therefore, college administrators confuse PPBS with program budgeting; they are unable to relate individual pieces of the concept to an overall management control system including structure and process. In addition, some mistake electronic data processing for the heart of the matter.

In light of this, we shall discuss briefly the following four basic considerations inherent in the development of a PPB System in higher education:

1. How the program structure of a college should be developed.
2. What output measures, priorities, or indications are most appropriate, and how they should be organized.
3. What kind of analysis is appropriate for a college setting, and how it could be conducted.
4. What are likely strategies for development of the system in operational contexts.

PROGRAM STRUCTURE

The specification of college programs is probably the most crucial part of the management control structure. Programs must flow from and reflect the mission and goals of the institution. A key consideration here is the reorganization of the budget into program areas.

The very heart of the PPBS concept is the program structure which makes visible both the outputs and the requisite resources. The design of a program structure is an art rather than a science. Every plan being devised for a PPB System must have a set of criteria which, when carefully developed, could provide a guiding principle for developing a PPB System. A few criteria are presented here, together with what appear to be appropriate additional considerations:

(a) The program structure should reflect the mission, goals, and objectives of the college.

(b) The program structure should facilitate the types and levels of decisions which are made on the administrative and academic levels of the institution.

(c) The program structure should facilitate quantitative and qualitative evaluations of the college's outputs.

(d) The structure should be readily understandable to the college community.

(e) The structure should be compatible with legally mandated accounting and budgeting procedures.

(f) The structure should clearly reflect aggregates of activities.

(g) The structure should reasonably fit the operations of the institutions.

(h) The structure should be capable of development and implementation in phases.

COLLEGE OUTPUT MEASURES AND EVALUATION

The second consideration is the use of output measures or indicators for PPB Systems in higher education. There are several conceptual difficulties in evaluating college outputs. One involves the statement of operational objectives which implies evaluative measures. A second difficulty relates to educational outputs which are not straightforward functions of the easily defined input resources and the educational process.

In attempting to design an output measurement and reporting system for colleges (a requirement for any complete PPBS or management control system), as many dimensions of output as possible must be considered. These evaluations need not be quantitative; in fact, some of the most important ones may be qualitative.

EDUCATIONAL ANALYSIS FOR DECISION-MAKING

Most of the literature on PPBS in higher education promises improved decision-making as a result of rational analysis. However, the procedures for conducting analysis are not made explicit. Practical efforts to develop PPBS have often overlooked analysis, or interpreted it broadly as generating alternatives. The comparison of these alternatives has probably been more intuitive than analytical.

Analysis is tied to the input-process-output model and it shares the conceptual difficulties attached to this model. Further difficulty arises for college faculty/staff in distinguishing among cost benefit analysis, cost effectiveness analysis, and the more generic term, systems analysis. Analysis which involves cost ultimately reduces to two notions: (1) maximizing returns or benefits in one sense or another from some amount of input resources spent on education;

and (2) obtaining at lowest cost whatever level of educational output or effectiveness may be selected as best. The first proposition generally refers to cost benefit analysis and the second to cost effectiveness.

Most colleges do not employ staff members with the time, training, and experience to perform extensive studies of program alternatives. Most of the cost benefit studies of educational programs have been conducted as ex post facto evaluations by university researchers or by consulting groups. These types of analyses have been practically useless for rational decision-making.

Cost effectiveness analysis is appropriate and useful for the colleges, and essential to a full PPB System. Despite the fancy name, it should neither exceed common sense nor go beyond what a well organized college should have been doing already, to some degree. In an over-simplified way, it concerns getting the desired service, performance, or output for the best cost. Service and supporting functions lend themselves most readily to this analysis, and dormitory, cafeteria, and building plant requirements should already be subjects of various forms of cost effectiveness study. In other college service areas, consideration of the objectives for which money is allocated may improve returns for dollar costs.

The most difficult problems in program analysis and resource allocation involve instruction. The hardest questions concern how money should be spent to achieve certain objectives most efficiently. An example of such an objective might be the achievement of specified reading levels for a group of freshmen, as measured by various tests. Program analysis may not provide the key to answering tough questions such as this one, but by systematically following some analytical procedures, professional judgment can be sharpened.

STRATEGIES FOR INITIATING PPB SYSTEMS

Many college administrators are familiar with the terminology of PPBS. However, the question of "How and where do we begin?" is posed, the terminology, the books, and the articles are not very helpful. An understanding of the PPBS concept of management control is an essential requirement for meaningful development.

There have generally been several motives for undertaking PPBS in higher education, but the main impetus has come from work done in federal and state governments. Since the system refers to budgeting, college business officials have been among the first to espouse the cause, à la National Association of College and University Business Officers (NACUBO). In some instances, PPBS is the mark of a progressive college administration which is knowledgeable of modern management procedures. In other cases, the intent has been to pacify taxpayers through accountability for program expenditures. In colleges, as in any organization, change comes slowly and not without considerable effort. The desirability of PPB Systems must, therefore, be considered in relation to strategies for development.

If an institution elects to be a participant rather than an interested spectator, there are several levels of participation. These include:

1. special planning studies using PPBS techniques;

2. an evolutionary implementation which supplements traditional planning methods with PPBS-type studies and parallels the current budgeting system with a program budget or a "turn-key" conversion to PPBS with the concomitant changes in procedure and organization.

Since PPBS may lead to significant organizational change, it may be advantageous for an institution to progress through the levels of participation until, through evolution, a full PPB system has been installed.

The components of PPBS include an organization, the technology, some data processing-service, and an organization policy of implementation. The institution must include the functions of planning, programming, budgeting, and evaluation. (See Figure 1) These functions may be combined into a single PPBS unit, separated into two or more organizational units, or delegated to existing institutional units. The technology resides in the analytic talent of the professional staff; and the success of the PPBS approach correlates highly with the quality of this talent. Some data processing service is desirable to facilitate use of quantitative management techniques. Use of automatic data processing significantly reduces the cost and improves the timeliness of the PPB System by having a machine-readable data base.

A vital component of an operable PPBS is an institution policy which demonstrates that college decision-makers intend to use the results of PPBS. If the results are ignored, the system loses its credibility and with that loss, its support.

Of the alternative implementation approaches mentioned, an evolutionary approach may be the most viable. Program budgets parallel current budget formats using crossovers. Studies are used to define a single set of objectives, and revised procedures are developed to use program change proposals in lieu of budget justifications. The information system is gradually modified to support the broader data requirements of PPBS. While the evolutionary approach requires additional resources because of parallel operation, it permits the institution to assimilate PPBS technology.

The question of implementing PPBS can be answered only in the context of a specific institution. The purpose here is to point out that there are different routes to implementing PPBS. Each institution should choose the one most likely to produce results.

PPBS can be viewed in two ways:

1. As a system for planning and control

2. the technology associated with PPBS may significantly improve the art of management by improved insight into the higher education process.

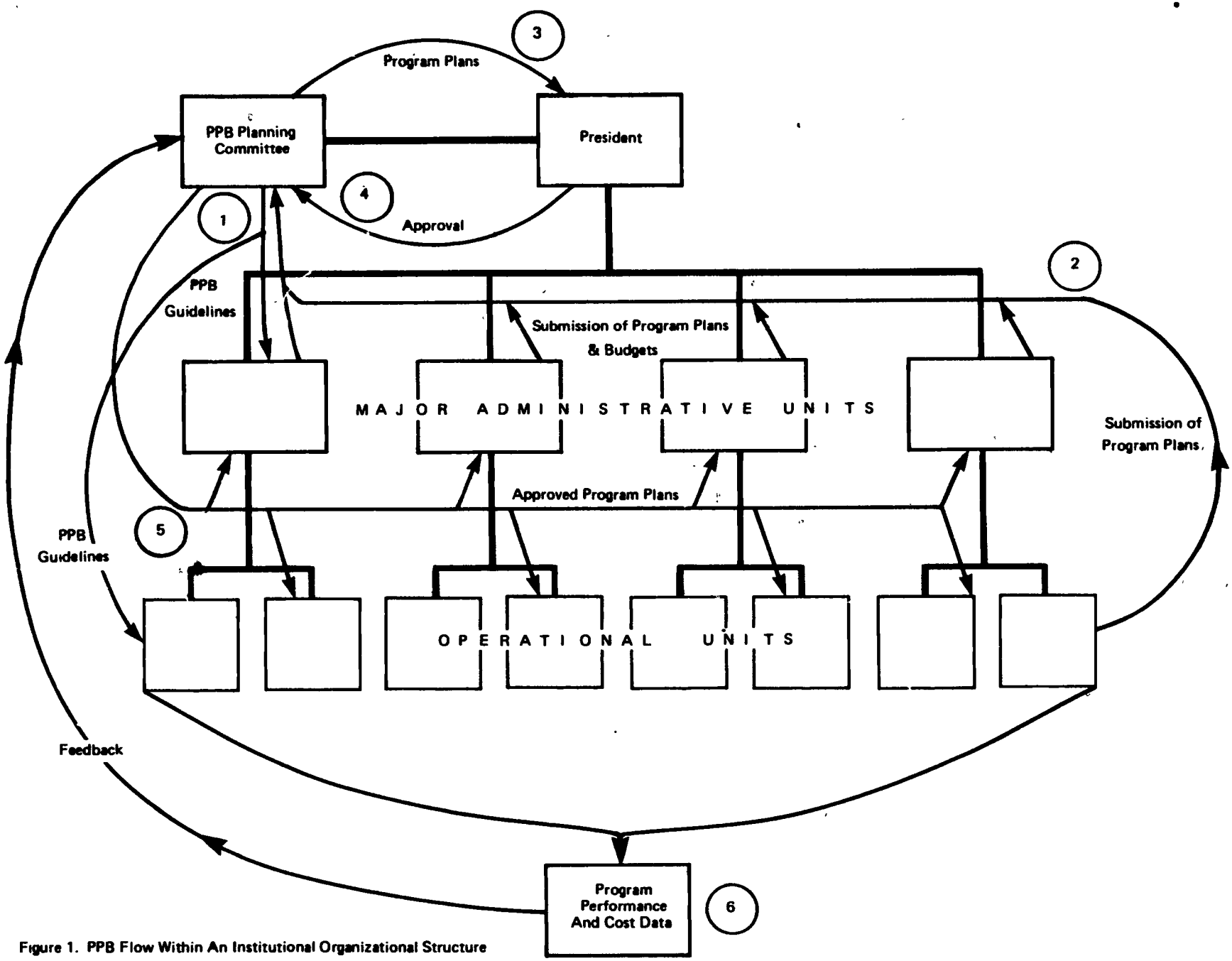


Figure 1. PPB Flow Within An Institutional Organizational Structure

PPBS FUNCTIONAL DESCRIPTION

CHAPTER 3

PPBS Functional Description

This chapter specifies each subsystem of the total planning system. In addition, it attempts to provide a basic "how to" and "what for" discussion that will assist institutional administration in the design and implementation of a basic program and budgeting procedure appropriate for their particular situation.

Section A contains a discussion of PPBS structure and related lines of communication. It provides an overall description of the total cycle of planning, budgeting, and evaluating. This section illustrates the flow of ideas, structure, and processes from the macro-view of the total system to the micro-view of each subsystem.

Section B discusses the importance of setting program goals in relation to planning. This topic, however, is approached from the standpoint of developing and documenting institutional mission and goals. Suggestions are made as to the appropriate officials of the institution who should be responsible for each task.

Section C discusses the process of planning, with emphasis on (1) the selection of a planning team; (2) the function of the planning team; (3) the development of environmental assumptions (both external and internal); and (4) the general planning cycle.

Section D discusses the review process for all existing or proposed programs scheduled to be operative during the projected planning period of three to five years. The review process includes:

(a) the review body;

(b) the institutional mission development and assessment as they relate to institutional and program goals and objectives;

(c) a cost benefit analysis of the program;

(d) possible alternative approaches.

Section E deals with budgeting processes over the planning period, including; (a) review of budget planning reports; (b) review of enrollment projections; (c) recalculation of available funds by source; (d) reestimation of expenditures; and (e) documentation of the financial plans and annual budgets.

Section F discusses the institutional evaluation processes in relation to the continuous planning processes. It includes criteria for evaluation, measures of performance, and documentation of both the evaluation and the informational data to be used.

Section G contains sample reports and forms that could be used in PPBS development and implementation. Each instrument is briefly explained as it relates to a particular subsystem within the PPB System.

SECTION A: PPBS STRUCTURE AND INSTITUTIONAL COMMUNICATION LINES

Implementing an effective PPB System or any management procedure in a college or university setting is not always easy. The major problem arises in resistance to rationality, despite the fact that persons in higher education portend dedication to a rational approach to their endeavors. Some people blame the resistance to rationality to "serfdom," and "vested interest." A closer look at the resistance indicates that the problem lies in the traditional organization of the college or university, and the failure of those charged with revising the system to understand the obstacles posed by tradition. In order to change or improve a college's management procedures, those concerned must consider not only what those procedures should be, but what they are and what they have been. More importantly, consideration must be given to the existing communications lines as they relate to the PPBS structure.

PPBS is a managerial technique designed to merge the planning process with the allocation of funds by making it impossible to allocate funds without planning. By attaching immediate, realistic costs to every plan, goals, and objectives, it changes the way plans are projected.

Basic concepts and procedures of PPBS are often misunderstood because some college administrators attempt to implement PPBS through the business office of a central budget office, thereby isolating it from the educational decisions of the institution. The central aim of PPBS technique is to establish a connection between educational decisions and budgeting. In most cases all that is adopted is the new terminology, while no appropriate changes occur in managerial practices.

Effective implementation of PPBS necessitates that managerial change permeate the whole institutional structure. Program budgeting procedures coordinate well with the normal governing structure of a college. PPBS attempts to bring about such desirable operational changes as those listed below.

1. Useful participation in the overall institutional planning and budgetary process by all groups on the campus is enhanced.

2. Planning the development of new resources can be coordinated with decisions about expenditures.

3. Educational decisions are made to fit research and teaching objectives, rather than personnel and equipment considerations.

The initial step in implementing a PPBS procedure is to assign responsibility for operating the system. The roles of the president, chief academic officer, chief business officer, research and development officer, and appropriate faculty committees need to be specified carefully and the lines of communication clearly defined. All those officers, in turn, will guide those individuals who report to them in their planning and budgetary responsibilities.

An important part of the installation phase of PPBS involves correspondence (communications lines) with administrators, faculty, staff, and students that provides background information, objectives of institutional programs, illustrative program structures, technical manuals, and directions for completing forms pertaining to programs, objectives, output measures, facilities, materials, personnel, future plans, and other pertinent data.

Briefly stated, the process of implementing an effective PPBS consists of:

- establishing objectives
- developing alternate implementation programs to meet the objectives
- estimating the resource requirements and possible benefits of each program
- selecting among the alternatives
- testing the long range fiscal implications of the chosen program(s)
- compiling the budget by combining the costs of all the selected programs.

The cycle of budget development is then repeated indefinitely, revising the planning standards to meet new external and internal conditions with each repetition. (See Figure 2—Flow chart for PPBS Implementation)

The chief academic officer should design the system, implement it, supervise its operation, and provide any advice needed to make it work. The fundamental responsibility for operating the system should rest with the chief academic officer, because the institution's planning should center around its educational program. Even if the business officer were unusually sensitive to educational needs, having the department chairperson and other educational officers report to the chief academic officer in some matters and the business officer in others creates a disruptive dual system. Although the chief business officer and other officers who report to the president will have major roles in planning and program budget, they should not be responsible for designing and operating the system, even within their own areas.

SECTION B: SETTING PROGRAM OBJECTIVES

A most crucial aspect of the planning process is determining what is to be accomplished, within what time frame, and what degree of performance will be expected. This sequence reflects

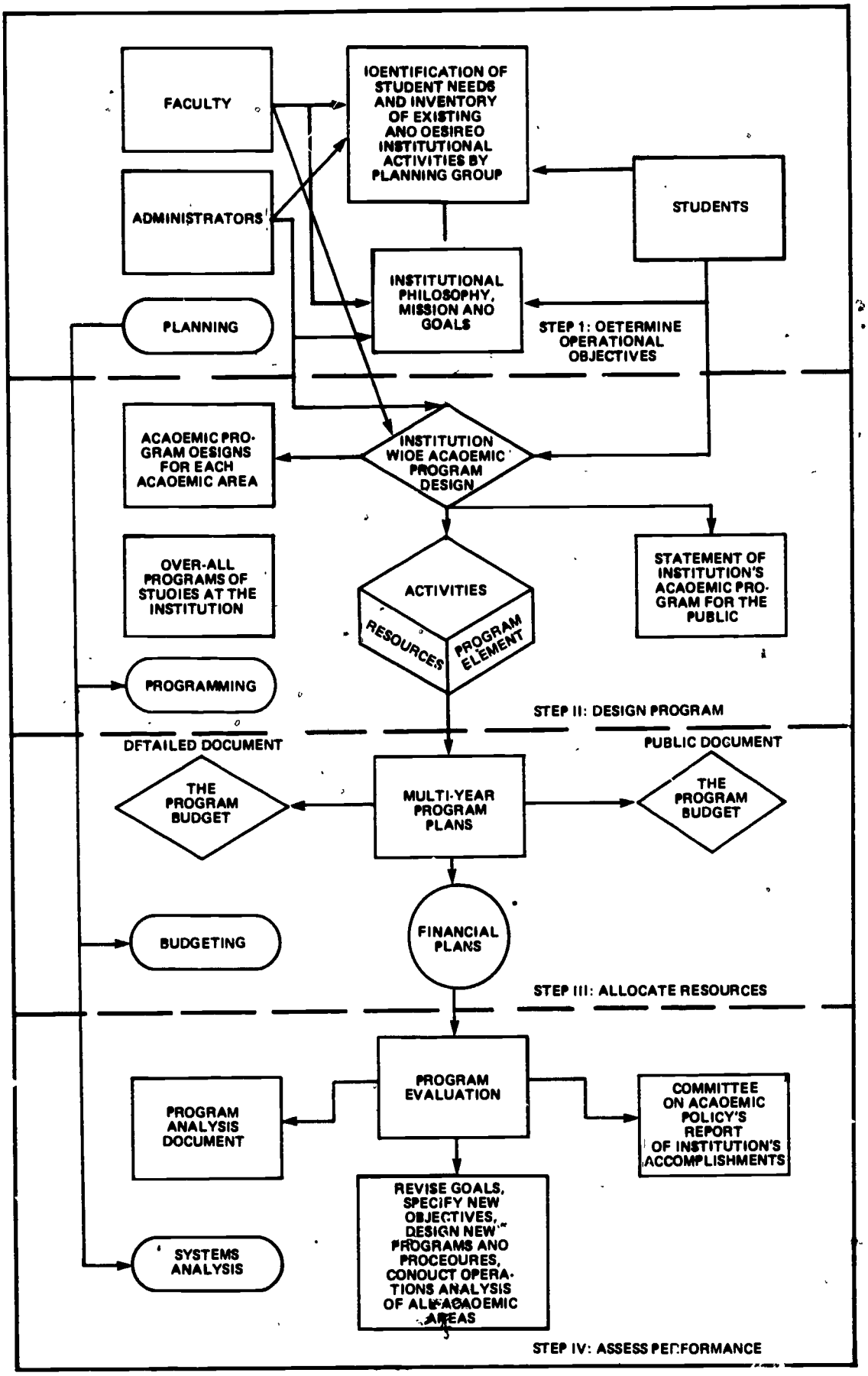


Figure 2. Flow Chart for PPBS Implementation

The basic structure of this flow chart is taken from "Educational Planning, Programming, Budgeting—A Systems Approach" by Harry J. Hartley. Hartley used this chart to portray ways in which educational philosophy is related to a proposed sequence for integrating the four operations of planning, programming, budgeting, and systems analysis.

the standard process for setting objectives, which in turn are accomplished through various programs or individual activities. In educational institutions, program activities are equivalent to the line operations of a business enterprise. Just as the production and sales function of a manufacturing firm allows it to exist, the academic, administrative, and support functions of an educational institution are critical to its existence. Therefore, it is only logical that institutions would attempt to plan these activities rather than allow their existence on a day-to-day, week-to-week, or even year-to-year basis without benchmarks and expected outcomes. These outcomes are classified as objectives. And it is here, at setting program objectives, that the discussion of PPB System module begins.

Although setting program objectives is important to the overall planning process, this is not the beginning of the initial planning process. Planning actually begins with the consideration and documentation of the institutional mission. It is at this point that a structured sequence of goals and objectives is developed from the highest levels of the institution through the smallest program at the academic or operations level. Though each area may have different goals and objectives, all are woven with a common thread, the institutional mission. More specifically, goals and related objectives at the institutional level should reflect the accomplishment of the institutional mission. Goals and related objectives at the program level should reflect the accomplishment of institutional goals and objectives, which in turn, reflect the institutional mission.

This interrelated *mission, goal,* and *objective* structure is shown diagramatically in Figure 3.

Development of the Institutional Mission

All educational institutions have a mission, a raison d'entre. The issue usually is whether or not the stated mission reflects the present operating environment of the institution. The answer can be determined by asking one question: "How long has it been since the mission of the school was evaluated?" If such an evaluation has not occurred in the last 10 to 15 years, then one could safely assume that the mission should be reviewed for possible changes.

The statement of institutional mission should state the broad, long term purpose of the institution, and should reflect any unique characteristics of the institution or its students.

Specifically, the mission statement should provide the following information:

(a) Whether the institution is public or private

(b) Whether the institution is a college or university

(c) Priorities and philosophic principles of the institution

(d) What role the institution plays in public service (the immediate community, the city, the state, or the nation)

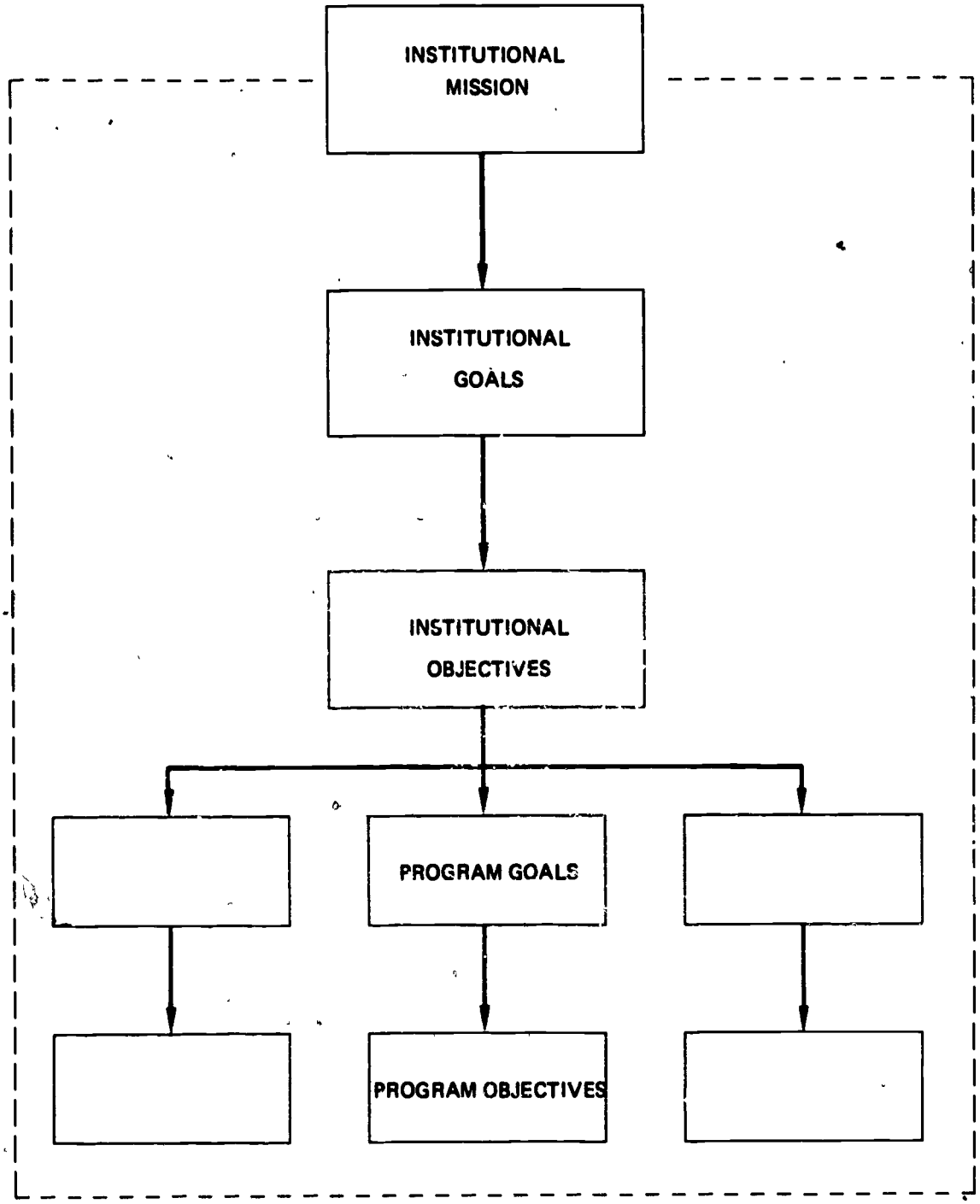


Figure 3. Mission, Goal, and Objective Structure

(e) What is the interaction between instruction and research

(f) What is the orientation of the degree programs (liberal arts, professional, vocational, associates, etc.)

Review of the Institutional Mission

A special committee should be formed to study the mission of the institution, and report its findings to the president. The president in turn submits these findings to the board of directors for necessary action. The committee membership should be representative of all major areas: the president or a representative of that office; vice president for academic affairs; chief fiscal officer; institutional research office; representatives from the student body; and any other individuals considered necessary, given the unique characteristics of each institution. Once this select committee has reviewed the mission statement, a draft revision should be submitted to the president and the board, along with a written explanation of the revision. Upon approval by these units, the new mission statement becomes the basis for developing the institutional goals.

Development of Institutional Goals

Institutional goals are benchmarks designed to facilitate the accomplishment of the institutional mission. They are definitive and can be accomplished in a given period of time. This time phasing separates goals into those that can be accomplished in 5 to 10 years or longer, and those which can be accomplished in 5 years or less, the latter being short range goals and the former being long range or continuing goals. For example: A long range goal of a particular institution may be to triple the number of nonacademic programs oriented toward the local community within 10 years. A short range planning goal made within the framework of the long range goal may be to increase the community-oriented programs by a factor of five in the next five fiscal years.

It is important to note that short range plans, not made within the framework of long range goals may be conflicting, and thus slow the organizational momentum. Further delineation of goals can be achieved by including a medium range of possibilities. (This alternative will not be discussed here because its effect is self-explanatory.)

The distinction between long range and short range goals is not only exhibited in terms of time, but also in terms of commitment. Because of the time frame, short range goals require firmer commitment, and are expressed in more concrete terms. Specifically, the accomplishment of short range goals will affect the accomplishment of the latter. Further, long range institutional goals are not absolute, they do not lock institutional planners into a set course of action. These plans are based on assumptions and expectations that must be tempered by an ongoing process of review, modification, and update.

The development and/or review of the institutional goals should be done by the planning team. Once the review is completed, the committee should submit its documented findings to the president for approval.

Development of Program Goals

Program goals* are very similar to institutional goals in that they are benchmarks in the ongoing effort to satisfy the institutional mission. The main difference is their level of impact: institutional goals should affect the entire organizational structure, while program goals should pertain to a particular operation within the organization. Consequently, it is only natural that goals at the program level be developed within the framework of the organizational assumptions and expectations at the higher level. This does not mean necessarily that all lower level goals must have a corresponding upper level goal which it helps to facilitate. In fact, there may be instances when no clear correlation can be drawn between the two. The important point here is whether or not the program goal conflicts with the institutional mission or any stated institutional goal. If the response is affirmative, in either instance, the program goal is inappropriate. More often than not when this conflict occurs, the problem is in the correct statement of the goal rather than the goal itself.

Like institutional goals, program goals can also be expressed in terms of long and short range expectations. The time phasing, in each case, usually is not as long as in the case of institutional goals. For instance, short range program goals span the present or the coming fiscal year, while long range program goals may cover a period of up to five years. Certainly there are exceptions to this rule, but this is usually the case.

Since these benchmark expectations pertain to a particular operation, it is only natural that the individual responsible for that program be also responsible for setting the program goals. Though the development responsibility rests with the administrator or director, it is most desirous that the immediate subordinates, especially those with program responsibility, have some input into the final goals of the program. This may be accomplished by the program administrator requesting suggested changes in the existing goals or proposed new goals accompanied by sufficient documented reasoning. When there are subprograms within major program areas, the major program administrator will request proposed program goals and review them within the framework of the major program goals. Consequently, it is imperative that these subordinates be aware of the goals under which they will be operating. Similar to institutional long and short range goals, the interrelationship between major and subprogram goals is too critical for conflicting expectations. Because of the potential for conflict, major program goals should be developed first, after which the "filtration process" begins and the framework is developed for subprogram goals.

Program goals are like all other goals when their rigidity is considered. They are not fixed; they are plans developed today in expectation of future events or situations. As present conditions

*The term "program" in this document refers to any operating unit below the organizational or institutional level, i.e., a division, a school, an adult education program, etc. The term also applies to administrative units, support units, or academic units.

or overriding considerations change, so must goals change; otherwise, the reason for planning is defeated.

Program Objectives

The process of setting program objectives is an extremely important component of the entire planning process for it is here, at the program level, that the institutional mission and goals are accomplished. Specifically, it is the implementation of program objectives and related activities that facilitates the accomplishment of program goals. This in turn provides for the achievement of institutional goals and ultimately the fulfillment of the institutional mission.

Basically, the development of sound program objectives allows the administrator to determine what is to be accomplished, when it is to be accomplished, and to provide guidelines as to what extent or how well the activities shall be performed. Essentially, this process of setting program objectives requires the following steps: (a) identifying the possible considerations for objectives; (b) finalizing those desired; (c) prioritizing those selected; and (d) writing the objectives in usable form to be effective tools in the planning process. The first two steps in the process are self-explanatory, but all objectives selected should be the ones that offer the program, and ultimately the institution, the most progress, benefits, and results. The third step involves separating the selected objectives in to four basic categories: (1) those that are essential, possibly determining success or failure of the program; (2) those objectives *necessary* for improved performance of the program; (3) those objectives *desirable* for improved performance of the program; and (4) those objectives *that can be postponed* to a later date. After this process, it becomes easier to determine operating priority in terms of time and commitment given by the organization in achieving its objectives. The last step involves the writing or documentation of the prioritized objectives. The finalized objectives should be written in simple straightforward statements, describing the results the administrator expects to achieve. They should be challenging, measurable, specific, limited in time, realistic in terms of organizational constraints, and representative of a commitment toward its accomplishment. For instance, the following are examples of well stated objectives:

> "To revise, update and publish the university catalogue for the School of Education by the fall semester of 1976."
>
> "To hire two new instructors to teach in the Division of Business Education by the fall semester of 1976, thereby reducing the average class size from 36 students to 25 students."

Furthermore, objectives can be thought of as four basic types: regular objectives, problem-solving objectives, developmental objectives, and personal objectives. A regular objective is routine, possibly repetitive or commonplace, but necessary; and it is usually a stabilizing influence. A problem-solving objective modifies performance and leads to a correction of a discrepancy, deficiency, or deviation in current level of performance. Developmental objectives are different approaches that lead to improved or expanded results and promote growth

and development. Personal objectives are individual efforts that lead to improved professional or managerial skills and the enhancement of career and individual growth. For example:

Regular objective:

> "To revise, update, and publish the university catalogue for the School of Education by the fall semester of 1976."

Problem-solving objective:

> "To hire two new instructors in the Division of Business Education by the fall semester of 1976, thereby reducing the average class size from 36 students per class to 25 students per class."

Developmental objective:

> "To develop and administer a management by objectives workshop for second-level managers in the institution's administration, prior to July 4, 1976."

Personal objective:

> "To research and review 10 different universities without walls programs in other institutions by June 1976, in anticipation and preliminary to recommending this type nontraditional education program to the president of the college."

It is the ultimate responsibility of the program director to determine the objectives relative to any particular program operation. The responsibility for developing sound objectives is the same regardless of where the particular program is listed on the organizational chart. The president must follow the same general procedures as the department chairperson, who, in turn, must follow the same general procedures as the supervisor of the typing pool. The degree of impact on the total organizational structure may differ, but the task of planning through developing sound objectives remains constant. The individual responsible must constantly answer questions such as the following:

Are the objectives realistic?

What is the order of priority?

Have the objectives been stated clearly and precisely?

Have the objectives been properly quantified? (percentages, ratios, numbers, dollars, time, volume, etc.)

Do the objectives fall within the scope and mission of the institution?

Do the objectives require the cooperation of other departments or units? If so, have these operational units been consulted as to the impact on their operation and the expected cooperation?

Can accountability for final results be clearly established? If so, has it been established and is it realistic?

Will the expected results justify the costs in terms of time, money, and other resources?

Nonquantifiable Objectives

In some instances, objectives may not be quantified. This situation is usually corrected by describing a condition that should exist when the objective is attained. Another means of handling this situation is to identify specific activities that should logically lead to improvement. For instance, "to implement an improved system of communication with part-time and evening faculty members during the 1976-1977 academic year," is a nonquantifiable objective. The measure of performance is denoted by the addition of a statement such as: "This objective will be realized when the existing system is evaluated, a biweekly faculty bulletin is implemented, a means of distribution is established, and a monthly evening rap session has been established." The addition of this final statement does not quantify the objective, but it does stipulate a set of activities that should logically lead to improvement.

The Filtration Process (Vertical & Horizontal/Institutional to Program)

It is noteworthy that after certain institutional objectives are delineated, they must be filtered into each administrative level and operational unit concerned with the ultimate implementation. For instance, consider that the Executive Council of XYZ University has decided that there is extreme underutilization of classroom space and that more economical use of these facilities is necessary. Consider further that the existing average class is 17 students, and the optimum average class size is 25. Consequently, the Executive Council's directive is incorporated into the institutional objectives with the following documentation: "To increase the institutional average class size from 17 to 25 students by the end of the 1978-79 academic year."

The president, having chief operating authority, then decides that this institutional objective falls within the scope of academic affairs and thus delegates the responsibility for achieving this goal to the Vice President for Academic Affairs. The vice president now incorporates this goal into the operating plans and projections for the coming period, and one of the objectives for the Office of Academic Affairs may be similar to the following: "To discuss and reach agreement with each academic dean on the average class size necessary for each school in order to achieve an average institutional class size of 25 students by the end of the 1978-79

academic year." This objective is now incorporated by each academic dean and coordinated by the Vice President of Academic Affairs. For instance, the dean of the School of Liberal Arts may set the following objective: "To achieve an average class size of 27 students in the School of Liberal Arts during the 1978-79 academic year, to achieve the original institutional goal of 25 students by the end of fiscal 1978-79." From this level, the original goal filters down through the levels of authority and is incorporated into each, to achieve the original goal developed by the Executive Council.

The preceding example of the "filtration process" is relatively clear-cut. The responsibility for achieving the initial goal fell within one individual's scope of authority, and as such, could be easily incorporated into the line-staff operating levels. Some question could be raised as to the reason admissions was not a part of the goal achievement process. But a number of assumptions were made for simplicity in showing the process by which institutional goals are transferred into program objectives. The example reflects basically a vertical filtration process (Figure 4), although some horizontal movement is shown at the academic dean level.

From this example, the potential complication in terms of authority and responsibility can readily be seen when situations involving vertical and horizontal filtration are necessary for achieving stated goals or objectives. For instance, suppose the president of XYZ College has decided that one of his medium range goals for the institution over the next three years is to reduce student attrition at the institution by 75% over the next three years, bringing the third year's attrition to 15 students. In addition, consider that the president decides to give ultimate responsibility for the accomplishment of this goal to the Vice President for Student Affairs. The Vice President then incorporates this institutional goal into a program goal similar to the following:

> "To discuss with the Dean of Men and the Dean of Women, and all councilors, ways of reducing the present student attrition rate to 15 students by the end of fiscal 1978."

Though the major responsibility for the accomplishment of this goal has been assigned to the Vice President for Student Affairs, the actual accomplishment may require active participation of others, such as the Vice President for Academic Affairs, the Director of Institutional Research, and possibly even the Director of Institutional Planning. At some point, each of these individuals involved must incorporate some phase of the initial institutional goal into their individual program goals.

The horizontal nature of this filtration is reflected in the fact that these individuals may be on the same administrative level, though their titles may be different; and to some extent, their authority is different, as reflected by their titles. However, in many cases, the level of academic preparation may be the same. Cooperation among these individuals is extremely critical because there is no vertical authority present, and thus no superior/subordinate relationship to achieve a stated objective. Though this horizontal filtration process is necessary for the operations, it presents a great potential for conflict and must be handled wisely. This process is shown graphically in Figure 5.

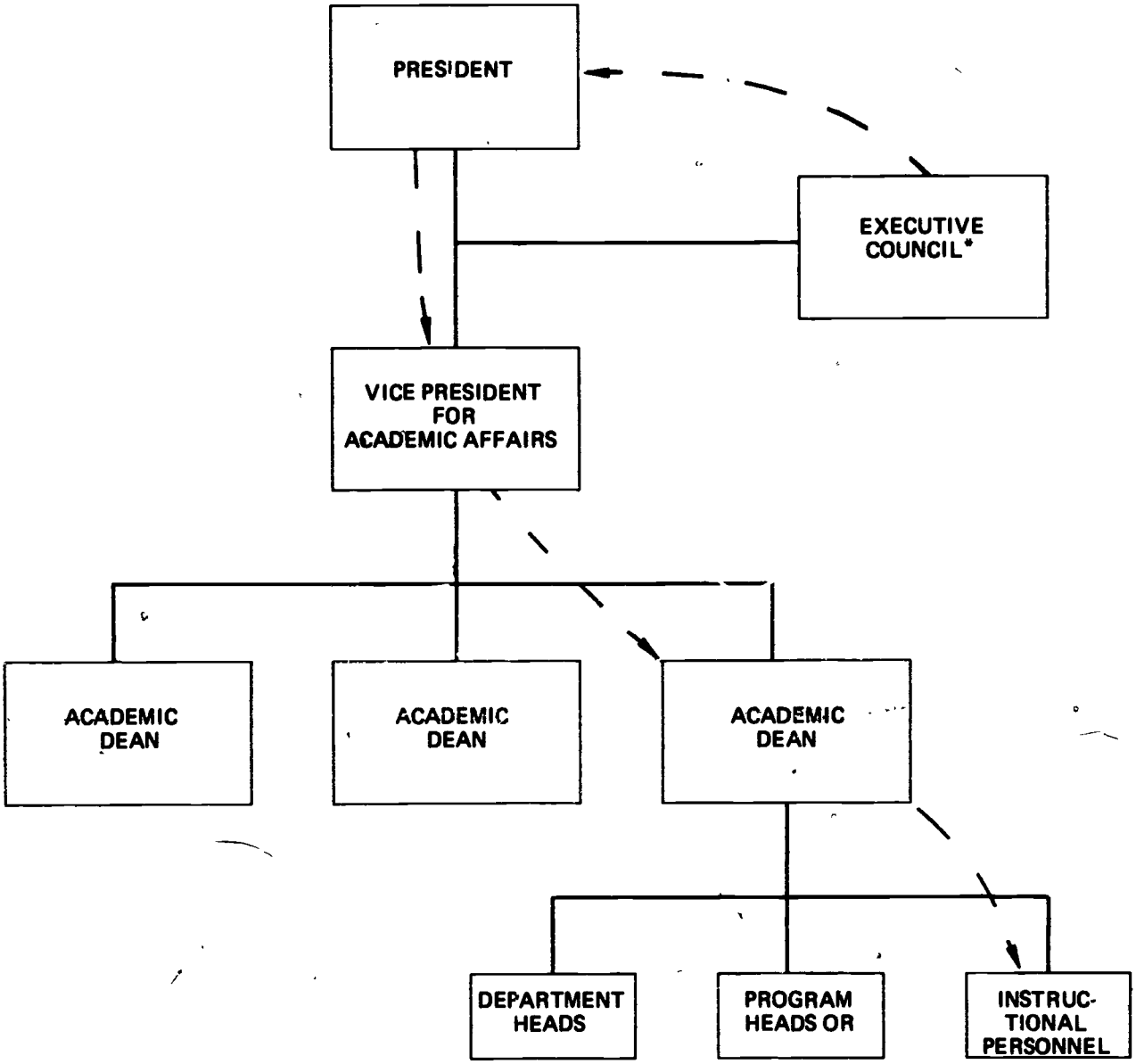
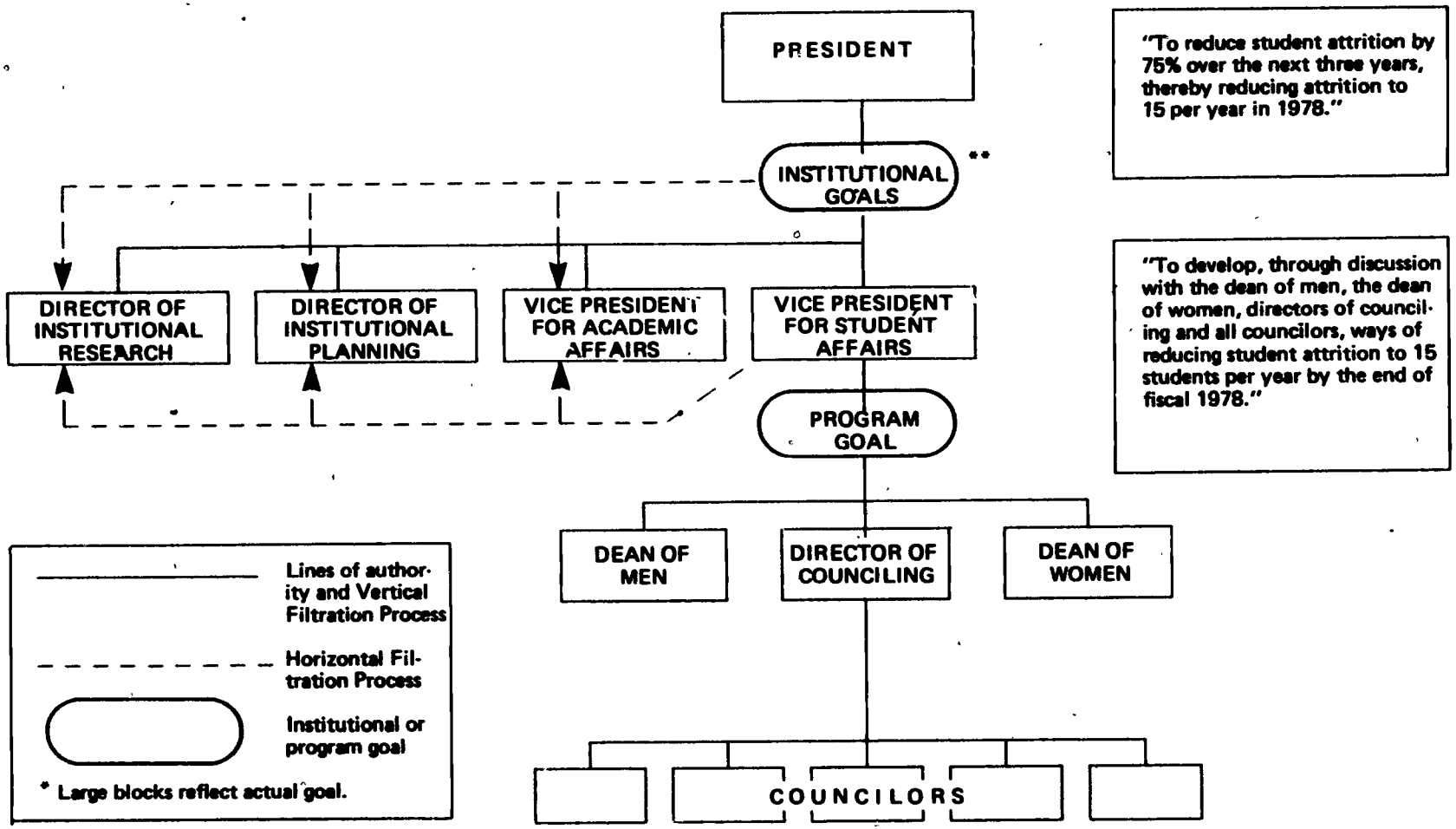


Figure 4. Vertical Filtration Process

*This council includes the president of the institution. The diagram reflects the officiality of the president getting institutional goals rather than the executive council dictating the goals.



**The horizontal filtration process is reflected by the fact that the V.P. for Academic Affairs, Director of Planning, and the Director of Institutional Research would develop individual program goals to help accomplish the one institutional goal.

Figure 5. Vertical and Horizontal Filtration Process

The following comparison has been developed to summarize certain points about sound objectives:

Sound vs. Poor Objectives

1. Sound objectives are stated in terms of end results, whereas poor objectives are stated in terms of activities or processes.

2. Sound objectives are achievable in a specific period of time, poor objectives have no definite time consideration.

3. Sound objectives are realistic and attainable; poor objectives are idealistic and/or theoretical.

4. Sound objectives have relevance beyond the immediate unit and, thereby, impact upon the total organization. Generally, poor objectives are of no real consequence beyond the immediate unit.

5. Sound objectives are stated as clearly and precisely as possible, and are stated in terms of quantities. Poor objectives are ambiguous, too long or complex, and generally indefinite in terms of numbers.

6. Sound objectives are clearly within the mission of the institution. Poor objectives are either unclear in relationship to this point or are clearly outside of the institutional mission.

7. Sound objectives are consistent with available or anticipated resources; poor objectives are obviously too costly

8. Sound objectives are stated in such a manner as to show commitment. Poor objectives involve no real commitment.

9. Generally, sound objectives tell what and when, poor objectives tell why and how.

SECTION C: A PROGRAM PLANNING SUBSYSTEM

In order to establish program planning on a recurring basis, an annual cycle should be established to provide for the evaluation and coordination of program plans in line with institutional goals, and to help coordinate annual budget requests with a detailed projection of long range needs. There are six major phases of the annual planning cycle:

1. **Organization Phase**: The PPBS cycle for the coming academic year is organized immediately, following the end of the current academic year or following

the submission of the institution's budget to the Board or to the State Legislatures. Revised central forecasts of future projections and program needs prepared during the past academic year are submitted to each program area to aid in planning and programming.

2. **Program Report Preparation**: Each program area begins the preparation of its program planning reports before the start of the new fiscal year.

3. **Planning Team Conferences with Each Program Area**: Conferences are scheduled by the planning team with persons concerned with planning within each program area to discuss the major policy issues and administrative aspects and implications of the program reports that were submitted in Phase 2 This provides the president with a general analysis and evaluation of major trends of the college or university programs.

4. **Program Coordination and Summarization**: The program plans are combined and analyzed for planning and budgetary implications. Meetings are held with the program representatives to clarify policy issues and problem areas, prior to the submission of their budget request.

5 **Integration of Program Plans and Budget Requests**: The program budget requests should be presented nearly four months after program plan reports are examined in relation to those program plans. During formal budget hearings, program directors present budget requests in the context of their program goals. This is the essence of the program budget structure.

6. **Institutional Budget Development**: The proposed institutional budget is developed in accordance with the priorities and resource requirements of the coordinated program plans. The research/planning office, with the planning team, prepare jointly a monograph describing in some detail the purpose, scope, procedures, program plans, and administrative plans for the program budget.

Dates for these six phases of the planning cycle can be stipulated well in advance so that each person involved in the planning process has prior knowledge of target dates and information required. Internal planning cycles for each program area also are established.

The PPBS could be the basis on which an institution meets the challenges of the future through analysis of present activities. When evaluated properly, these activities lend direction to changes that should be implemented in both short and long range time frames. The PPB System is of a continual and iterative nature, such that the outputs of one cyclical element become the inputs to the next element in the process. Basically, PPBS utilizes people to plan activities, implement the activity plans, and evaluate the results of the activities to insure that objectives have been reached and goals have been met. Program planning is accomplished through the institutional component responsible for planning, in this case the long range planning committee.

Program budgeting is accomplished by the institution's administrative and operational organizational structures. Evaluation is accomplished through the administrative structure and via a special component, such as the Evaluative Committee, or the Long Range Planning Committee.

Planning Process/Guidelines

Program budgeting involves a conceptual revolution that belongs not to the business office but to the academic departments. Budgeting and planning actually comprise a unit which is different from the control process. For this reason, the business manager is best served if he or she is permitted to convert the program budget into a line-item budget for control use. Therefore, the budget should be readily convertible between program form fiduciary or control form with equal facility. Data processing procedures can be designed to accomplish this conversion, and they are worth the effort. However, all the materials that go to the vice-presidents, deans, and departments for budget development should go in program form. This means that the business manager should also use a program budget to plan his part of the college operation.

Although faculty members and administrative officers are likely to find the logic of program budgeting attractive, its implementation will not be easily accepted. In its initial stages, it does require more paper work and involve unfamiliar ways of considering problems. It is best to introduce the system slowly, allowing about four years for complete development. Supportive routines can be effected first and then the principles can be explained as each individual finds the routines useful. By implementing the three general objectives of the system in sequence, each process can take a firm hold before the next is introduced.

The first step is to increase participation in budget making. At the same time, the campus community can be introduced to the general terminology even though it will be several years before a true program budget is in operation. In most colleges, the budget is developed by sending each department chairperson a statement showing the current year's budget and the amount to be expended under each line item up to the time that statement is received. The chairperson proposes the level for next year by filling in the blank beside each line item and then returns this budget form to the business office. Customarily, if his or her requests have not exceeded a predetermined inflationary allowance, this budget will be approved. If the chairperson requires an especially expensive increase, he or she will usually have to discuss it with the business manager and occasionally with the president. One or the other will approve or disapprove the increase on an ad hoc basis. As the last step, the chairperson receives a printed statement of the approved budget, usually at the beginning of the new fiscal year.

Step I

Since this is the familiar procedure, it provides the best starting point for implementing program budgeting. Within the strategy being presented here, the first three steps of budget development should use the business office's line items rather than true program elements. The

emphasis, in the first round, is on increasing participation in the budgeting process. Department chairpersons should consult their colleagues in developing the budget and be prepared to support their requests for each line item with sound educational reasons.

The chief academic officer may begin by holding an individual meeting with each department chairperson, during which he explains to the chairperson that budget development in the educational area is now the responsibility of the educational line officers and not the business manager. The chief academic officer should give the chairperson his or her budget for the fiscal year about to begin and ask him or her to begin work immediately, with the department, on a budget for the next fiscal year.

In this first round, the budget form should contain all the line items normally used by the business office, a column for the approved budget of the fiscal year about to begin, a column to be filled in by the chairperson for the next fiscal year, a column showing the size of the proposed difference between the two fiscal years, and a column showing the percentages that these differences represent. Although true program budgeting will not exist for several years, it is worthwhile to introduce the terminology at this stage by listing the department's total effort as a program and labeling each of the budgetary line items as a program element. Similarly, the whole educational (teaching and research) budget should be labeled as a program category in the overall college budget.

(At this point, some allowance must be made for the administrative structure of the college. The chief academic officer may be called the academic vice-president, dean of the college, dean of faculty, or provost. In some colleges, the department chairperson reports to the dean of a separate school. In this case, the dean of the school should meet with the chairpersons who report to him or her and the deans should then work with the chief academic officer to produce an educational budget. The term dean will be used to refer to the person to whom the chairperson reports. In most cases, this term also refers to the chief academic officer, whatever his or her real title may be; but it may also mean the head of a school in a college structured as a group of schools.)

Determining Objectives

While the dean is reviewing the mechanics of budget submission with the department chairperson, ways of determining departmental objectives and priorities should also be discussed. Departments should discuss their teaching and research objectives as they are considering their budget proposals, and should be asked to write out these objectives and submit them to the dean, along with their budget.

Department members should also be requested to design the programs they would like to implement if there were no financial constraints on their department. Though this planning exercise should ignore monetary restrictions, it should not be aimed at developing a department which would be incompatible with the general structure and objectives of the college. What

it should do is suggest programs that would produce the best possible teaching and research unit in that discipline for that particular type of college. As another step in this basic planning exercise, department members must consider which parts of their program they would eliminate, in which order, if dramatic budget cuts were necessary. Naturally, departments will require considerable reassurance if they are to undertake this second exercise honestly. They must also try to make it a realistic one by paying attention to factors which affect their decisions, such as tenure.

Submitting and Justifying the Budget

Each department should have a month to submit its proposed budget. After the dean's office has received the proposal, the increment and percentage difference columns should be filled in by the college data processing office. The dean should then review the budget proposals and ask for details on those items that require explanation.

The form of the budget needs to be more than a line-item presentation of dollar amounts. A minimum format requirement is the visible connection of activities and dollars in order that continuing and new commitments for program elements can be evaluated. Many forms have been developed for this purpose. But the major features of all such forms are the realignment of budget dollars to fit program elements and the presentation of verbal explanation in addition to the numbers.

The sample form, a "Program Element Support Sheet," would show the name of the program, the name of the program element, and the proposed cost which will be filled in later. The remainder of the form will be used to complete a written justification for including each program element and for the level of support requested. The dean's office staff fills in the identifying data at the top and then sends the appropriate Support Sheets to each department chairperson. The chairperson is asked to return the completed forms in approximately one month. Again, the chairperson should discuss these Support Sheets with his or her colleagues and have their assistance in justifying each budget item.

After the Support Sheets have been returned, they can be combined with the budget forms for all departments to make a book. For each program, the dean should write a supporting statement that includes his or her recommendations for any support levels which differ from those proposed by the department, as well as his or her views on any unusual increases or decreases proposed by the department. The dean should also write a supporting statement for the entire educational program category, explaining any changes in emphasis which cause changes in the relative levels of financial support suggested for each program.

Other officers of the college should be following the same procedures within their divisions at the same time. Although the responsibility for developing the system and supervising its general operation (including supervising the dean's assistant for budgeting) rests with the chief

academic officer, the business manager should be obtaining program budgets for the departments he or she supervises. The same should be true of the development officer and the dean of students if they happen to report directly to the president. Nonteaching units which report to the dean, such as the admissions office, financial aid office, library, and registrar's office, should follow the same procedures as the teaching departments.

Cost Center Versus Program

All officers of the college must understand the distinction between a cost center and a program. Cost centers are defined according to administrative convenience and usually correspond to departments or offices. The aggregate line items and categories of the fiduciary budget, produced by the business manager for control purposes, are related to the cost centers and groupings of cost centers. These reflect the assignment of responsibility and authority within the institution. They are created and revised to control expenditures and do not correspond, except accidentally, to programs. They are designed to channel the documents required in financial control procedures and communications, and not to provide a conceptual base for reviewing and planning educational objectives. Programs serve this latter function.

Most frequently, a cost center administers a single program, but there are always exceptions. The same relationship applies to administrative divisions and program categories. Although in many cases a division head administers only one program category, it is often convenient to group program categories with diverse objectives into a single administrative division. Because the subdivisions and the program groupings serve different functions, it is undesirable to stretch programs to make them fit cost centers or to reorganize administrative structures to satisfy the logic of programs or program categories. For example, it may be sound administrative practice to have the teachers of astronomy and physics in the same department. The types of equipment they may need show enough similarity that a single chairperson can sign all the requisitions and organize the budgeting procedures. On the other hand, it does not make sense to treat them as part of one program and list courses which belong to clearly diverse disciplines under a single name, such as physical science, unless the faculty members want to deal with their subjects in an interdisciplinary way for sound educational reasons. Administrative divisions must be determined by administrative convenience, and programs and program groupings must be determined by educational planning considerations.

The President's Role

The final stage of budget review begins when the president makes preliminary decisions about the levels of support available for the various programs. The dean should review these decisions with individual chairpersons, explaining all cases where the level assigned by the president differs from the department's proposed level. Each chairperson should then have the opportunity to return to his or her department and discuss possible alternatives to any deletions or reductions proposed by the dean or the president. Though the dean and the president should not modify the level of support approved for a part of the program, they should be very flexible

in allowing the department to propose alternate ways of reducing the overall program to the approved level of funding.

As soon as the dean and the departments agree on the level of support approved for each program, the president should submit the budget to the trustees and have it approved in final form. The entire review process described above for this first cycle should not take more than six months. Once the budget has been approved in final form, changes should be made only on the basis of carefully substantiated changes in circumstances.

A formal method of requesting changes to the approved budget should be adopted to accomodate reallocation of dollars and special situations. Forms should be similar to the original budget support sheets. A change form should be used to transfer funds from one program element to another without increasing the total approved level of the program. A supplement form should be used when the change requested does increase total program costs. The department chairperson uses these forms to state what circumstances or opportunities make these changes necessary. Neither changes nor supplements should be initiated orally. To do so, even in the most obviously meritorious cases, creates an atmosphere which is detrimental to sound institutional planning. While informality may be helpful in many administrative areas, loose budgetary procedures are certain to be misunderstood by some individuals either as hasty decision-making without reference to institutional objectives or as evidence that political considerations influence budget decisions.

Step III

This description of the first round has established the procedural parts of the budgeting system and has demonstrated each participant's role. The aim of the second cycle is to introduce a stronger planning component, both by moving the budgeting process six months ahead of its usual time and by tying the budget of each program more closely to its objectives. The first cycle started at the beginning of the fiscal year when the last budget using the old system had just become operational. If the suggested time sequence is followed, that budget will be final and announced half way through that same fiscal year, six months before it goes into effect.*

Work then begins on the second budget cycle, which reinforces the procedures introduced in the first round and adds new ones that will carry the college further toward a true program budgeting system. First, by shortening the total process from 6 to 3 months, a concrete budget can be produced 15 months before it becomes operational. Second, the departments and offices of the college can deal with program objectives more competently and at greater depth as a result of their experience with the first budgeting cycle.

In general, the second sequence resembles the first. Line-item budgets are sent to each department chairperson for each program that is his or her responsibility. At the same time, the

*Note: For most state supported schools, it is probably not possible to have the budgets approved under these conditions.

statement of departmental objectives that he or she developed and submitted earlier is returned for revision. The chairperson is requested to return both of these within one month. The dean's office then reviews the budget document within two weeks of its return and sends the Support Sheets to the chairperson promptly. In this cycle, the chairperson and the dean should relate departmental objectives to the Support Sheets and the budget line items. A form should be sent for each line item that is not covered in the objectives or that conflicts with them. The dean should also send a memorandum pointing out these discrepancies justified on a Support Sheet. All these forms and revisions of departmental objectives should be returned to the dean's office within three weeks after the chairperson receives them. Although this schedule leaves slightly less than one month for preparing the final budget, it should be possible to complete it on time because everyone involved is now familiar with the process.

Step III

When this cycle has been completed, a concrete budget proposal will be available one year and three months before the beginning of the fiscal year in which it will become operative. The third cycle produces a budget in concrete form two years before it becomes operational. Work on this round begins as soon as the second cycle has been completed, and, like the second, this budget must be completed within three months.

This third cycle is the last training round. All the procedures previously described are followed, again with certain additions. Although department chairpersons are again sent a budget which lists line items under each program, they are introduced to a method for assigning budget items to programs. The third budget cycle uses all of the routines described above, but with even more emphasis on reviewing objectives.

During the final stages of budget development, the dean should begin working with the chairpersons on regrouping the line-item amounts into programs. This process is best commenced when the dean discusses possible modifications of the preliminary budget with each chairperson. Before this meeting, the dean and his or her assistant should already have outlined the ways to relate departmental objectives to program elements and to reassign line-item amounts to these elements. When the dean discusses these with the department chairpersons, the dean should give them his or her suggestions and ask that the departments attempt a final grouping of program elements for use in future budget cycles. The department should be given only about a month for this project.

Step IV

After each department returns its classification of program units to the dean, and both the dean and the dean's assistant review them, the first true program budget for the institution can be initiated. By this time all administrative officers at every level have learned the routines involved in a program budget cycle, except how to use true program elements. This fourth budget is begun two fiscal years prior to becoming operational as is every subsequent

annual budget. This fourth cycle is the model to be followed every year as the normal program budgeting procedure in the institution.

Each department chairperson should review his or her usual budget papers, but this time the program elements are built around educational objectives. Faculty members can now review the objectives under each element, determine which of these still have validity, and delete some or add others easily because they have developed these program elements and they understand them. They should be able to propose a level of support for each program element and thereby develop a budget for the entire program. This is submitted to the dean and follows the review process previously described. As before, the dean submits a budget for his program category, this time supported by more specific overall objectives. Other officers reporting to the president should also develop their programs around program elements and sets of objectives. The budget development and review process should take approximately the first four months of each fiscal year, but as noted, should develop a budget for the third year ahead.

Developing Program Elements

Although the development of program elements may appear to be difficult to some department chairpersons, it should be pointed out to them that these groupings fit the usual modes of academic thought far better than the control line items used by the business office. Programs usually correspond to the standard academic disciplines and program elements usually correspond to generally recognized subdisciplines. For example, the chemistry department should readily see that general chemistry, analytic chemistry, organic chemistry, biochemistry, and physical chemistry form natural groupings for their objectives and, therefore, natural program elements. The history program can be grouped readily into such elements as world history, European history, Southeast Asian history, American history, and historiography.

Obviously, neither of these two examples is exhaustive and they may not conform to the way some colleges develop their programs or meet their objectives in these areas. The groupings must fit the objectives of the specific department in the specific college. Furthermore, the department should not strain to apply some generally recognized classification of subdisciplines if it does not fit their goals. It is even more unwise for administrative officers to try to impose some externally designed program budget classification system. Such systems may be helpful in working out the proper classification of programs and program elements on the campus, but they are not likely to completely fit any college's needs.

Assigning Costs to Programs

In practice, developing a proper set of program elements is far easier than assigning their true budgetary costs. During the fourth cycle, an assignment of costs should be attempted, but it is unlikely to be achieved in a completely satisfactory way for several cycles. Departments may dislike allocating portions of one individual's salary to several program elements but this resistance can be overcome with patience. Attempts to uncover dispersed costs vary in

difficulty, and some individuals in charge of nonteaching cost centers may feel threatened by having their expenditures allocated to teaching departments. For example, it will probably be relatively easy to allocate the costs of a language laboratory to the language programs and program elements. But assigning the costs of a separate audiovisual aids unit to the appropriate programs may be difficult unless very good records have been kept on the use of the equipment.

In a more troublesome case, the librarian is likely to want his or her function to rank as a program rather than as a supporter of the teaching and research programs. However, it is desirable to assign library costs to teaching and research; and this need should be discussed carefully with the librarian. The differences between the administrative structure, the cost centers, and the program structure of the institution should be pointed out to the librarian to emphasize that this change is merely a change in planning procedures and will not affect the librarian's authority or threaten his or her importance. Without the librarian's cooperation, determining the accurate cost of library support for each program and program element will be impossible.

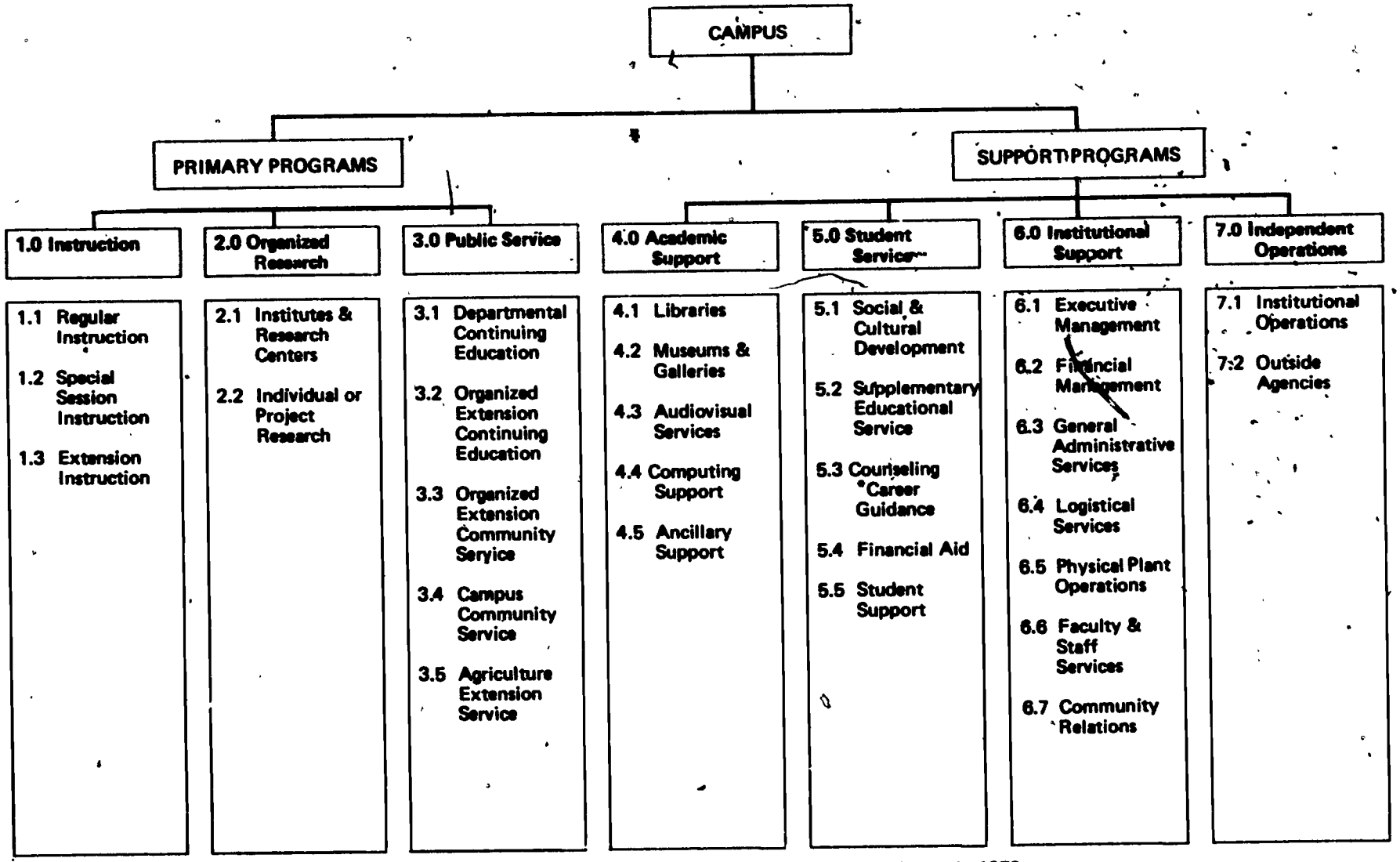
Budgeting Nonacademic Services

Developing a true program budgeting system outside the educational area also may present problems. The most significant nonteaching services of the college are likely to be supervised by the business manager, who may see these procedures as nothing more than an added burden. However, planning is as essential in the operation of buildings and grounds, dining rooms, the bookstore, and other cost centers of that type as it is in the academic area. It is no more difficult and just as necessary to develop objectives, programs, and program elements in these areas, in student services, and in the fund-raising area as in the educational sphere. Academic planning seems easier only because planning committees and self-studies are innate features of the professor's life. Nonteaching units of the college must be included in every stage of the system. Some of the program classifications described in the program classification studies of the Western Interstate Commission for Higher Education may ease the transition to program budgeting for the nonteaching units (for example, the Program Classification Structure, Figure 6).

In bringing them into the program budgeting cycle, the chief academic officer must have full authority over all the officers of the college. He or she should be able to specify the timetable for developing their budgets and the form in which each budget proposal must be received. In addition, this chief officer must review with them the adequacy of their supporting documents. In order to discharge these responsibilities he or she need not have authority to assign funds to these units. Responsibility for budget procedures and authority over allocation of funds can be kept separate if that fits the operational style of the institution.

Evaluating Alternative Programs

The development of alternative approaches to objectives requires special attention in the program budgeting system. In the first cycle, it was suggested that each department consider which new objectives it would add if financial constraints were removed and, conversely, which it



*Gulko, Warren W., *Program Classification Studies*, Western Interstate Commission for Higher Education, Colorado 1970

Figure 6. Organization of the Program Classification Structure*

would eliminate if funds were reduced dramatically. Beginning with the second cycle, the dean should insist that each department give good reasons for not proposing to support some program elements given in their list of possibilities. As part of the same evaluation, the chairperson should be asked to present sound reasons for not eliminating some low-priority program elements to provide funds for such support. Although the department is likely to give satisfactory reasons for its choices, this procedure will promote a careful evaluation of all possible educational objectives. Similarly, the dean should develop a list of future programs he would like to implement if funds become freer, and a set of priorities for eliminating some programs if financial support becomes restricted. The president, in turn, should ask him or her to state the reason that some of the proposed programs should not be implemented at the expense of some of his or her low-priority programs. These procedures should also be applied to all divisions of the college, such as student services and others that report to the chief business officer.

Using Faculty Committees

Faculty committees should and can be involved in these procedures. Naturally, their role must fit the committee structure and operating principles of the college. The curriculum or educational policy committee of the college can perform an important function. In most colleges, this committee normally reviews all new programs and courses proposed by departments or individuals. If the committee members place each course in the context of its program element, they can insist that complete resource implications of any new proposal be presented to the committee at the time the committee considers it. It is also desirable for the dean to ask this committee to review and evaluate the stated objectives of each department. The role of this committee in the development of the educational budget should be a strong one. It should exercise extensive control over the development of new program elements and programs, and should provide the dean with sound advice in developing the objectives for the educational program category.

If a faculty budget committee exists at the institution, it also can be easily integrated into program budgeting procedures. It should advise the president in his evaluation of objectives presented by the heads of the various divisions and, depending on the authority granted it, assist in deciding how to allocate resources to these divisions. Members of both types of faculty committee will find that under program budgeting, control over institutional resources basically is held by those who operate the programs. Whether or not faculty authority is exercised at the highest level of budget decisions, the important decisions are made at the department level.

Administrative Structure

Variations in administrative structure have little effect on the implementation of this system. It works just as well in a college which has divisions as it does in one with departments. As emphasized before, the system is built around the activities which implement the objectives rather than around cost centers and is therefore adapted to any structure of cost centers used in the institution.

SECTION D: PROGRAM ANALYSIS

The process of program analysis provides a systematic means of evaluating existing or proposed programs of the institution in an organized effort to optimize operating efficiency and program impact. Furthermore, program analysis provides a means of helping to ensure that all operating programs are in tune with the institutional mission, goals, and objectives.

The actual process is basically composed of three elements:

1. Preparation of detailed drafts of all operating programs projected over multi-year planning periods

2. Review of these projected plans

3. Approval or disapproval of program plans.

The basic output of the program analysis process is the development of an approved multi-year program and financial plan for the institution. This document is usually referred to as the Multi-Year Plan (MYP). It is basically developed in three steps, which are an extension of the three elements of program analysis mentioned previously:

1. Using planning guidelines, each academic department reviews its current program's operations in terms of impact, efficiency, costs, resource requirements, etc., and develops recommendations or projections for the future (see *Program Analysis-Academic Dept.* for a further discussion of planning guidelines).

2. Support and other nonacademic programs review their current operations and resource requirements, and develop a set of recommendations or projections for the future.

3. The various recommendations and projections from academic, support, and other nonacademic programs are reviewed, analyzed, and modified, then combined to produce the Multi-Year Plan.

Program Analysis—Academic Departments

Institutions of higher learning are built on their academic programs, though they have tremendous impact in many other significant areas of human existence. Consequently, it is an extremely critical part of the planning and budgeting process when academic departments and/or programs are asked to make an indepth review of their programs and priorities. The job is to develop programs that facilitate the accomplishment of the mission, goals, and objectives of the institution, while continuously creating alternative programs that fit within its financial parameters. The problems arise when reflection is made on the conditions of each, because both are changing. The institutional mission, goals and objectives are changing to correspond to the role of educational institutions in relationship to the needs of a continuously changing society. This is compounded by the fluctuating conditions of financial resources. These conditions make the review

process more difficult; but, as a result of these conditions, the review process becomes more necessary.

The review process should consist of an examination of each program currently offered by the department. The examination should consider the content and efficacy of each course in contributing to the success and quality of educational programs within the departmental structure. The analysis should answer such questions as: Is this course or program continuing to be relevant to the needs and/or demands of the students, or society? Is the cost of providing the course/program within the economic horizons of the department? Ultimately, should the institution be replaced, amended, or changed in some other way to correspond to the needs of those concerned?

The departmental analysis will focus primarily on academic programs; however, each department must consider its projected resources and needs in relationship to its academic activities. When considering these resources, it is important to include support resources along with materials, personnel, and other direct cost. This subject is covered in more detail in the next section, Support Departmental Review.

Once each department has formulated its projected program activities on the departmental level, it submits these plans to the PPBS Planning Team through the Policy Committee at the institutional level. The policy committee then reviews these plans and submits them to the analytical studies committee of the PPBS Planning Team for indepth review. Once this review is completed, the departmental projections, along with recommendations of the analytical team, are returned to the policy committee for final decisions before the multi-year plan is prepared. A more detailed description of this process is shown below.

Program Review Procedure: (Departmental)

The academic program review procedure at the departmental level has approximately five steps which can be modified to fit the needs of individual college circumstances. These steps are outlined below.

1. **Review Planning Guidelines:**

   Planning guidelines are a common base from which all operating units (academic or non-academic) can perform their annual planning. They typically cover the following areas:

   Review of Planning and Budgeting Procedures—Each year the institution may make changes in its PPB procedures. This component of the guidelines specifies the timing and content of various submissions to the president and/or trustees of the institution. Also, the timing and content of all submissions to the PPB Planning Committee are stipulated. Furthermore, any detail on how the various activities in this planning process are to be scheduled would be helpful to departmental and support personnel.

Statement of Mission, Goals, and Objectives—Each year, there should be a review of institutional goals and objectives. During this review, the institutional mission should be considered. This is not to suggest that the mission and goals should be changed as often as each planning period; but the mission and goals should be considered or reviewed each year. On the other hand, objectives are more short-lived, and thus have a tendency to change more regularly. Some of the considerations would include questions such as: At what type of students are the programs aimed? What type of programs are offered? What type of programs should be offered? What type of academic environment should be constructed, etc.?

College Organization—This component provides an opportunity for the president to make announcements of recent or forthcoming changes in the college organization and/or staff appointments.

Review of Resources—This component provides an opportunity for individuals and teams involved in planning to review the facilities and staff now at the institution's disposal. Any changes should be mentioned.

Review of Environmental Factors—While the statement of mission, goals, and objectives has been included previously, this component allows analysis and reasoning for the institution's position on the following:

- the type(s) of student the institution is trying to reach
- the institution's position in the spectrum of institutions of higher education within the city, state, region, or nation
- the institution's emphasis on career and general education
- efforts of the institution in community or social involvement on a local, state, regional, or national basis.

Environmental Assumptions—These are projections concerning economic environmental conditions during the coming fiscal year. Institutional assumptions will be made concerning changes in areas such as:

- sources or amounts of support
- trends in wages, salaries, and prices at the local as well as state and national levels
- policy on fee increases or other such revenue changes
- other local institutions that may affect the one in consideration in the foreseeable future.

Review of Institutional Policies—All institutions have a number of implicit and explicit policies that directly affect their personnel and their operations. Some of the more critical policies that should be included in the planning guidelines are:

- policy on teaching staff work load
- policy on class size
- ratio of teaching staff to support personnel
- the number of hours each day that facilities are actually used for scheduled activities
- fringe benefits for staff
- hours per week and the number of weeks that courses are taught
- tuition and other fee levels for full- as well as part-time students
- salary scales
- faculty involved in research, public service, and administration.

Enrollment Forecast—Successful application of programming, planning, and budgeting in any institution that is going to be more than an inconsistent response to immediate pressures for change requires critical attention to enrollment projections: Is enrollment increasing, decreasing, shifting, or remaining stable? Long range as well as immediate planning require enrollment projection by total students, status (freshmen, sophomore, junior, senior, etc.), major, and/or program. The more accurately this can be accomplished, the better prepared the institution is to plan its staff and facilities' needs, or to cut its costs, as the particular situation warrants. It is important to give the same assumptions to each individual involved in the planning function.

Request for Proposals—The PPB guidelines culminate in a formal request by the president to submit program plans and proposals to the PPB Planning Team. This officially begins a new PPB cycle. The basis for this planning cycle is the review process at the departmental level with the program and resource requirements over the next five years, and emphasis on the next year.

Departmental heads or departmental level planning teams review these planning guidelines in order to construct the proposal for submission to the PPB Planning Team.

2. **Review Program Structure and Teaching Methods**

The next step in the program analysis procedure is a departmental level review of all programs within the department. Furthermore, a review is made of all courses in each

program, and finally, a review is made of the content of each course. During this analysis, answers to the following questions should provide significant input for the departmental program review. (These are only some of the questions that should be asked, others should be developed to meet the particular needs of the review team.)

- How can the programs, courses, and the course content be improved?
- What would be the comparative costs associated with any planned improvement?
- Are new programs needed to meet certain goals or objectives (institutional/departmental) that are not presently being met?
- Are present teaching methods effective?
- How might these teaching methods be improved to increase the learning process?
- What would be the comparative costs of new instructional methods?
- Are all texts up-to-date, or are they the best for the instructional method or approach being used?
- Does the institution have community involvement as one of its objectives? If so, do the programs within the department reflect any significant impact on the community?
- Should some of the programs be deleted or should some of the programs be expanded?
- What would be the comparative costs of any of these changes?

3. **Perform Indepth Evaluation of Any Program Alternatives and/or Possible Changes in Teaching Methods.**

As the review team begins the process of analysis, many questions will arise concerning programs. As a result of these questions, issues and alternatives will emerge. Some will be major and others will be minor; but attention of the analysis team should be focused on the most important changes and those that will have the most impact on the learning process, or the departmental/program operations. At this point, it is important to remember that whenever changes are considered, there must be costs associated with these courses of action. Consequently, the question asked each time should be: What are the comparative costs for all of the alternatives available?

4. **Establish Departmental Priorities**

An integral part of the program analysis process is reviewing departmental priorities and developing new ones if necessary. This review of priorities extends into each program area. The finalized priorities of one department or one program to another need not be

consistent or the same in any way. The decision as to which department or program's priorities fit best within the institutional mission, goals, and objectives given the present and proposed resources will be decided at a higher level of planning. For this reason, it is important that program priorities be established with consideration for departmental priorities, goals, and objectives. Likewise, departmental priorities should be established with consideration for the institutional mission, goals, and objectives. This situation is reinforced by the issuance of planning guidelines each year.

5. **Departmental Analysis of Economic Impact of Proposed Changes**

Though resource allocation is not within the sphere of authority for academic departments, they should be required to provide projected or expected costs and revenue implication of their activities and priorities, over the next five years.

Support Area Program Review

Review of the various programs in academic departments corresponds to a similar review of support and administrative facilities required to serve the college during the academic and fiscal year. Examples of these areas are: student services, business office, library, office of admissions, office of the registrar, office of development, physical plant, maintenance, cafeterias, dormitories, sports facility, and any other area that does not fall within the classification of academic departments.

The process by which academic departments review their programs and other activities also applies to the support area review. Some modifications are made to reflect the inherent difference in the nature of the two areas. The following narrative will delineate these differences.

Administrative and support areas review their activities and expected activities in relationship to projected enrollment figures, control requirements of the institution or state regulatory bodies, and other guidelines oriented toward the economics of operations. These units operate more like traditional business concerns than do academic departments. This is not to suggest that academic departments should not be more conscious of cost/benefit. But, given the nature of their individual function, they are knowledge-oriented and, as such, are more concerned with the learning function rather than the day-to-day business and support function of the administrative departments and operational units. Consequently, operations of administrative and support programs should be subjected to a program review process, with operational efficiency as its basis for evaluation. Questions should be raised concerning adequate staffing: Are we overstaffed or understaffed? Does the existing staff perform at an acceptable level? How can we provide better services? How can we cut our costs and still operate effectively? Is there new equipment or are there methods of operating with which we are not familiar?

The timing of the program analysis review will vary from one institution to another, depending on the particular circumstances. However, usually the preference is to schedule this phase of the total PPB review after completion of the academic review. The expected outcome

of this design is that supportive areas will be considered in light of revised program activities. To review supportive areas along with academic areas may not allow enough separation of function to provide for adequate and impartial analysis. On the other hand, if the support review preceeds the academic review, then it would suggest that the academic activities depend on the available support services. The point is that to a great extent academic activities and support activities are interdependent, expanding together and existing within the reality of the confines of each other.

For this reason, coordination of the academic and administrative/support program review requires specifically designated communication arrangements between all individuals and operational areas concerned. The importance of this cooperation is exemplified in the fact that though education is the main function of colleges and universities, the support resources called for by a new program recommendation may reflect greater costs and thereby a greater drain on total institutional resources than the direct instructional costs.

The College Review Process

The formal process of review starts at the program level within each department and proceeds through each organizational level until all proposals are consolidated and presented to the college review committee as representative of major areas of activity. Once these major activity areas (programs, departments, schools) have submitted their consolidated proposals representing their particular level of institutional activity, all proposed programs are consolidated so that their impact on the total institution can be assessed by the PPB Planning Committee. This is usually facilitated by the analytical studies team. The consolidated proposals are then submitted to the Policy Committee for final action, along with possible alternatives. The final Multi-Year Plan is submitted to the appropriate governing body of the institution (Board of Trustees, State Agencies, etc.).

The initial consolidation process is basically mechanical in that the various proposals are added to see if they conform to the overall financial constraints of the institution. Furthermore, they are reviewed for conformity to planning guidelines, institutional policies, and other pertinent factors as deemed necessary for uniformity by the PPB Planning Committee. Based on the aggregate statement of resource requirements for the academic sector, adjusted to fit the budgetary constraints and other restricting factors, the PPB Planning Committee or other executive bodies of senior administration can assess the resulting need for supportive resources including administration, physical plant, academic support services, student services, etc. This means that each proposed program must provide an accurate statement of resource requirements. Academic commitments have to be made without regard to the work load these proposals would impose

on the various support groups. Many times good academic ideas have failed because of inadequate support services, or noncoordinated support services. Obviously, academic programs in general have a higher claim on available resources than support service, but the critical alliance between the two cannot be overemphasized. Though it is the responsibility of each program head (who may not necessarily be a department head) to present an accurate statement of total resource requirements for his or her particular program, it is the ultimate responsibility of the analytical studies team to review these requirements with uniform guidelines to assure their accurateness.

At this point, the analytical studies team must review each program's priorities. No decision is made at this point as to the appropriateness of these goals, objectives, and related activities. However, a review is made to determine if the related activities help to facilitate the accomplishment of the stated goals. If there seems to be some inconsistency, the analytical studies team may confer with the program head or department head (whichever the case may be), and correct the inconsistency so that the program priorities (goals, objectives, and related activities) can be presented to the Policy Committee in an accurate and free flowing fashion.

After each proposal has been reviewed for accuracy of resource requirement and consistency of priorities by the analytical studies team, all proposals are submitted to the Policy Committee. The committee will evaluate program priorities and reconcile resource requirements brought about by constraints imposed by limited revenue and the need for minimum supporting services. As a result, program priorities established earlier may have to be revised in light of the financial situation of the institution. A new set of priorities is then worked out between the PPB Policy Committee or their designeee (the Analytical Studies Committee) and the program head or department head. Beyond this point, the analytical studies team provides manpower for analysis to be used at the discretion of the Policy Committee.

Once all programs have been reviewed and a decision reached as to the level of their resource requirements, these programs should be summarized and documented in the form of an official Multi-Year Plan. The time line projection for this plan is usually five years, with specific line-item projections for the coming fiscal year.

Documentation of the Multi-Year Plan

The approach used by an institution to document its Five-Year Plan (Multi-Year Plan) will vary according to its particular situation. Generally, more detail will be required when an institution's top management depends on the approval and support of trustees, state funding sources, or other agencies that support the institution in a major capacity. A further determination of the amount of detail will be the level of sophistication represented on these controlling bodies. However, in practical terms, it is usually good to include enough detail to provide a decision-making body with enough management information to allow them to make critical choices that are fundamentally sound.

The next step in the documentation process is deciding who will prepare the final Five-Year Plan. This individual or committee will have primary responsibility for assembling and narrating the document on the basis of information gathered during the departmental and college review. Generally, this task is the responsibility of a select committee designated by the president for its analytical and technical writing ability. First thoughts would suggest a select subcommittee of the analytical studies team for this responsibility, but this depends on any number of factors that may vary with each institution.

The documentation of the final Multi-Year Plan is simply a consolidation of all five-year program projections into a comprehensive plan for the entire institution, projected over the next five years. Ideally, since the final product is derived from numerous subcomponents, these components should be documented in the same systematic structure as the final document. The actual structure will depend on the needs of the particular institution. However, a structural reference for program proposals, as well as the final institutional plan, is reflected below.

Departmental or program proposals should contain the following in one form or another:

A. **Background**—A description of the current status of the program and background on programmatic activities.

B. **Rationale**—A narrative statement as to the impact the current or proposed activities will have on the accomplishment of institutional goals and objectives.

C. **Operational Plan**—Who will plan, administer, implement, and monitor the planned or continuing program activities.

   1. Describe the organizational structure and lines of authority

   2. Define the personnel responsibilities and program responsibilities of the individuals concerned.

D. **Planned or Continuing Program Activities**—What are the specific objectives to be attained by defined program activities relating, evaluating criteria, and measures of performance.

E. **Resource Requirements**—What are the personnel requirements over the projected five-year period. What are the materials requirements over the period. Finally, what are the capital or funding requirements over the projected period.

F. **Implementation Schedule**—What is the time frame for the various activities involved in the program.

G. **Cooperative Arrangements**—Are there any outside organizations involved in the program efforts. Or, are there interdepartmental cooperative efforts. What is the expected impact of these efforts.

The final institutional plan should contain, in one form or another, the following:

A. A statement of the institutional mission, goals, and objectives. Included should be any changes and reasons for these changes.

B. A narrative of the consolidation of all program activities. (The uniformity of program submission becomes important at this point.) Included should be expected or projected programs, existing programs, staffing requirements, facilities needs, funds implied or required, and source analysis for these funds (student fees, tuition, etc.), analytical data on program cost per student, per student credit hour, institutional cost per student, and any other relevant cost projections.

C. Specific details on new programs and their expected impact on the institution, or the community, from both an academic (or social) and economic perspective. Included should be narrative information on how these programs have been judged from comparative analyses with other alternatives.

D. Specific details on any programs that have been deleted from the institutional active list of programs. Included should be the expected impact of this situation on the institution, its students, or the community, and the reasons for the deletion given the possible alternatives.

Function of the Institutional Plan

The Institutional Five-Year Plan may be used in a number of different ways:

1. The Five-Year or Multi-Year Plan may be used for submission to trustees or other important, outside agencies for either approval or as an indicator of institutional foresight.

2. The plan may be a means of developing the total budget for next year, and translating this program-oriented document into an indicator of resources required by the various departments and programs to fulfill program goals and ultimately institutional goals and objectives.

3. It provides a control mechanism for the ensuing year.

4. It provides a base for forward planning into the next planning period.

5. If used properly, the document can facilitate constructive suggestions for change by representing not only the present situation, but also past decisions and the reasoning by which the plans were devised.

SECTION E: BUDGETING SUBSYSTEM

Budgeting is a management tool used for short term financial planning and control. That is, budgeting is a method of institutional program planning and control that focuses on monthly and one- to two-year expenditure plans for the future. Traditionally, budgeting has been conceived as a device to limit faculty/staff expenditures. A more realistic approach, however, is to view the budgeting system as a tool for obtaining the most effective use of the institution's financial resources to promote the mission, goals, and objectives of the institution.

As stated by the American Council on Education:[1]

> Budgets are statements of estimated income and expenditures for fixed periods or for specific projects. They express in terms of dollars the educational program of the institution. Their approval by proper authorities constitutes authorization to incur the expenditure set forth therein and to collect the anticipated income. One of the purposes of the budget is to insure that an institution does not obligate itself in excess of available resources. Therefore, the approved budgets of an educational institution are the primary instruments of fiscal control.

Overview of the Budgeting System

Fundamentally, the budgeting system provides a mechanism for improving institutional operations; it is a continuous systematized effort to provide effective academic, administrative, and support programs. The budgeting system utilizes a set of performance standards or targets (projections). Budgets are reviewed to compare plans and results (deviations of planned expenditures from actual budget expenditures); and this process "controls" the plan. Establishing budget projections requires a realistic understanding of the activities carried on by the institution. Arbitrary projections, set without a clear understanding of the minimum costs (salaries, supplies, consultants, etc.) as determined by the nature of the program's operation, will do more harm than good. Budgets imposed in an arbitrary fashion may represent impossible targets (overbudgeting) at the one extreme or budget projections that are too lax on the other (underbudgeting). If budget projections are unrealistically *low*, frustration, resentment, and inefficiency will develop. If budget projections are unrealistically *high*, cost will be out of control (greater propensities to spend), program delivery will suffer, resentment will develop, and morale will deteriorate.

However, a set of budgets based on a clear understanding and careful analysis of institutional programmatic activities can play a positive role for the institution. Therefore, the budget

[1] National Committee on the Preparation of a Manual on College and University Business Administration, I (Washington, D.C.: American Council on Education, 1952), 23.

becomes an important communication link between decision makers and operational unit personnel whom they administer.

Budgets also provide planning and control mechanisms by enabling management to anticipate change and adapt to it. Institutional programs in the current economic environment are subject to heavy competition and scrutiny. In such a dynamic environment, the rate of growth of similar institutions changes as the economy as a whole fluctuates. This growth, under the fluctuating economic conditions, affects similar institutions in a number of different ways. If an institution plans ahead, the budget and control process can provide institutional decision makers with a better basis for understanding the institution in relationship to the general student, community, and economic environment. This increased understanding will lead to faster reaction to developing events, thus increasing the institution's ability to perform effectively.

The budgeting system, therefore, improves internal coordination of all institutional activities. This internal control element reflects the basic theme of this section of Chapter V, to show how the financial budgeting system may be improved.

The following section provides detailed definitions of the activities, processes, methods, and procedures required for the effective review. development, installation, and maintenance of a comprehensive budgeting subsystem utilizing the PPBS model framework. In defining this budgeting subsystem, the subsystem will first be delineated into its major operational components: Budget Planning, Budget Analysis, and Budget Control. Each of these components will be defined and described, relating both the processes, methods, and procedures involved in the effective development and maintenance of these components; and the required interfaces of these components with other PPBS subsystem components, i.e., Program Planning Subsystem, Program Analysis. Evaluation Subsystems.

The Flow of the Budget Plans

Budget planning occurs at various levels of the institution. Referring to Figure 7, Institutional Budget Flow, academic activity budget plans A and B are channeled by faculty and program coordinators into the next major academic program budgeting function. At most institutions, this budgeting function is conducted at the academic dean, division chairperson, department head, and/or faculty committee levels. After careful review and analysis of the proposed activity plans, a combined plan A B incorporates cost effective ingredients of any or all activity plans considered. Integrated budget plan A B is subsequently channeled into the overall institutional program budgeting function, i.e., president, president's cabinet, long range planning team, etc. At this level, the budget plan A B is integrated into the overall institutional budget planning function. Major administrative program budgets C and D and major student services budgets E and F are likewise integrated into the institutional program budgeting function. At this level, academic, administrative, and student services budget plans are systematically reviewed, analyzed, and combined to formulate an optimal institutional budget plan.

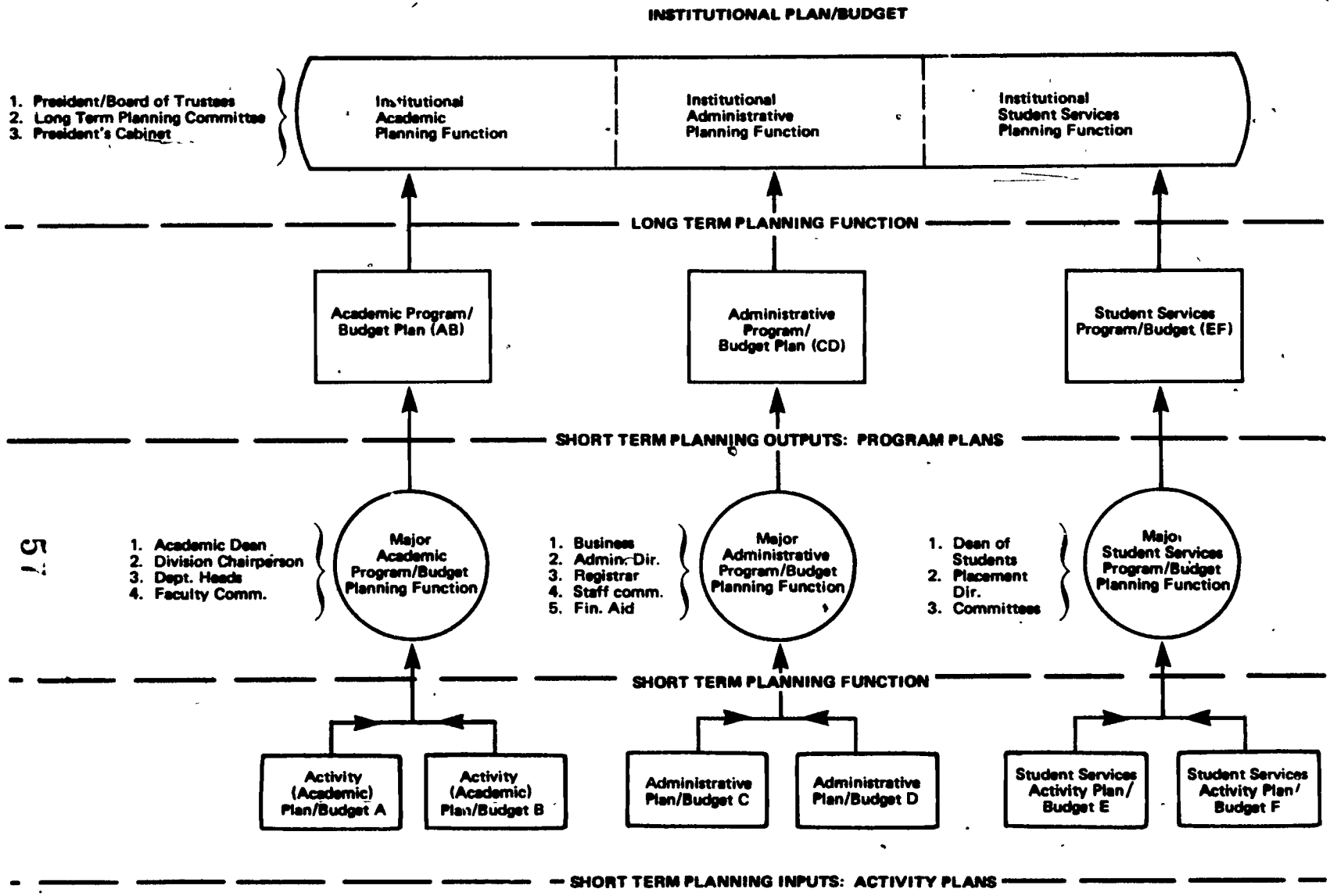


Figure 7. Institutional Budget Flow

Budget Formats

Budget formats to be utilized in the institutional program budgeting system should contain the following major budget components:

1. Personnel
   Professional
   Clerical

2. Fringe

3. Travel

4. Supplies

5. Equipment.

Personnel projections involve the estimating of specific professional and clerical personnel which will be required for effective implementation of planned activities. Personnel should be classified by position and a commensurate salary projected. In projecting salaries, normal salary increases should be projected.

Fringe benefits should be estimated, based on the institution's fringe benefit formula. (Usually a percentage of professional and clerical personnel expenditures.)

Travel expenditures should be estimated, based on the projected number of trips, air transportation, per diem, and local transportation costs per trip.

Supplies expenditures should be estimated, based on the amount and cost of paper, duplicating, and other expendable items (usually determined by life costs).

Equipment expenditures should be estimated, based on the amount and cost of equipment to be utilized.

(It should be noted that classification differences between supply and equipment are based on the useful life of the equipment. Supplies have no useful life and are usually inexpensive per unit.)

Contract expenditures should be estimated based on outside resources, e.g., consultants, agencies, foundations, etc.

Other Costs should be estimated based on expenditures which are not classified above, but which are direct costs, i.e., costs directly traceable to a particular activity.

THE BUDGET ADMINISTRATIVE FUNCTION

To provide for optimal management of institutional funds, comprehensive budgetary accounting, control, and reporting systems should be continuously in operation. A description is given of each major process variable in this system, from the timely receipt of projected institutional revenues through the timely and accountable disbursement of these funds to the various program areas. (Budget level allocations have already been approved.)

Stage 1: Issuance of funds by the revenue source through the receipt of funds by the institution. (See Figure 8: Funds Management System

Upon the timely submission of fund requests, which are based on budget plan, funds are received and recorded by the office of business and finance and notification of this receipt is forwarded to the appropriate program administrator.

Stage 2: Receipt of funds by the institution through the disbursement of funds to program areas.

1. Funds are received by the office of business and finance as described in Stage 1 above.

2. Separate accounts with line-item designations are established for each component budget in the chart of accounts (academic, administrative, etc.), and are then entered into a comprehensive accounting system.

   The accounting system should utilize effective hardware and documented accounting procedures and policies. It should also provide for optimal accountability through its conformity with generally accepted accounting principles in the generation of monthly and annual financial statements.

3. Budget requests are initially channeled through some major academic/administrative unit for initial approval, e.g., department heads, academic deans, etc. The request is then forwarded to the office of business and finance/purchasing.

   The purchasing agent, the comptroller, or the accountant then has the responsibility of encumbering the requesting program's budget for both the allowability of costs (specified by the terms of the grant) and the availability of

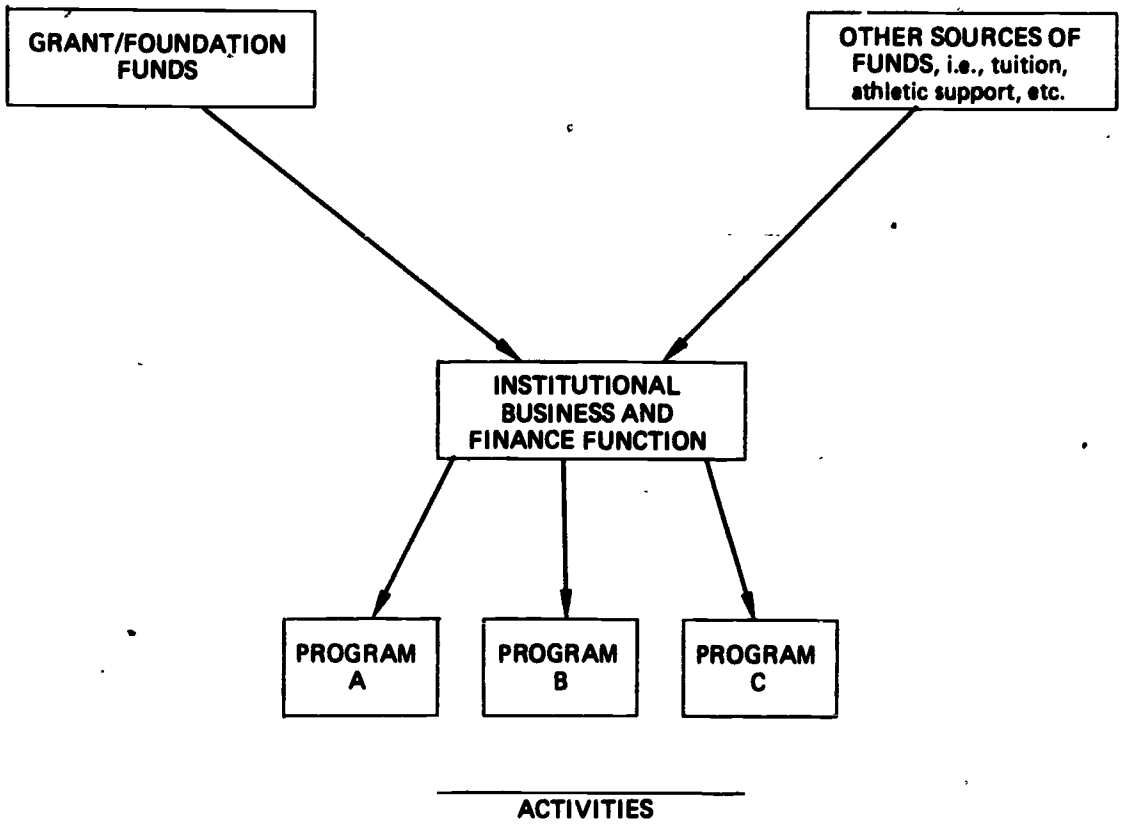


Figure 8: Funds Management System

funds. If the request—with regard to allowability of costs and availability of fund expenditure is approved:

a) A purchase order is issued to authorize the disbursement of these funds to the requesting program area.

b) On receipt of the purchase order, the accounts payable staff verifies receipt of the invoiced obligation. The invoice is then compared with the requisition and purchase order, and if there are no discrepancies, the accounts payable staff prepares a voucher which is the basis for drawing a check for payment.

c) The check is then certified and signed by the director of business and finance.

d) The office of business and finance provides for the monitoring and control of specific program expenditures through the systematic recording

of these expenditures. If the request is not approved notification, with justifying comments, is forwarded to the requesting program area.

4. Payroll for salaried and nonsalaried personnel is usually authorized via a contract drawn up by the president's office. All disbursements as they relate to these contracts are approved by the director of business and finance.

5. Capital expenditures are requested and extracted from the institution's capital fund account. The director of business and finance and the president usually approve all expenditures from this account. The procedure for the disbursement of these funds is the same as outlined in statement 3 above.

6. Monthly financial statements are generated by the business and finance office. The business manager coordinates the review and distribution of these reports. These reports are generally distributed to program coordinators/administrators to provide useful program planning, management, and evaluation information.

7. Outside auditing is provided annually by an approved accounting entity.

THE ACCOUNT CODING SYSTEM

To ensure the effective monitoring and control of institutional program expenditures, the budget control function should utilize a comprehensive account coding system to record and monitor expenditures based on source of funds, name of program, and type of expenditure.

An example of such a nine-digit account coding system is described below. (See also Figure 9: Account Coding System/Budget Categories and Classification).

Prior to the implementation of a given budgeted program, a special four-digit account is set up to identify the fund source, i.e., general income, grants, gifts, etc. Referring to Figure 9, this account designation is 2104. After this account is set up, an additional digit is provided to identify the specific program accounts. For example, a grant-funded humanities program would be coded 21041, with the fifth digit, 1, representing an expenditure in humanities. The final four digits identify the type of expenditure, i.e., personal service expenditures (0100 series), supply expenditure (0300). To summarize the coding designation, an account number 21041-0101 would designate a grant personal service expenditure for the humanities program. Through this comprehensive account coding system, an institution is provided a fund expenditure monitoring and control mechanism in addition to useful planning information.

Information Provided	Account Designation	Specific Coding Component
1. Program/Grant expenditure account	2104	identifies type of account
2. Program/Grant expenditure account	2104 1	identifies major program account, i.e., Humanities, Faculty Development, etc.
1. Program/Grant expenditure account 2. Specific program 3. Type of expenditure	21041 – 0100	identifies type of expenditure, i.e., personal services contractual, suppliers, etc.
1. Program/Grant expenditure account 2. Specific program 3. Type of expenditure 4. Subgrouping of types of expenditures	21041 – 0 101	identifies lower level of expenditure grouping, i.e., secretarial personal service, and faculty personal service

Figure 9: Account Coding System/Budget Categories and Classification

MAJOR COMPONENTS OF THE BUDGET REVIEW AND ANALYSIS FUNCTION

Budget review and analysis, similar to the program and budget planning process, occurs at various institutional program levels. Initial budget plans submitted by faculty/department heads/staff members are first reviewed by major institutional decision making unit, i.e., long range planning committee, academic dean, director of business and finance, etc.

The budget is reviewed at this level to insure the most cost-effective allocation of institutional funds. Budgets are reviewed with a clear focus on all institutional priorities and how these priorities can be effectively financed. Academic, administrative, and support program priorities are then budgeted by the president in conjunction with his major administrative/academic cabinet.

In addition to the formal periodic review referred to above, continuous budget review and analysis activities should be conducted. These review and analysis activities should be conducted by department/division heads to insure the effective feedback of cost and other financial data into the institutional planning process. This review not only provides useful planning and central information, but will also provide valuable budget development training for "non-financial" faculty, program coordinators, and staff members.

SECTION F: EVALUATION SUBSYSTEM

The evaluation process is critical to the success of any programming, planning, and budgeting system. It represents a point at which all programs are considered in terms of what they were supposed to accomplish with the resources allocated and what they actually accomplished. Further, the institutional activities in general are evaluated by the PPB committee in terms of what the institution projected as its activities and accomplishments and what actually was accomplished. The culmination of the two evaluations should give top administrators some benchmark as to the performance of the institution with respect to its present resources and some idea of what is to be expected in the future. If the PPB System is to be effective, this process must be followed each year and documented to facilitate effective and realistic planning for the succeeding fiscal and academic years. It is this continuous evaluation and documentation that allows administrators and future administrators to see what has been planned in the past and what the outcome of these plans were, along with the why's and why not's that helped influence these outcomes.

The evaluation actually starts when the proposed plans are developed and submitted for consideration. These plans become the basis for evaluation once they are accepted. They stipulate the goals, objectives, evaluative criteria, and the measures of performance for the program, the department, the division, or the institution, as the case may be.

Institutional Planning

The institution's projected plans are equivalent to the Multi-Year or Five-Year Plan. It reflects the institutional mission, the institutional goals and objectives, and the various departmental and programmatic goals and objectives developed to help facilitate the institutional plans. The evaluation in this case will be a direct result of the activities at the lower levels, for it is here that the institutional goals and objectives are accomplished. Consequently, it is at this level that the institutional representative, the PPB Planning Committee, evaluates each program as to its success in operation. This success is shown in the program's ability to accomplish its objective within the performance measures set out in the projected plans.

For instance:

Consider that the president of XYZ University recognizes the need to upgrade the academic level of its teaching faculty. As a result, the president develops the following goal:

> "To upgrade the academic competence level of the teaching faculty by 1980."

As a further result, the president develops the following objective:

> "To increase the number of PhD level instructional personnel in the undergraduate programs by 67% so that by June 1977, the total undergraduate faculty with terminal or PhD degrees will be at least 50."

As a result, each academic program and administrative program (i.e., personnel) concerned develops program goals and objectives to help accomplish this intermediate institutional objective. (Note: If 1975 is considered to be the year in which this accompanying objective is developed, then its accomplishment is expected within a three-year time frame which makes it intermediate as opposed to a short-range objective of one to two years in duration or a long-range objective of five or more years.) (See Setting Program Objectives, Section V-2). Once this is accomplished, the institutional objective is evaluated within the following framework:

Goal

> "To upgrade the academic competence level of the teaching faculty by 1980."

To illustrate this point, consider the following:

> In the previously mentioned example, XYZ University is organized on a divisional basis. In helping to facilitate the accomplishment of the previously mentioned institutional goal and objective, the

Division of Business Administration has set the following as one of its divisional goals:

> "To increase the number of PhD or DBA faculty within the Division of Business Administration by three by June 1976."

Further, in accomplishing this program goal the Division of Business Administration projects the following objectives:

> "To add one instructor with at least a CPA certificate to teach courses in tax and cost by June 1976."
>
> "To add one instructor with a terminal degree to teach marketing and advertising courses in the marketing program by June 1976."
>
> "To add one instructor with a terminal degree to teach banking and finance courses in the finance program by June 1976."

Since these objectives were developed at the divisional level, it would depend on the division's organizational structure as to whether or not the respective programs would be involved in the vertical filtration of these objectives. And as such, this question of structure would determine whether or not the programs would be involved in the evaluation process concerning the implementation of these objectives. However, for exemplary purposes, let us consider that the head of each program has a certain amount of autonomy and thus has direct responsibility for identifying and recommending to the divisional chairperson, an individual(s) to fill the proposed position. As a result, the program head may develop an accompanying objective around this issue similar to the following:

*Program Objective**

> "To identify and offer for selection at least four (4) individuals with PhD or DBA degrees in business to teach marketing and advertising courses by December 1975."

In accomplishing this goal, one of the objectives developed is as follows:

Objective

> "To increase the number of PhD level instructional personnel in the undergraduate programs by 67%, so that by June 1977 the

*For the conservation of time, only one program will be followed through in the example.

total undergraduate faculty with terminal or PhD degrees will be at least 50."

The Evaluative Criteria is as follows:

"The increased number of PhD teaching faculty in the undergraduate program."

The Performance Measure is as follows:

"Fifty (50) PhD level faculty members in the undergraduate program by 1977."

As can be seen from the above example, the evaluation of objectives, in this case an institutional objective, is divided into two categories. The first category is the evaluative criteria which tells what the evaluation is based on. The second category is the performance measure which provides the how much and/or when of the evaluation. This format is basically the same in all evaluations though emphasis is placed on different aspects of this framework, given various levels of evaluation. This statement will become more apparent as this chapter unfolds.

Though the goals and objectives at the institutional level are evaluated through the framework identified above, the ultimate evaluation for institutional goals and objectives is inherent in the success of the various activities at the program levels in the academic and support areas. As stated before, it is here that implementation of institutional plans occurs.

Program Planning (Divisional and Program Level

The evaluation process at the program level may be at any of a number of interactive levels, depending on the organizational structure of the institution. However, at all levels, the basic comparison will be the measure of performance against the evaluative criteria and the objectives, and other relevant criteria.

Now that the original institutional goal has been traced from the institutional objective through the individual objective, it should become more apparent that evaluation begins when goals and objectives are developed. The question of "How well did you do?" is a natural extension of the statement, "I am going to do."

Following the evaluation process back through the organizational structure should give further insight into the PPB evaluative process.

Program Evaluation (Marketing)

The program will be evaluated first by the program head. This may or may not be a formal evaluation, but it must be done before a

report can be submitted to the divisional chairperson on the program activities for the evaluation period set by the chairperson. It is imperative that the program heads be aware of the activities of their operating unit well in advance of evaluation by supervisors. Further, any statistics necessary to the success of the program and any evaluation that may arise should be kept. Once the program has been evaluated internally, a report of its activities, including any substantive facts and figures, is submitted to the divisional chairperson to be evaluated and compared with other operating programs in the division. As always, the evaluation will consider the projected goals and objectives, the evaluative criteria, and the measure of performance. With respect to the objective used in the example, the evaluation framework would be as follows:

Evaluator

Program head from an internal perspective and the divisional chairperson at the divisional level.

Evaluative Criteria

The number of potential candidates recommended for the teaching position.

Performance Measure

Identify and recommend at least four (4) terminal degree candidates to the divisional chairperson.

Divisional Evaluation (Business Administration)

The divisional evaluation is an extension of the individual program evaluations. Each program submits to the divisional chairperson a report of program activities for the period considered. (This period does not have to be the same as the PPB period, but it must fall within the beginning and the ending time frames of the institutional planning period.) The divisional head then considers each program on its own merits and informs each program head of their performance, in private session and by written statement. After the individual program performance evaluation, the divisional head then consolidates all of the program activity reports into a divisional activity report for the institutional planning period. This report is submitted to the PPB Planning Committee for evaluation at the institutional level. The PPB Planning Committee will then review all divisional activity reports in terms of what was initially projected

to be accomplished and what was accomplished, given the institutional operating conditions and environmental assumptions. The president, being head of the PPB Planning Committee, will then discuss the evaluation with each divisional head in private session and by written statement. The divisional evaluation relative to the objective used earlier in this chapter would take the following format:

Evaluator

Divisional chairperson from an internal perspective and the PPB Planning Committee at the institutional level.

Evaluative Criteria

Increased number of terminal degree faculty in the division.

**Performance Measure*

To increase the number of terminal degree faculty by three by June 1976.

Institutional Evaluation (PPB Planning Committee)

The institutional evaluation is an extension of the divisional evaluations combined to provide an overall performance rating of the institution as reflected by the activities of each unit. Once each division and nonacademic unit submits its report to the PPB Planning Committee, the committee performs an internal evaluation based on the institutional projected goals and objectives and the outcome of all activities over the planning period. The final evaluative report is then submitted for consideration to the Board of Trustees or other such governing body by the president. It is important that the deadlines for activity reports be made known well in advance of the due dates. This will provide all interactive levels concerned adequate time for preparation of the best possible report.

The evaluative framework for the previously used example will be as follows:

*During the institutional evaluation, the PPB Committee is not particularly concerned with the criteria but mainly the objective, the performance measure, and the outcome.

Evaluator

The PPB Planning Committee from an internal or institutional perspective and the Board of Trustees as final governing body.

*Evaluative Criteria**

The increase in PhD level faculty in the undergraduate programs.

Performance Measure

To increase the PhD level faculty in the undergraduate programs by at least 67% by June 1977, bringing the total to at least 50.

The example chosen to portray the evaluative process reflects only one tentacle in the octopus-like system of PPB. It is only meant as an example and certainly does not represent the total impact the one exemplary goal would have on the system. However, the basic process would be the same if we had chosen to show the impact a 67% increase in PhD level faculty would have on the development office, the institutional planning office, the building and grounds office, the business office, the personnel office, and the registrar's office, though the actual goals and objectives, evaluative criteria, and measures of performance would be different.

General Evaluation

The evaluative process should be continuous. Though major evaluations are conducted during PPB report periods, ongoing evaluations should be conducted throughout the year. These can take the form of student/faculty surveys, changes in performance as determined by comparative grades, library use, the addition of various types of audiovisual aids, etc. Evaluation measures can be qualitative or quantitative but, as a matter of general policy, they should have the following values:

Relevance—Each measure must be relevant to one or more objectives of the program. (The objectives of the program and their relative importance should be outlined.)

Comprehensiveness—The measure of evaluation must obviously cover the objective(s) to which it applies.

Reliability—The measures must be reliable within a given level of statistical confidence. Postulate a difference in outcome which would be detected if the confidence were to change.

*Though the Evaluative Criteria is included, the critical factor is the Performance Measure.

Feasibility—Determine the feasibility in terms of the costs.

The evaluation should avoid measuring only what can be measured well. Remember, a qualitative measure can be just as relevant, comprehensive, reliable, and feasible as a quantitative measure if an acceptable quantitative measure cannot be determined. The following represents a general classification of evaluative measures:

Behavioral Measures—(Proportion of the times the behavior occurred out of the times the stimulus conditions were applied)
Example: Increase in class attendance during mediated presentations, or increase in use of "independent study corrals," etc.

Process or Program Implementation Measures—(i.e., attendance counts, hours of instruction, adherence to schedules, etc.)

Subjective Measures—(i.e., judgment of the evaluator or one that is being evaluated)

Other Outcome Measures

1. Cost/Benefit Ratios

2. Cost Per Unit, Project, or Program Element.

BASIC COMPONENTS AND METHODOLOGY FOR ANALYZING PPBS

CHAPTER 4

• Basic Components and Methodology for Analyzing PPBS

The purpose of this section of the manual is to present the basic components and methodology of analyzing the PPBS components, thus providing the capability for determining institutional requirements. The identifications of the levels of application of the PPBS components and the relative scope of each of the related terms is covered in Appendix Definitions. The conceptual framework for structuring key decisions relative to these systems will be presented in this section. It is important to note that this section is not a model system, but a model of the process required to design/develop and implement a PPB System tailored to a specific Institution of Higher Education (IHE). This section is a guide that is designed to assist curriculum developers, fiscal planners, and management specialists in conducting the activities necessary to assess the status of existing management concepts in an Institution of Higher Education. It should be recognized that the most effective manner of assessing this status is through an assisting organization that is familiar with, but external to, the particular institution. This chapter will serve as a frame of reference for conducting the analysis of any institution. The result of this analysis will serve as the input to the design phase of the various components.

The overall relationship between the three major concepts of the PPB System is best displayed in conjunction with a model institutional framework. Figure 10 is designed to graphically indicate these relationships. The figure shows the Management Information System as the central coordinating body, tying together the Planning, Programming, and Budgeting System. The MIS is also the coordinating mechanism for interacting with the institutional data base.

The planning, programming, budgeting process is a structured set of procedures for providing input to top level managers and administrators relative to institutional policies and the translation of those institutional policies into programs, budgets, and activities. As such, this process has implications toward the structuring and modification of institutional policies, and toward the reflection of those policies in the long range planning of the institution. The planning, programming, budgeting process encompasses the following range of activities:

- Institutional Policy (mission, goals, objectives)
- Long Range Planning (related to policy implications through mission, goals, objectives)
- Programming (setting institutional activities into program classification)

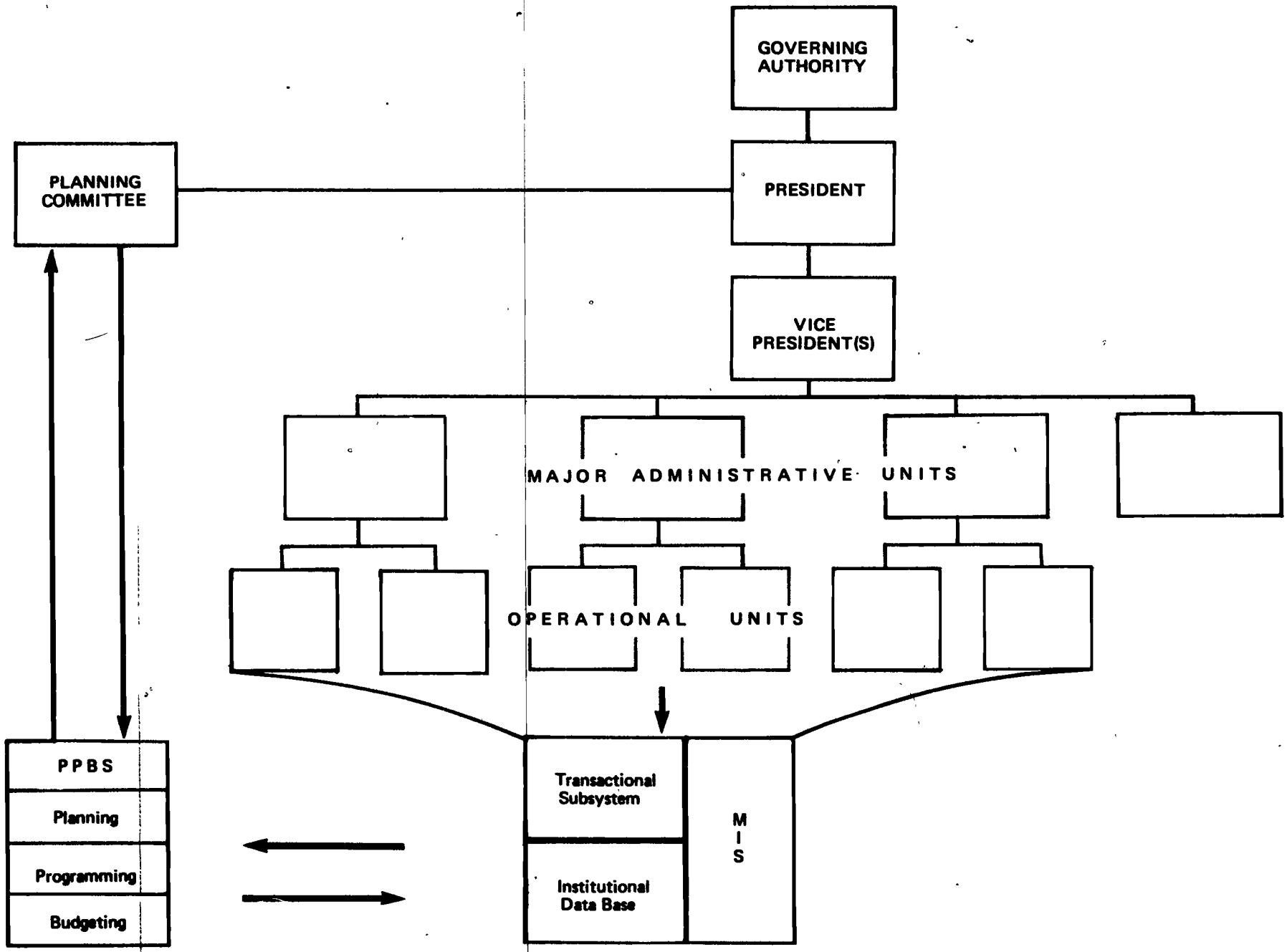


Figure 10. Information Support and Information Flow Structure

- Budgetary and Resource Determination (inclusive of allocation of resources to achieve mission, goals, objectives)

- Information Support (to top administrators, managers, and groups that participate in the decision-making process using the Management Information System).

This range of activities, essentially the charter of the PPB System is effected by the implementation of an information support and information flow structure.

PLANNING, PROGRAMMING, BUDGETING CAPABILITY

An institution's planning, programming, budgeting capability is assessed by a multistep process that fulfills the following generalized criteria:

1. Locate PPBS decision points

2. Determine existing cycle

3. Identify long range planning activities

4. Identify positions that should have input into the PPBS process

5. Analyze PPBS cycle to determine whether or not a feedback mechanism exists

   a. If none exists, structure a PPBS feedback cycle

   b. If one exists, insure that all positional elements are incorporated into the cycle

6. Recommend improvements in PPBS process, including both the process, timeframe, and participants.

The initial step in this assessment is the location of the PPBS decision points. Once the decision points have been located, the functions and groups that participate in the PPBS process can be identified, and a PPBS cycle can be charted. The initial point of this process, and a central mechanism of PPBS, will be the institution's long range planning capability. The activities that comprise this particular function may be multifaceted, residing in several groups as special purpose activity centers, such as an Academic Planning Committee. Once all existing elements of the existing PPBS process are located, a comparison can be made against the model PPB System. This comparison will identify positions that should be involved in the PPBS process that have been excluded. Similarly, the comparison may identify

superfluous components in the existing cycle. The next analysis that should be performed is programming and budgeting analysis. The PPB System should be structured as a closed loop system, meaning that a cyclical process is established with each component receiving input from a component or components and providing outputs to another component, such that a continuous process ensues. See Figure 10. There will be final points in the system; the evaluation process will provide input to the next cycle of planning. Finally the analysis will dictate areas that should be altered. Those recommendations for improvement may take many forms, from the inclusion of other components into the process to changes in the cycle itself, to the establishment of an office to satisfy an unfulfilled function in the PPBS process.

PLANNING

The PPBS process is, of necessity, activity-oriented. This means that the entire operational process centers around the ability of the institution to translate missions into goals, goals into objectives, objectives into activity areas, activity areas into activities. The activities are then classified (programmed) and budgeted, and performance data are gathered to allow an evaluation of the activity. The evaluation result then serves as input into the next cycle of the PPBS process.

The Institutional Mission Formulation Process is the keystone to all institutional activities. While the formulation of the institutional mission is not a part of the PPBS process, it feeds directly into the highest level of the PPBS process. In addition, over the long run, evaluations of the institutional activities may play a role in updating the institutional mission. The mission is usually determined by external forces and is incorporated in legislation. Thus, changes in the mission are accomplished over a fairly long time frame.

However, the mission itself is the basis of the long range planning process, the first PPBS activity. This process consists of interpreting the institutional mission for purposes of formulating goals and objectives. This long range planning function is usually accomplished by one specific group, supported by input from almost every area of the institution and outside agencies. Typically, the president and/or vice president presides over this planning group. The heads of major administrative units should be members. Input should be received from external sources such as groups in the service area, and groups that legislate appropriations or responsibilities at the institution.

The short range planning process is the means by which goals and objectives are transferred into program activities for a short period of time, usually one or two years. This process is the responsibility of the institutional planning group. The process consists of determining a series of activity areas, each with a definite scope objective and with measurement criteria. This process sometimes encompasses the preliminary budgetary cycle by determining resource requirements for activities and by making recommendations to the president of the institution for the ultimate resource mix.

The short range planning process culminates with the operational plan, which stipulates the operational activities and resources for the major administrative units. The major administrative units then have the responsibility for implementing the short range plan. The major administrative units are accountable for the resources assigned to their areas and the allocation of those resources to the planned activity areas. The next component in the PPBS process is the activity area, the level at which implementation occurs. As such, this area should have specific objectives which serve as operational targets. The activity area must have measurement criteria which are related to the objectives and which are quantifiable enough to allow measurement. The activity area must also be afforded a resource mix, composed of a combination of human, facility, and support resources. These resources should be relatable to budgetary figures. The activity area then assumes operation of the program and provision of evaluation-related operational data.

The long range planning component should have the responsibility for goal formulation and activity area determination in connection with the long range planning cycle of the institution. The short range planning component should have the same functional responsibilities with the additional responsibility of determining short range resources requirements and evaluation criteria. The Major Unit Administration components have functional responsibilities that entail the determination of activity areas within their unit, the detailed determination of resources requirements for those activity areas, and the conduct of the activities, including supplying evaluation-related data. The operational areas perform the detailed resource requirements determination process for their specific program areas. Additionally, they conduct the program operations, under the direction of a Major Unit of Administration.

The activity evaluation component performs the evaluation function, with respect to the operational areas. The Administrative Unit Evaluation performs the evaluation process with respect to Major Units of Administration. The Institutional Evaluation Unit performs the evaluation with respect to the overall institution and its long and short range plans. The planning support group supports all evaluation areas with aggregations and manipulations of evaluation data that have been supplied by the other component areas through the institution's information processing capability.

B. PROGRAMMING

Programming is the determination of manpower, materials, and facilities required to support a program such that inputs are related to output by lines of action through an information system. The word program in PPBS does not refer to computer programming; it does relate to the activities of an organization that are based on desired outcomes. Programs are the fundamental groups of related activities around which an institution is organized and on which its policies are based.

It is difficult to identify ideal program structures. Each institution must develop its own program structure. There are as many different ways of putting together a program structure as there are people who attempt to do it. The basic principle of an objective-oriented program structure is the grouping of activities that serve the same purpose. The topmost level of a program structure should consist of the broad categories directed toward the fundamental objectives of the institution. The lowest level would be comprised of the programs that have been implemented as the specific means for moving toward the end objectives.

A program should have the following characteristics:

(a) Specific objectives and functions

(b) Measurable inputs and outputs (even though aspects of output may be difficult to quantify)

(c) Makes policy decisions both as to objectives and as to allocation of resources to meet those objectives

(d) Is part of larger programs and the institution.

Any of the above, or a combination of them, may be used in specifying programs. Once a program is identified, a pertinent question must be asked: Is the program a group of interdependent closely related services or activities that possess or contribute to a common objective or set of allied objectives? Is it a package of subprograms, element components, tasks, and activities?

C. BUDGETING

Program budgeting relates the output-oriented programs, or activities, of an institution to specific resources that are then stated in terms of budget dollars. In PPBS both programs and resources are projected for at least several years into the future. Emphasis is placed on outputs, cost effectiveness methods, rational planning techniques, long range objectives, and analytical tools for decision making. The most important single task that must be accomplished in moving to this kind of planning and budgeting is the development of a program structure.

The implementation of program budgeting requires substantial increases in accounting staff, development of a separate department of budget planning, systems analysis, and appraisal. Such an approach will point in the direction of rational assessment of the effects of financial input into the system in terms of output services for which the institution operates. Three additional approaches could be taken in implementing the program budgeting:

Programming the full implementation over an extended interval, such as five years;

Restricting this form of budgeting to selected programs, possibly on an alternating basis; and

Experimenting with pilot projects of different sizes, types, structures, objectives, and programs in the institution.

The conversion to program budgeting from the traditional item budgeting requires the application of the principle of allocating the various responsibilities in accordance with the level of complexity and costs, to those with the appropriate resources of leadership, knowledge, funds, and hardware.

The characteristics of traditional budgetary planning are as follows:

1. minimal and fragmentary
2. separate fiscal and program planning activities
3. generalized consideration of academic programs or instructional areas and their output consequences.

In contrast, an emphasis on integrative long range planning that integrates cost accounting is inherent in the PPBS program budgeting concept. Therefore, all programs must be definitive before a price tag is attached. In addition, concern for a determination of the program's measurable output is equally significant. The general acceptance and use of program budgeting by any institution portends significant educational as well as fiscal management improvements.

Devising a Program Budget for a College.--After determining the long range objectives and purposes, and defining a program along with the measurement criteria, the next step is to devise a program budget. (See Fig. 11).

1. The number and types of the proposed programs will be listed
2. A statement will be made of the objective of each program
3. The resources and output characteristics will be identified
4. The sources of income generated within each program will be identified
5. The time dimensions will be constructed
6. Some budget formats will be displayed.

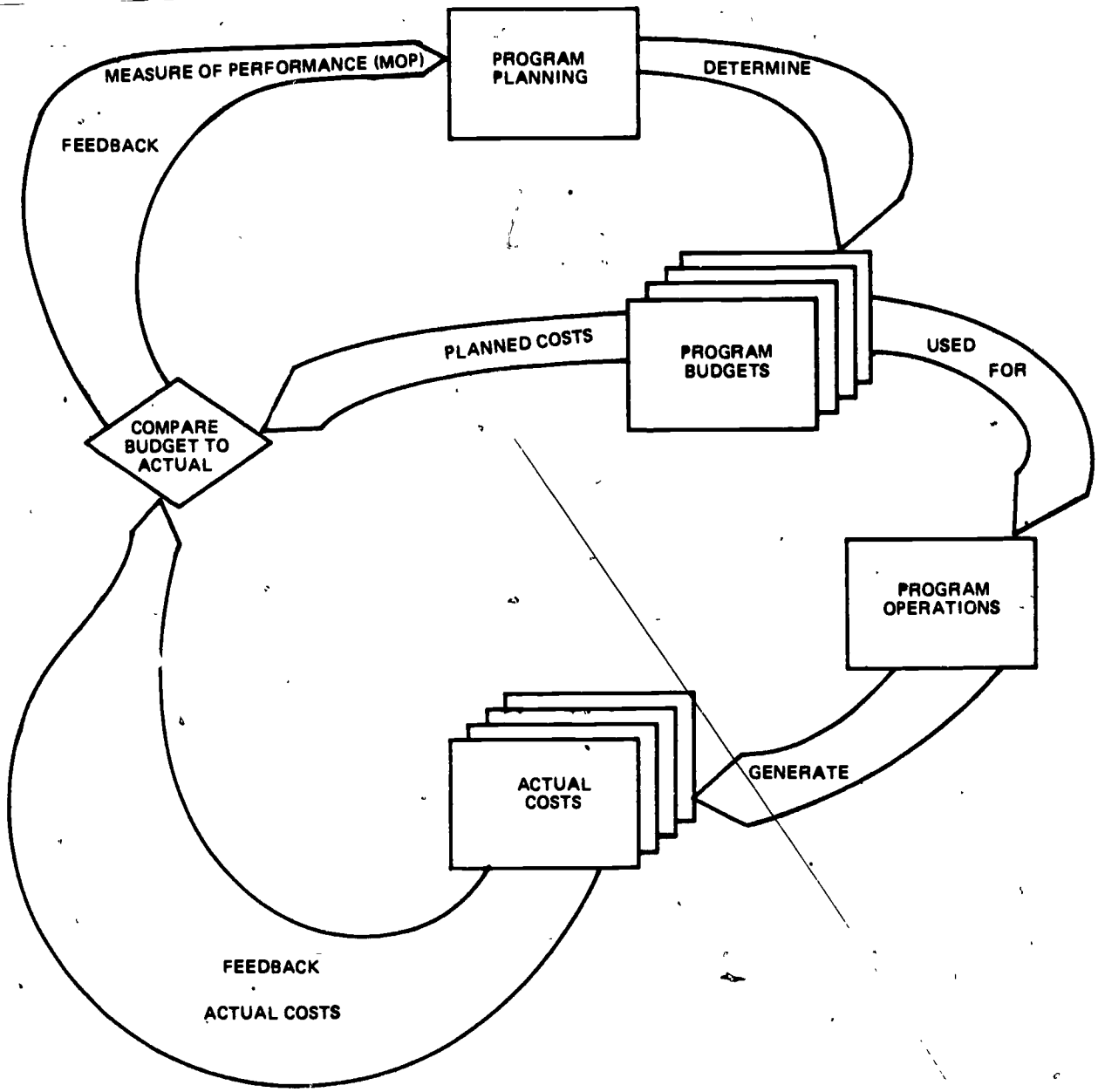


Figure 11. PPBS Components

A. PROGRAM RESOURCES, OR INPUT

The input or financial and nonfinancial resources for each program can be distributed among six categories as follows:

1. Personnel Employed: The number and type of positions required for each program, and the average salary and work load in each position. Examples of some of the positions are:

   a. Professors (Full, Associate, Assistant)

   b. Instructors

   c. Lecturers

   d. Teaching Fellows, Graduate Assistants

   e. Administrators

   f. Secretaries

   g. Librarians

   h. Building and Grounds Workers

2. Students: The number in each of the instructional programs, including full-time and part-time (stated as full-time equivalent).

3. Class size ratios: The average class size for each of the instructional programs.

4. Instructional courses: The number and description of the courses in each of the instructional programs.

5. Supplies, equipment, and furnishings: An inventory of materials and a listing of items requested to be purchased for each of the programs.

6. Physical facilities: An inventory listing of the number, square feet, and utilization of classrooms, offices, laboratories, and libraries.

B. PROGRAM OUTPUT

The output of each program can be identified as follows:

1. Degrees: The number and type of degrees granted.

2. Degree courses: The number of students in each major and elective course; the number of student credit and class hours provided.

3. Library growth: The number of volumes in the library.

4. Research and scholarly publications: Expressed in terms of research grants and research publications.

5. Contributions of the institution to the community: Expressed in terms of lectures, cultural events, art exhibits, and urban and community projects.

6. Standardized test results: Performance of students on standardized tests given in the freshman and senior years and on graduate admissions tests.

7. The number of seniors admitted to graduate schools.

8. Alumni: Questionnaires filled out by alumni giving a personal history after receiving their degrees, listing positions, salaries, participation in community affairs, graduate studies, and their evaluation of the institution.

9. Evaluations of programs by college and university accrediting associations.

10. Self-evaluation by college and university committees.

C. SOURCES OF INCOME

The sources of income generated for each program will be identified and applied to the program earning the income. Some examples of income sources are:

1. Tuition income

2. Laboratory fees

3. Application fees

4. State appropriations

5. Gifts

6. Endownment income

7. Grants

D. CATEGORIES OF INCOME SOURCES

E. STUDENT, FACULTY, AND STAFF SERVICES

1. Student activity fees

2. Athletic income

3. Room and board fees

4. Food services, cafeteria sales

5. Gifts

6. Parking

7. Health service fees

8. Government grants

9. Library fines

F. PUBLIC SERVICES

1. Admission fees to cultural events

2. Fees for noncredit courses

3. Book sales

G. RESEARCH AND DEVELOPMENT

1. Government gifts and grants

2. Industry grants

3. Gifts

H. GENERAL SUPPORT

1. Unrestricted gifts

2. Endownment income

SUMMARY AND CONCLUSIONS

The procedures described and recommended above for program budgeting are additional tools to be used with the basic input-oriented conventional budget and accounting system. They are not designed to replace the line-item budgets. The program budget is a comprehensive output-oriented policy and planning budget, and is thus not restricted to the fiscal control functions of a conventional budget.

Summarized below are some of the advantages of using a program budget in higher education:

1. The programs of a college are organized on the basis of systems analysis rationality.

2. Actual, total costs of a program are obtained. The budget cuts across traditional departmental lines and gives the cost, in both financial and nonfinancial resources, for extended time horizons (5 to 10 years).

3. Direction is given to everyone in the junior college, college, or university family as to the general objectives and goals of the institution and to the explicit objectives of each program. Input-oriented conventional budgets may not make available the future plans of other programs within the institution.

4. Participatory planning is encouraged.

5. Allocation of resources is made on a more rational basis. Evaluation of programs is made by means of a wide variety of analytical techniques.

6. Emphasis is placed on outputs or desired results, and all resources are directed to these outputs.

7. All programs, existing and new, are continually reviewed and revised on both a formal and informal basis.

8. Fund-raising activities may be coordinated with the long term planning objectives of the program budget.

9. A Management Information System (MIS) can be developed around a program budget structure in order to provide data for progress reporting, and program planning and control.

PPBS SEQUENTIAL OPERATING SCHEME

Chapter 5

PPBS Sequential Operating Scheme

The Program Planning and Budgeting process begins with the appointment of the PPBS Planning Team. This team is usually divided into two operating units, the Policy Committee and the Analytical Studies Committee. These two groups are responsible for initiating the PPBS cycle and thereby improving the traditional budgeting process by providing a mechanism which allows college and university administrators to evaluate alternative uses of available resources in a planned and systematic manner. In addition, it allows administrators to plan activities and funds needs over an extended period, and to thereby produce a long range plan for the institution.

Effective planning requires the participation of all elements of the institution, trustees, administrators, faculty, students, and staff. Each of these elements is represented on the PPBS Planning Team. Though not fixed in its structure, the following charts reflect a suggested membership which represents the core of the planning effort. Additions may be made as needed by each individual school.

PPBS PLANNING TEAM

Policy Committee. The Policy Committee actually directs the planning effort as far as PPBS is concerned. Its composition and responsibilities are as follows:

Committee Membership	Committee Responsibility
1. President, Chairperson 2. Director of Planning 3. Academic Dean 4. Dean of Student Affairs 5. Business Manager 6. Director of Development 7. Trustee 8. Student Government President 9. Others (at the discretion of the President)	1. Consider and propose changes in the institutional mission, goals, and objectives 2. Consider and propose changes in institutional policy 3. Review and evaluate individual program plans 4. Prepare institutional long range plan.

Analytical Studies Committee. This group performs the analysis function for, and submits recommendations and alternatives to, the Policy Committee. The composition and responsibilities of the group are as follows:

Committee Membership*	Committee Responsibility
1. Director of Planning 2. Business Office Representative 3. Division Heads or (Deans) 4. Director, Institutional Research 5. Director, Data Processing Center 6. Director, Guidance and Counseling 7. Director, Career Guidance & Placement 8. Student Representatives (2, other than student gov't president). 9. Registrar, Director of Admissions 10. Others (at discretion of the President)	1. Analyze the program plans of all academic and support departments, looking at: a. Responsiveness to institution's mission, goals, and objectives. b. Consistency with institutional policies c. Economic feasibility d. Coordination of academic program plans e. Coordination of support services plans f. Consequences of alternative courses of action 2. Propose modifications of academic and support program plans 3. Prepare program summaries, incorporating modifications, and submit them to the Policy Committee.
*Chairperson of this committee should be designated by the president of the institution.	

Once the planning team has been designated by the president and all members understand the role of their committee, the planning cycle is ready to begin. The following sections attempt to put this planning cycle into a step-by-step sequence of events and lists personnel involved in the cycle. The time frames for each major activity should be determined by individual institutions based on local academic and administrative constraints (i.e., length of academic term, personnel availability and budget review and appropriation schedules).

Planning Cycle

Activity	Personnel Involved	Time Frame
1. Review the existing long range plan of the institution	Policy Committee	
2. Prepare the following: (Planning Guideline Data) External Environmental Assumptions Internal Environmental Assumptions Statistical Data on College Statement of Mission Statement of Goals and Objectives Statement of College Policies If these have already been prepared, then revisions should be made if necessary.	Policy Committee with analysis and recommendations by the Analytical Studies Committee	
3. Submit proposed or revised planning guideline data to Board of Trustees for approval.	PPBS Planning Team	
4. Review the proposed planning guideline data submitted by the PPBS Planning Team. Return to the planning team for any necessary revisions.	Board of Trustees	
5. Make any modifications or revisions suggested by the Board.	Analytical Studies Committee as Directed by the Policy Committee	
6. Approve planning guideline data.	Board of Trustees	
7. Prepare enrollment projections based on on approved planning guidelines.	Registrar Director of Admissions	
8. Prepare the request for program plans packet. Should include the *enrollment projections*, and the *approved planning guideline data*. Submit this document to the Policy Committee for approval.	Director of Planning	
9. Approve Request for Program Plans Document.	Policy Committee	
10. Send the approved Request for Program Plans and all attachments, including planning guidelines data, to all program and/or department heads.	President	

Table 1. Preparation of Planning Guidelines

Planning Cycle

Activity	Personnel Required	Time Frame
1. Review Request for Program Plans document as received from the president.	Academic Program Head or Departmental Chairperson	
2. Set meeting of all departmental or program personnel to discuss and begin program planning.	Academic Program Head or Departmental Chairperson	
3. Conduct individual program planning: Review request for program plan document Evaluate prior effectiveness of departmental program plans and objectives Analyze all program alternatives to determine which are feasible and most effective Develop a narrative of the program's activities, proposed changes, and expected impact of these changes Develop resource requirements for coming fiscal year and four years into the future.	Program Head or Departmental Chairperson and Faculty	
4. Review all program plans for content and departmental interaction and return to academic and departmental chairperson.	Academic Dean	
5. Prepare the following information and submit to Academic Dean for review: Departmental Program Plan Five-Year Estimate of expenditure Information on each course and project Description Enrollment Credit Hours Faculty Manpower Requirements Physical Facilities Requirements Any Other Resource Requirements	Academic Department Chairperson	

Table 2. Preparation of Program Plans (Academic)

Planning Cycle

Activity	Personnel Required	Time Frame
1. Review program plan documents for accuracy and thoroughness. Return to department head if corrections are necessary.	Academic Dean	
2. Correct program plans and return to Academic Dean.	Department Heads	
3. Review corrected program plans. Submit program plans to director of planning.	Academic Dean	
4. Upon receipt and review of all academic program plans, combine and prepare the following documents: Summary of program changes Summary of estimated expenditures Course and project summary Faculty manpower summary Physical facilities requirement summary	Director of Planning	
5. Submit academic program plans and summaries to PPBS planning team.	Director of Planning	
6. Review program plan summaries and departmental program plans for inconsistencies with college goals and objectives, and policies, as well as economic feasibility. Return to Policy Committee for approval.		
7. Review and approve academic program plans and summaries. Return to academic program heads for corrections or modifications if necessary.	Policy Committee (PPBS Planning)	
8. Modify program plans as suggested by planning team.	Director of Planning or Academic Program Heads	
9. Prepare request for support program plans and attach approved academic program plan summaries.	Director of Planning	
10. Approve prepared request for support program plans.	Policy Committee (PPBS Planning Team)	
11. Transmit request for support program plan to support program head.	President	

Table 3. Review of Program Plans (Academic)

Planning Cycle

Activity	Personnel Required	Time Frame
1. Review Request for Program Plans and attached documents. Meet with support staff to begin planning.	Support Program Head	
2. Review the prior program activities for effectiveness.	Support Program Head and program staff	
3. Develop alternative plans to support the planned academic activities.	Support Program Head and program staff	
4. Analyze program alternatives for feasibility and potential effectiveness. Develop manpower summary.	Support Program Head and program staff	
5. Formulate program plans based on the above.	Support Program Head	
6. Prepare the following information: Support Services Program Plan Estimated Expenditures Physical Facilities Requirements.	Support Program Head	
7. Submit (5) & (6) to the appropriate senior Administrative Officer (Admin. V.P., Bus. Officer, etc.).	Support Program Head	

Table 4. Preparation of Program Plans (Support Services)

Activity	Personnel	Time Frame
1. Review Support Programs for accuracy and thoroughness. Return to Program Head if corrections are necessary.	Appropriate Senior Admin. Officer	
2. Correct and modify program, if necessary.	Support Program Head	
3. Submit all program plans to Director of Planning.	Senior Admin. Officer	
4. Upon receipt of all corrected program plans, prepare the following: Summary of program changes Summary of estimated expenditures Physical facilities requirements summary Support manpower summary.	Director of Planning	
5. Review program plan summaries and program plans for conflicts with institutional goals, objectives, policies, and economic feasibility.	Analytical Studies Committee (PPBS Planning Team)	
6. Approve program plans. Return to Program Head for modification if needed.	Policy Committee	
7. Transmit the following to the Analytical Studies Committee: Academic Program Plans Academic Program Summaries Support Program Plans Support Program Summaries.	Policy Committee	

Table 5 Review of Program Plans (Support Services)

Planning Cycle

Activity	Personnel	Time Frame
1. From current and projected enrollment, operating data, and financial records, a projection of revenues should be prepared.	Business Officer and Registrar	
2. From current and projected gifts, grants, and endowments a projection of revenue should be prepared and submitted to the Business Officer.	Director of Development	
3. Review total operating data and projections of enrollment gifts, grants, endowments, state and federal subsidies, planning guidelines, etc., and prepare the anticipated revenue for the institution.	Business Officers	

Table 6. Preparation of Revenue Projections.

Planning Cycle

Activity	Personnel	Time Frame
1. Utilizing academic program plans and summaries, support program plans and summaries, planning guidelines, the following should be done: Evaluate the economic feasibility Check for consistency of program goals and objectives, and institutional goals and objectives Check for any existing or potential conflict between program plans and college policies Consider alternative program plans and examine cost/effectiveness of plans.	Analytical Studies Committee	
2. Develop conclusions or proposed program modifications and document.	Analytical Studies Committee	
3. Prepare academic and support program summaries reflecting program modifications.	Director of Planning	

Table 7. Analysis of Total Program

Planning Cycle

Activity	Personnel	Time Frame
1. Review proposed modifications and revisions in program summaries submitted by the analytical studies committee.	Policy Committee	
2. If necessary, return to analytical studies group for reevaluation.	Policy Committee	
3. Revise program plans and program summaries.	Analytical Studies Committee	
4. Upon accepting modifications, send copy to department chairpersons and support program heads.	Policy Committee	
5. Review proposed modifications and changes required.	Academic Program Heads & Support Program Heads	
6. If modifications are unacceptable, request conference to discuss these points with the Policy Committee.	Academic and Support Program Head	
7. Upon accepting modifications, submit written justification to Policy Committee.	Academic and Support Program Head	
8. Upon acceptance of all modifications by all parties concerned, final program conclusions and summaries should be drawn.	Director of Planning	

Table 8. Preparation of Final Program Conclusions

Planning Cycle

Activity	Personnel	Time Frame
1. Assemble Long Range Plan. Long range plan summary Final program plan summaries Statement of mission, goals, objectives Statement of college policies External Environmental Assumptions.	Director of Planning	
2. Prepare an explanatory narrative identifying key modifications or changes to prior year's plans and expected impact from such changes.	Director of Planning	
3. Submit final long range plan to president.	Director of Planning	
4. Review document and suggest any necessary changes.	President	
5. Upon completion of changes by the Director of Planning and approval by the president, the document is submitted to the Board of Directors or Trustees.	President	
6. Review for approval, if unacceptable Director of Planning will make necessary changes.	Board of Trustees	
7. Upon approval by the Board of Trustees, the long-range plan becomes operative.		

Table 9. Revision of Long Range Plan

Appendix A

Basic Definitions

Planning, programming, budgeting system is a system for planning and control. It is a process under which:

(A) Priorities among kinds of services a college may provide are weighed;

(B) Objectives are stated in operational terms;

(C) Alternative means to accomplish the given objectives are analyzed.

PPBS process consists of:

- Developing alternate implementation programs to meet objectives
- Estimating the resource requirements and possible benefits of each program
- Selecting among alternatives
- A managerial technique designed to merge the planning process with the allocation of funds
- A comprehensive planning that includes program budgeting as its major component

It attempts to structure a cohesive decision-making procedure in such a way that resources are allocated efficiently to achieve specified objectives.

A. CHARACTERISTICS OF PPBS

PPBS has at least six distinctive characteristics: analytic modes, planning, programming, budgeting, structural cohesion, and administrative lines of action.[1]

1. *Analytic Features.* Systems analysis is used in higher education to examine alternative courses of action in terms of utility and costs. When possible, a quantitative analysis of comparative benefits is made. Otherwise less rigorous analysis prevails. The options are made explicit in order to clarify relevant choices and their probable consequences. The analytical activity is used to generate new objectives and alternatives, and to help specify the most appropriate courses of action. It is, therefore, intended to provide policy appraisal rather than mere budget justification.

2. *Planning.* The activity of means-end consideration comprises the iterative process of making program policy decisions that culminate in a particular budget and multi-year projections. These stages cannot always be delineated neatly, because planning is also an analytical tool. In order to assess the future expenditure implications of current decisions, profiles of future

conditions are linked to budgetary data and program objectives. Planning is the production of the range of meaningful potentials for selection of courses of action through a systematic consideration of alternatives.

3. *Programming*. In this phase, the planned goals are related to specific programs. Inputs are related to outputs by lines of action that may include immediate, intermediate, and long range objectives. Programming entails a review of existing objectives in relation to alternative means, and encourages revision of procedures as needed. It is a multi-year process that may utilize a computerized information system to present current data to decision-makers in the most accessible, comprehensible way. Programming is also the determination and assignment of the manpower materials and facilities required to support a program structure.

4. *Budgeting*. Instead of showing budget dollars by an object-of-expenditure classification, PPBS is designed to relate programs to resources that are then transformed into budget dollars for present and future years. As the nucleus of PPBS, the program budget expresses the dollars in relation to the outputs or programs. At the policy-making level of an institution, this process translates broad program decisions into more refined decisions in a budget context. The appropriate program and financial data for the president and members of the Board of Governors or Regents are presented. A program budget should delineate the legal basis that prescribes the budgetary process, composition, calendar, and responsibility for its formulation and administration. It permits the activities of several units of a college to be assembled as specific output packages, or programs, or various convenient levels of aggregation.

5. *Structural Features*. An essential characteristic of PPBS is its output orientation. Each institutional program (academic or supportive) is required to determine a series of output categories that cover the "total work" of the college. This assemblage of output-oriented activities serves as the process. Following the pattern of systems analysis, there are several levels at which programs may be analyzed. At the most generalized level, there are program categories (or areas), which are groupings of the college activities that have generally similar objectives. An example would be the improvement of basic skills, a broad objective and program category that is shared by more than one program area. Program subcategories are subdivisions within each program category that combine institutional activities on the basis of narrower objectives. In the example previously cited, improvement of freshman Reading Skills might be one program subcategory under the improvement of Basic Skills program category. Programs are the activities, missions, operations, or outputs of a college. An example of a program for an institution is adult education. Within this program fall all activities, or subprograms, such as vocational and technical training, veteran's education, and others that are a part of the adult education. Finally, the most differentiated parts of the program structure are the program elements, which comprise the specific components that contribute to the institution's objectives.

6. *Administrative Features.* As an executive tool, PPBS is designed to facilitate the kind of information and data analysis that provide administrators with a complete basis for rational choice. It prescribes an organizational structure of programs, but allows for much variance in the application of such bureaucratic elements as centralization, hierarchy, expertise, authority, span of control, and role definitions of particular organizations. Some might propose a highly decentralized operation in which an administrator is responsible for the allocation of resources and review of performance within his program. Others may choose to initiate PPBS in the highly centralized fashion of a vertical rather than horizontal type of organization. As presently conceived, PPBS contains a centralizing bias. It provides the means to administer budgetary decisions, but it should not be equated with efforts to reduce spending. It is neutral on the issue of cost reduction. From an administrator's viewpoint, PPBS offers at least four important advantages over traditional practices:

1. information on total system costs is output, or program oriented;

2. analysis of possible alternative programs and of alternative means of meeting program objectives is more extensive;

3. the planning process is continuous and includes multi-year plans so that future year implications of present decisions are explicitly identified;

4. policy is an ordered process in a well defined organization which directs major lines of action toward perceptible program goals.

To a large extent, institutional planners may modify the original norm of comprehensiveness, inasmuch as political considerations of policy implications could reduce the scope of program design in some areas.

A potential administrative virtue of this system's approach is that it does not take human values for granted. Discrepancies in values that are unspecified may go undetected in traditional budget practices, and yet these values may have systemwide repercussions. Regardless of the level of discourse, the PPBS planner is charged with the responsibility of detecting differences among professed, conceived, or desired values on the one hand; and the operative, observed, or measured values on the other. Disparities between professed and measured values should be fed back into the system.

7. *Systems Analysis.* Now more than ever before, systems analysis has become quite fashionable as a research technique. In the enterprise of education, persons in varied disciplines are increasingly choosing to regard intricate topics of human concern as systems. Terms like system analysis, design, approach, accountability, and cost/benefit analysis are becoming common vocabulary of educators. However, the term system is ambiguous and relative. In a general sense, it simply denotes any set of elements and their relations with one another. Systems change their meaning with the point of view, the conceptions, and the goals or an observer or a relevant decision maker.

Systems analysis is generally defined as an orderly way of identifying and ordering the differentiated components, relationships, processes, and other properties of anything that may be conceived as an integrative whole. Systems analysis can also be regarded as a technical instrument used in search for objective criteria, social goals, manpower targets, and possible rates of return in educational systems. It is sometimes defined as the breakdown of any system into its constituent elements or parts, such that the relative hierarchy of ideas expressed are made explicit. Such analyses are intended to clarify the system, to indicate how the system is organized, and to assist in finding the connections and interactions between elements and parts of a system. It can provide a basis for control of expenditure and accountability, and could contain a statement of projected needs that encourages long range, time-phased planning. It is generally seen as the focus for institutional planning, encompassing goal settings, resources allocation, evaluative review, and revision of objectives.

8. *Input-Output Analysis.* This is an economic technique to examine the effect of changes in certain input variables to the outcome or output variables of the system under study. A form of systems analysis, inputs are the resources employed to achieve objectives, and outputs are the products of a program, often expressed numerically.

9. *Cost-Effectiveness Analysis.* This is a means of relating the cost of particular activity or project to effective performance or goal attainment. The decision-maker may choose from among feasible alternatives on a basis of least cost and greatest effectiveness.

10. *Benefit-Cost Analysis.* This is a means of assessing the worth of existing and proposed projects; it involves the enumeration and evaluation of all relevant costs and benefits over a period of time. Ideally, benefits should exceed cost, or $\frac{B}{C} > 1$; measurement criteria for the benefits should be specified.

11. *Program Budget.* Relates resources, financial and otherwise to an institution's activities, outputs, services, missions, or programs. It is the financial expression of value priorities. It helps to achieve cost-effectiveness if not cost-reduction. Based upon a program structure classification, the budget is a statement of policy that relates cost to differentiated programs. It is sometimes used in a broad sense to denote the entire process of PPBS.

12. *Management Information System (MIS).* This is the vehicle for receiving and processing transactional data and preparing management summaries and aggregations of that data. It supplies the middle and top management positions with the summary review data required for continuous operation of the institutions. MIS integrates the dynamic functions of an institution such as instruction, personnel and finance, and provides computer aided systems of information control for administrators. MIS may be a reporting system or a decision-making system, depending on level of application.

In planning and implementing a PPB System, it is necessary to understand the basic definitions provided. These definitions assist in reducing the confusion generally encountered in the analysis of the characteristics and properties of a PPB System.

Appendix B

PPBS Report Forms

PPBS Report Forms

Form

Institutional Mission
XYZ University

Form

Internal Environmental Assumptions XYZ University	
Area of Concern	**Assumption**
I. Fringe Benefits and Salaries	A. Fringe benefits will increase to 17% of salaries in 1976 and remain there through 1977. B. Salaries will increase at a stable 5% per year.
II. Student Enrollment	Recruiting efforts will be increased. Enrollment figures have declined over the past five years. However, with increased recruiting, enrollment is expected to stabilize at about 3,000 students in 1976, and increase at a rate of 5% thereafter.
III. Student Aid	With the decrease in federal aid and the decrease in National Defense Loans and Work-Study Fund, the outlook for student aid is dim. Funds will, however, be made available on an as-needed basis. This is to be determined by the Office of Financial Aid.
	NOTE. The preceding assumptions are hypothetical and designed solely for exemplary purposes. Some other considerations for internal environmental assumptions are as follows: Local Labor Market Capital Campaign Likelihood Campus Morale Alumni Development Unionization These environmental assumptions should be accompanied by supporting statistical data.

Form

External Environmental Assumptions XYZ University	
Area of Concern	**Assumptions**
I. International Situation	A. U.S. involvement in the war in Asia will decrease over the next three years and completely stop in 1974. Assumption is that enrollment of veterans will increase by 70% in 1974, increasing total enrollment by 20% in the 1974-75 academic year.
	B. Stabilization of the U.S. dollar is not foreseen in the near future, thereby continuing the fluctuation of prices on the international market. This will have an effect of increasing costs in our overseas research projects.
	C. The OPEC countries will continue their oil cartel and thereby drive the price of oil even higher on the international market.
II. Cost of Goods & Services	A. Prices of all products will increase at a rate of 7% per year over the next five years.
	B. Price of energy will increase sharply over the next years: Oil . . . . . 200% increase Gas . . . . . 100% increase Electricity . . . 50% increase
	C. Price of food will increase at a rate equal to that of the rest of the economy, approximately 7% per year.
III. National Faculty Salary Trends	A. There will be more teachers in the job market during the next five years than there have been in the past, thereby creating a buyer's market. However, given the increase in the cost of living, national faculty salary and benefits will tend to follow the rest of the economy or be slightly below—probably about a 5-6% increase per year.

Form (Continued)

External Environmental Assumptions XYZ University	
Area of Concern	**Assumptions**
	Some other considerations for external environmental assumptions are as follows: National Attitudes Toward Higher Education Status of Federal Programs State Aid Capital Campaigns Competition Between Two-Year and Four-Year Institutions Alternative Education National and Regional Enrollment Trends Technological Influences Ecological Influences Construction Index Population Trends These environmental assumptions should be accompanied by supporting statistical data. NOTE: The preceding assumptions are hypothetical and designed solely as examples.

Form

Costs Itemization XYZ University			
Personnel:			
Name/Position	Qualifications	Salary	Services to Begin (year)
1.			
2.			
3.			
4.			
5.			
Travel:			
Individual/Position	Purpose of Trip	Approx. No. Trip	Approx. Cost Trip Trans. Per diem Total
1.			
2.			
3.			
4.			
5.			
Equipment: (Major Items)			
Item	Purpose (Within Program Activities)		Price
1.			
2.			
3.			
4.			
5.			

Form

XYZ University Departmental Operating Budget						
Account Number	Account Title	Actual Expense 1974-1975	Budget 1975-1976	Requested for 1976-1977	Administrative Action for 1976-1977 Revisions	Budget
	Student Help					
	Fees & Guarantees					
	Office & Instructional Supplies					
	Other Supplies					
	Subscriptions & Books					
	Printing**					
	Telephone & Telegraph					
	Postage					
	Audiovisual**					
	Other Purchased Svs.					
	Dues & Memberships					
	Travel & Subsistence*					
	Meals					
	Maint. & Repair of Equip.					
	Expense Allowance					
	Etc.					
	Totals					

*Not for travel to professional meetings, which is budgeted centrally. Date _____

**Your request should separate internal from external purchases.

Signed _____
Chairperson

109

Form

XYZ University Academic Staffing Table by Department						
Department	Benefits	75-76	76-77	77-78	78-79	79-80
Subtotal						
Department	Benefits	75-76	76-77	77-78	78-79	79-80
Subtotal						
Department	Benefits	75-76	76-77	77-78	78-79	79-80
Subtotal						
Etc.						

Only department subtotals are provided to the analytical studies team. Fluctuations may occur when a sabbatical is not replaced, or when retirements occur. Since salaries represent a plurality of any institution's expenditures, the need for accurate, complete staffing tables is obvious.

KEY:

Sab. Lev.	–	Sabbatical leave
Retir.	–	Retirement
N.	–	Not replaced
R.	–	Replaced

Form

Costs Summary Sheet XYZ University							
	Object	1976	1977	1978	1979	1980	Totals
Direct Costs: Personnel (Itemize) Professional							
Clerical							
Total Dir. Labor							
Fringe Benefits (% Dir. Labor)							
Total Fringe							
Other Costs: Travel (Itemize)							
Supplies							
Equipment (Itemize)							
Contracts (Consultants)							
Other							
Total Other Costs							
Indirect Costs: (See Budget Narrative for calculation of indirect costs)							
TOTAL COSTS							

Form

XYZ University
Academic Resource Requirements
1975-1980
_____ Department

To what extent will your department use the resources provided by the following? Be as specific as possible in terms of units, volumes, hours, etc.

	75-76	76-77	77-78	78-79	79-80
Library					
Computer*					
Audiovisual**					

Comments:

As changes in requirements from these supporting services have attendant costs, these costs should be determined and reflected in the budgets of the Library, Computer Center, etc., as they prepare their own plans.

* Computer time should be given in terms of clock-hours per week, per month, etc.

** Audiovisual usage should be stated in terms used (i.e., class slide presentation, overhead projection, or film strip series, etc.)

Form

XYZ University 19__-19__ Department Course and Project Data						
Course or Project No.	**Title**	**Credit Hours**	**Class Hours Per Week**	**Faculty Member**	**No. of Students Enrolled 1973-74**	**Student Credit Hours**
07A	Intro Physics					
07AL	Intro Physics Lab					
07AL	Intro Physics Lab (2d section)					
09	Mechanics					
09L	Mechanics Lab					
04A	Foundations of Physics					
04AL	Foundations of Physics Lab					
	Subtotal					
04B	Foundations of Physics					
04BL	Foundations of Physics Lab					
21	Quantum Mechanics					
23	Physical Electronics					
	Subtotal					
Etc.						

This form may be prepared by the department, the registrar, or the planning assistant. Its specific format should be determined in consultation with the academic dean. Larger institutions may elect to present the data in a summarized format.

Form

XYZ University
Academic Program Physical Facilities Inventory
Term_____
Department (Instruction & Research Facilities)

Course No.	Enrollment Last Fall	Room No.	No. of Student Stations*	% Utilization	Use of Room**	Exclusive Dept. Use Required?	Adequate? (Explain)

Office and Additional Space (Describe present condition and future requirements.)

* Supplied by physical plant office
** Lecture, lab, seminar, etc.

This form assumes square footage and other information is available from a physical plant office. In a stable environment, requests for this kind of information may not be required every year. Large institutions may desire to summarize this kind of information for more immediate access. Any request for major renovation should be justified in detail.

Form

XYZ University Course and Faculty Load Data 19___ - 19___								
Dept.	No. of Courses	No. of Sections	Student Credit Hrs.	FTE Students	FTE Faculty	S/F Ratio (D/E)	Faculty Course Load (B/E)	Clerical Staff Assnd. to Dept.
Anthro								
Biol								
Eng								
Phys								
Span								
*Does not include language assistant								

The purpose of this form is to provide some comparison of courses and other projects carried out by departments, and the efficiency with which they accomplish their programs.

Ideally, the form should reflect data for the first year of the projected five-year plan. However, with the difficulty inherent in projecting enrollments in small departments, it is probably better to do as shown above and provide an analysis of the current year.

The form, as outlined, uses only teaching to define faculty load. As research, community service, etc., are included in load definition, the form may be expanded to include these activities. As student employees are assigned to departments, it may be desirable to also reflect their presence in this summary.

Form

XYZ University

Statement of College Policies

Admissions

A. Sex as a variable in the admission process will not be recognized.

B. Admission to the university will be based primarily on college board scores, high school grade average, and/or equivalent other measurable means.

C. Etc.

Policy Statement on the following would also be appropriate:

Teaching Methods
Teaching Loads
College Calendar
Make-up of Student Body
Enrollment
Minority Recruiting
Faculty/Student Ratio
Tenure Limitations
Faculty & Staff Salaries
Fringe Benefits
Student Aid
Administrative Structure
Auxiliary Enterprise
Grievance Procedures
Etc. (Any others necessary, given the unique position of the institution) —

Form

Planning Cycle													
Stage	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Manual Section
1) Prepara- of Plan- ning Guidelines													Program Analysis
2) Academic Dept. Program Review													Program Analysis Academic Dept.
Support Dept. Program Review													Program Analysis Support Programs
College Program Review													Program Analysis Col. Review
3) College Annual Budget													Budgeting Budget Dev.

The above cycle is merely a suggested guideline. The actual planning cycle will be determined by the requirements of the particular institution.

The actual plan should cover more than one academic year. All departments should project their program plans for five consecutive years, updating the projected plan each year, so that a five-year plan is in existence at all times. This type of forecast of resource requirements and planned operating results is a useful means of evaluating current programs, and it increases the institution's ability to adjust to environmental changes.

Form

Academic Department/Program Proposal
XYZ University

I. Institutional Mission:

II. Rationale:

Goals	Objectives	Evaluative Criteria	Performance Measure

The objectives should facilitate the accomplishment of the dept./program goals. The department goals should facilitate the accomplishment of institutional goals. All of the factors, goals, and objectives should help facilitate the accomplishment of the institutional mission.

III. Background

Describe the current status of and rationale for the program, relating any statistics and other information pertinent to the situation.

IV. Operation Plan

A. New Programs:

1. Provide written narrative as to the organizational structures and lines of authority of the new program.

2. Provide narrative as to who will plan, administer, implement, and/or monitor the planned program activities.

3. Define personnel responsibilities.

4. Describe the responsibilities of the program.

Form (continued)

Academic Dept./Program Proposal

XYZ University

B. Changes to Continuing Programs

1. Describe any substantive changes that are proposed in the program.

2. Describe the expected impact this change will have on the program.

C. All Programs (New & Continuing)

1. Describe the activities to be performed through the program operations. Further:

(a) What personnel will be required to facilitate program activities.

(b) What materials will be required to facilitate the program activities (equipment, supplies, etc.)

NOTE: Relate the impact these resources will have on the performance of program activities.

2. What is the implementation schedule for program activities?

3. Summarize all proposed costs:

(a) All personnel costs

(b) All material costs

(c) All other costs

Form

Projected Auxiliary Enterprises Income XYZ University					
	1975-76	1976-77	1977-78	1978-79	1979-80
Residence Halls:					
Income					
Expenses	____	____	____	____	____
Net	____	____	____	____	____
Food Services:					
Income					
Expenses	____	____	____	____	____
Net	____	____	____	____	____
Other Services:					
Income					
Vending					
Game Room					
Facilities	____	____	____	____	____
Rental					
Total	____	____	____	____	____
Expenses					
Vending					
Game Room					
Facilities	____	____	____	____	____
Rental					
Total	____	____	____	____	____
Net	____	____	____	____	____
Total Income					
Total Expenses					
Net	____	____	____	____	____
Less: (Any amount for Debt Service, Reserve Fund, etc.)					
Total Income from Auxiliary Ent.	____	____	____	____	____
Rates:					
Room	$____	$____	$____	$____	$____
Board	____	____	____	____	____
Total	$____	$____	$____	$____	$____
No. of Roomers	____	____	____	____	____
No. of Boarders	____	____	____	____	____

Form

XYZ University Projected Gifts for Current Fund Operations	1975-76	1976-77	1977-78	1978-79	1979-80
Unrestricted:					
Alumni					
Friends					
Parents					
Churches					
Corporations					
Foundations					
Other					
Total Unrestricted Gifts	____	____	____	____	____
Restricted:					
Friends					
Foundations					
Federal Grants					
Research Grants					
Training Grants					
Deferred Gifts					
Other					
Total Restricted Gifts	____	____	____	____	____
TOTAL	____	____	____	____	____
Percentage increase or decrease	____	____	____	____	____
	( )	( )	( )	( )	( )

Form

Enrollment Projections (FTE) XYZ University						
Academic Year	Fresh	Sophomore	Junior	Senior	Special	Total
1969-70						
1970-71						
1971-72						
1972-73						
1973-74						
1974-75						
1975-76*						
1976-77*						
1977-78*						
1978-79*						
1979-80*						

Note: These projections could be detailed as needed. They could include details about returning students, new students, sex, major, college, etc. Possibly another table should be developed showing head count enrollment.

*Projections

Form

Projected Five-Year Income XYZ University					
	1975-76	1976-77	1977-78	1978-79	1979-80
Educational & General Income					
Income From Students					
Tuition					
Fees					
Total					
Endowment Income					
Unrestricted					
Restricted					
Total					
Gift Income					
Unrestricted					
Restricted					
Total					
Recovery of Indirect Cost					
Income from Organized Activities					
Income from Other Sources					
Total Ed. & General Income	_____	_____	_____	_____	_____
Auxiliary Enterprise Income					
Residence Halls					
Food Services					
Vending Machines					
Game Room					
Facilities Rental					
Total Aux. Enter.	_____				
Total Projected Income	_____	_____	_____	_____	_____
Percentage Change	%	%	%	%	%

Form ____

XYZ U. ity
Funds Application Ch .ource/Use Table)

Application (Use)	Funds (Source)													
PROGRAM	Fees	Grants	Gifts and Donations	Interest on Investments	Commissions From Services	Student Activities	Endowments	Fees	Grants	Gifts and Donations	Interest on Investments	Commission From Services	Student Activities	Endowments
	UNRESTRICTED							RESTRICTED						
Instruction														
Regular Session														
Special Session	■	■	■	■			■	□	□	□	□	□	□	□
Extension Instruction (for credit)														
Experimental Instruc.														
Organized Research														
Institutes & Research Grants	■								□	□	□	□	□	□
Individual o. Project Research														
Public Service														
Continuing Ed. (Dept.)														
Continuing Ed. (Exten)														
Community Ser. (Exten)	■	■						□	□	□	□	□	□	□
Community Ser. (Camp)														
Agriculture Extension Services														
Academic Support														
Libraries														
Museums & Galleries														
Audiovisual Services	■	■			■				□	□	□	□	□	□
Computing Support														
Ancillary Support														
Student Service														
Social & Cultural Devel.						■								
Counseling & Career Guidance														
Financial Aid	■	■	■	■			■		□	□			□	□
Student Support														
Institutional Support														
Executive Management														
Financial Operations														
General Administrative Services	■	■	■	■			■		□	□			□	□
Logistical Services														
Physical Plant Oper.														
Faculty & Staff Svcs.														
Community Relations									□	□				
Independent Services														
Institutional Operations				■	■				□	□		□		□
Outside Agencies														

NOTE This chart is hypothetical and does not reflect a fixed application system.

Form

Projected Income from Tuition and Fees XYZ University										
	1975-76		1976-77		1977-78		1978-79		1979-80	
Tuition	No. Students	Retention %	No. Students	Retention %	No. Students	Retention %	No. Students	Retention %	No. Students	Retention %
Freshmen		( )		( )		( )		( )		( )
Sophomores		( )		( )		( )		( )		( )
Juniors		( )		( )		( )		( )		( )
Seniors		( )		( )		( )		( )		( )
*Others	_____		_____		_____		_____		_____	
* Total Students	_____		_____		_____		_____		_____	
FTE	_____		_____		_____		_____		_____	
Tuition Rate	_____		_____		_____		_____		_____	
Total Tuition Income	_____		_____		_____		_____		_____	
FEES:										
1. Application Fees	_____		_____		_____		_____		_____	
2. Laboratory Fees	_____		_____		_____		_____		_____	
3. Transcripts	_____		_____		_____		_____		_____	
4. Library Fines	_____		_____		_____		_____		_____	
Etc.	_____		_____		_____		_____		_____	
Total Fees	_____		_____		_____		_____		_____	
Total Tuition and Fees:	_____		_____		_____		_____		_____	

Form

XYZ University

Department/Program Financing Data

College _____
Department _____
Fiscal Year Beginning _____

Program Code	Program Name	Estimated Program Expenditure	Estimated Program Revenues	Allocated Funds Source	Allocated Funds Amount	Deficit
		Total	Total	Total		Total

This form is not included to suggest that programs operate through deficit spending, but merely to provide administrators an overview of the projected funds needs of the various programs and departments, and the projected funds that will have to be secured to allow operations at the level each unit is projecting.

Form

Department _____

Budget Department No. _____

Departmental Budget for the Fiscal Year Ending _____

	Object Code	19__	Departmental Request	Approved
Salaries and Benefits				
Salaries				
Faculty Salaries		$_____	$_____	$_____
Staff Salaries		_____	_____	_____
Student Help		_____	_____	_____
Part-Time Help		_____	_____	_____
Staff Benefits		_____	_____	_____
Subtotal		$_____	$_____	$_____
Nonsalary Expenses				
Purchased Services		$_____	$_____	$_____
Honoraria		_____	_____	_____
Subtotal		$_____	$_____	$_____
Supplies		$_____	$_____	$_____
Office		_____	_____	_____
Instructional		_____	_____	_____
Laboratory		_____	_____	_____
Subtotal		$_____	$_____	$_____
Information and Communication		$_____	$_____	$_____
Dues and Memberships		_____	_____	_____
Subscriptions, Books, Publishing		_____	_____	_____
Telephone and Telegraph		_____	_____	_____
Audiovisual		_____	_____	_____
Postage and Meter Rent		_____	_____	_____
Printing		_____	_____	_____
Others		_____	_____	_____
Subtotal		$_____	$_____	$_____
Travel and Hospitality		$_____	$_____	$_____
Employee Travel		_____	_____	_____
Visitor Travel		_____	_____	_____
Meals		_____	_____	_____
Subtotal		$_____	$_____	$_____
Equipment		$_____	$_____	$_____
Equipment		_____	_____	_____
Maintenance and Repair of Equipment		_____	_____	_____
Equipment Rental		_____	_____	_____
Films and Slides		_____	_____	_____
Subtotal		$_____	$_____	$_____
TOTAL		$_____	$_____	$_____

Form

Department _____

Budget Department No. _____

Department Budget Request for the Fiscal Year Ending _____

Salaries and Benefits—Faculty and Staff

Name	Rank	Object Code	Budget 1975	Budget Request 19____	Percentage change (±) in 19____ Budget
_____	_____	_____	$_____	$_____	$_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
Total Salaries			$_____	$_____	$_____
Add: TIAA		_____	_____	_____	_____
FICA		_____	_____	_____	_____
Subtotal					
Total Salaries and Benefits			$_____	$_____	$_____

Form

XYZ University Activity Data Form	
Activity	**Hours/Week**

This form will allow programs to document the time spent in carrying out their activities.

Form

XYZ University Program/Departmental Activity Summary		
Goal	**Objective**	**Activity**

This form will allow both academic and support departments to document their *activities* in support of their *objectives*.
Note: The activity should be designated by the year and/or term it is expected to begin.

Form

XYZ University Activity Change/Resource Requirements		
Activity Changes	**Expected Impact**	**Resource Requirements**

This form reflects all proposed changes in program or departmental activities. In addition, it gives the expected impact of the change and the resources required, if any, for the change. *Note:* These changes should be designated as to the year or term they are expected to begin.

APPENDIX C

Suggested References

SELECTED REFERENCES

Bokelman, Robert W. and Louis D'Amico, *Trends in Higher Education, Planning and Management Data, 1957-58 to 1959-60,* U.S. Department of Health Education and Welfare, Office of Education, Washington, D.C. US Government Printing Office, 1961.

Daniere, Andre, *Higher Education in the American Economy.* New York: Random House, 1964. 220pp.

Drew, Elizabeth B., et al., "PPBS: Its Scope and Limits," *The Public Interest,* No. 8 (Summer, 1967). pp. 3-48.

Dilley, Frank B., "Program Budgeting in the University Setting," The Educational Record, XLVVI (Fall, 1966), 474-489.

Exton, Elaine, "State Legislators Urged to Install PPBS," *American School Board Journal,* CLIV, No. 2 (February, 1967). 13-16.

Fisher, G.H., *The World of Program Budgeting.* P-3361. Santa Monica, California: RAND Corporation, May, 1966. 30 pp.

Harris, Seymour E., *Challenge and Change in American Education.* Berkeley, California: McCutchen, 1965.

Hirseh, Werner Z., *The Budget as an Instrument for Medium- and Long-Range Planning and Programming of Education.* Paris: Organization for Economic Cooperation and Development, Directorate for Scientific Affairs, April 3, 1968, Mimeograph, 30 pp.

Hostrop, Richard W., *Managing Education for Results,* ETC Publications, Homewood, Illinois, 1973.

Knorr, O.A., *Long-Range Planning in Higher Education,* Boulder, Colorado: Western Interstate Commission on Higher Education, April, 1965.

Marland, Jr., Sidney P. "Accountability in Education," *Teachers College Record,* February, 1972.

NACUBO, A College Planning Cycle: People-Resources-Processes: A Practical Guide, 1975.

Novick, David, editor, *Program Budgeting: Program Analysis and the Federal Government.* Cambridge: Harvard University Press, 1965. pp. 382.

Nwagbaraocha, Joel O., *Systems Analysis Approach to Academic Planning*, Research Profile Institute for Services to Education, Vol. II, No. 2, June 1974.

Odione, George S., *Management by Objectives*. New York: Pilman Publishing Corporation, 1965.

Umans, Shelly. *Management of Education*. Doubleday and Company, Inc., Garden City, New York; 1971.

Van Dusselsorph, Ralph. "Some Principles for the Development of Management Information Systems." *Management Information Systems in Higher Education: The State of the Art*. Durham, North Carolina: Duke University Press, 1969.

Wildavsky, Aaron, *The Politics of the Budgetary Process*. Boston: Little, Brown and Company, 1964, Chapters 4 and 5.

Williams, Harry, *Planning for Effective Resource Allocation in Universities*. Washington, D.C.: American Council on Education, 1966. 310 pp.

Zani, William M. "Blueprint for MIS," *Harvard Business Review*, November-December 1970.