The future of higher education institutions rests on the extent to which they meet the needs of society. A systemic mode of planning provides an ongoing mechanism that assures an institution's responsiveness to society's changing needs. Achieving consensus by appropriate groups regarding environmental assumptions that affect an institution is an integral part of the planning process. Sources of such assumptions about environmental factors currently affecting higher education include a shift from quantity revolution to an equality revolution; a switch from educational opportunity for all to educational opportunity for each; a spectacular increase of older students; effort to link the world of work and the world of education. Market analysis, or the identification of the relationship between the needs of students and the way the institution can meet those needs, is another environmental source of information useful to planning. It consists of a coherent way to plan responses to market conditions. Another important step in the development of the planning process is the interface of the budgeting process. The budget is a vehicle for communication of details about institutional priorities and objectives, and a means for assessing how well the institution achieved its purposes. (JEB)
ABSTRACT

Critical as institutional planning is to a college's survival, only a small number "have effectively developed a plan, based on sound data about themselves and their setting, which is revised at least annually and upon which the institution's leadership acts daily". Planning is a primary administrative function antecedent to managing and evaluating. A Planning, Managing, and Evaluating (PME) system is firmly based on an organizational process which strives to gather facts and put them together to produce meaning. These facts are linked to the mission and essential purposes of the institution and can be aggregated under categories such as (1) admissions, (2) financial aid, (3) attrition and retention, (4) instructional programs costs, (5) library, (6) faculty productivity and reward structure, (7) personnel benefits, (8) new program development, (9) student learning outcomes, and (10) budgeting and fund raising.

Data are the foundation upon which to build the multi-year institution Plan, a document containing a grand design representing intelligent anticipation of activities, events, and experimental observations carefully specified in advance to move from one point to another. Data are needed (1) about environmental assumptions upon which to base planning; (2) about potential clients and unmet societal needs growing out of a needs assessment or market analysis/market segmentation process; and (3) for managing institutional areas as specified above. Probably most important, however, the data analysis process must strive to produce meaning as it relates to efficiency and effectiveness of relating dollars to institutional goals and objectives.

INTRODUCTION

Shortly after we began to work on our presentation, Bob and I were reminded of the minister who had been reassigned to a parish in Texas. Because he wanted to impress the congregation, he pulled his best sermon from his files. Only one parishioner, a cowboy, appeared in church on Sunday. The minister preached the entire sermon. After church the minister asked the cowboy how he liked the sermon. The cowboy responded, "You know Reverend, each night I take a load of fodder down to the watering hole to feed the cattle. If only one cow shows up, however, I don't give her the whole load."

After spending some time on the presentation and not wanting to give you the entire load, we arrived at the following limited, but achievable objectives:

1. To define planning as us- in this paper and list the elements of a
comprehensive institutional planning process.

2. To describe the budgeting process and a method for relating fiscal resources to institutional goals and objectives.

3. To discuss the relationship between data and its use in planning, management, and evaluation (PME) system.

THE NEED FOR PLANNING

The future of any institution including higher education rests on the degree to which it meets the needs of the society in which it exists. As society changes, so must higher education change. If higher education is to remain a viable institution, it must be responsive to the needs of society. The way in which a specific college meets the challenge of being responsive to societal needs is a function, for the most part, of its sophistication in planning: comprehensive, long-range, and systematic. As critical as institutional planning is to a college’s survival, however, only a very small number have effectively developed a plan, based on sound data, about themselves and their setting, which is revised annually and upon which the institution’s long-range acts daily.”

The Ohio Citizens’ Task Force on Higher Education and the Ohio Board of Regents’ Master Plan identify paramount goals for the diverse structure of higher education and call for a shift from a periodic production of master plans once every five years to a continuous systematic mode of planning.

PLANNING DEFINED

Planning is planning — inadequate for expressing the full range of enormous concepts. The term does not differentiate between merely taking some thought of the immediate consequences of a single, simple act or accounting for all the variables throughout the five-year period of landing a man on the moon and returning him safely to earth. In curriculum planning the term has the same meaning whether we mean (1) specifying a single criterion—reference objective for a student to demonstrate or (2) the arraying of the thousands of objectives necessary to demonstrate competence in order to earn a degree or (3) determining for all the variables throughout a multi-year period of developing and implementing a new strategy for the preparation of professionals in science-based teacher education.

Some planning is a characteristic and pervasive behavior of all human beings and organizations; it is the hallmark of what we call rationality. If we were to draw a line to represent the possible range of ways an organization might make its decisions, one end of it could be called Ad Hoc and the other end Planned. In the Ad Hoc mode, decisions are made one-by-one according to the momentary judgment of the decision maker(s), unrestrained by plan or even precedent. In the Planned mode, every decision is wholly constrained by a previously adopted plan. There are, in practice, few examples of these perfect extremes. Somewhere between these two extremes is where most organizations are in their planning.
ELEMENTS OF THE PLANNING PROCESS

Planning is primarily administrative function antecedent to implementing, coordinating, and evaluating. A comprehensive planning process has several elements. First, there must be a planning protocol. Some person(s) at an institution have responsibility for planning various aspects of the institution and they will follow some procedures in doing whatever it is they will do. How they do whatever they do should follow an agreed-upon set of steps.

Second, there is the need to develop a planning structure. Most institutions have some sort of structure for coordinating the ongoing activities of the institution. The structure may be quite simple, with a minimum number of persons participating in the decision-making process, or it may be quite complex involving a number of review committees and several levels of review boards. Regardless of complexity, there must be some structure for planning.

Third, there must be some way for stating and achieving consensus by appropriate groups on environmental assumptions about the institutions. Environmental assumptions are both internal and external to the institution. Internal environmental assumptions cut across every aspect of the institution, including program, students, institutional program costs, and fund raising. External environmental assumptions include such things as societal needs, economy, legislation mandates, and state support. These assumptions are important in developing the alternative scenarios most likely to emerge in the next five to 10 years.

Environmental assumptions are an integral part of the planning process, particularly for technical education. Technical education prepares persons for "middle manpower" positions. A segment of the manpower spectrum which lies between the recognized professions on the one hand and the manual trades and crafts on the other. The term subsumes a number of types of persons such as paraprofessional, semiprofessional, subprofessional, technician, foreman, middle management, engineering aide, and even some highly skilled crafts and trades. Educationally, the middle manpower occupations require education and training beyond high school but not to the level of the baccalaureate degree.

There are numerous sources of environmental assumptions. Statements about the general direction of higher education include (1) a shift from quantity revolution to an equality revolution; (2) a switch from "educational opportunity for all to "educational opportunity for each"; (3) a spectacular increase of older students; and (4) an effort to link more closely the world of work and the world of education. Environmental assumptions relate to career education, continuing education, life-long learning, and systems for measuring educational accomplishments. In the recent address by Robert E. Kinsinger, Vice President of the W.K. Kellogg Foundation, several interesting changes were forecast.

1. Postsecondary education will modify even further its former preoccupation with the educational needs of youth and increase
dramatically its responsibility for providing lifelong edu-
cational opportunities.

2. The procedure for measuring educational accomplishments will
change in dramatic ways. The system of amassing largely time-
related academic units to reach the required total for a
degree will yield to different output measures related to
levels of competency in reference to designated bodies of
knowledge and sets of skills.

Technological advancements are recorded in numerous sources and are essential
in keeping the curriculum content current.11

A method for specifying goals is also integral to planning. This in-
cludes a methodology for (1) generating goal statements; (2) sorting, cate-
gorizing and prioritizing these goals; (3) refining the goals into specific
objectives and noting interrelationships among them; and (4) specifying the
relevance of goals and objectives to the support base of personal, physical
and fiscal resources. Goals and objectives can be intramural or intermural.

Environmental assumptions are a source of goals and objectives. Goals
can be obtained from needs assessment or market analysis.12 Market analysis
consists of obtaining detailed information about markets or market segments
served or unserved by the institution. Market analysis is an organized
effort to identify the relationship between specific needs and the ways the
institution meets or could meet them. Market analysis is, in its simplest
description, a more coherent way to plan our responses to environmental con-
ditions. Another source of goals and objectives is a critical analysis or
diagnosis of the students presently served by the college and its current
curriculum offerings.

When goals have been stated and prioritized, a program is developed
for each goal labeled a high priority. This stage of the planning process
should yield a plan of action for each high priority goal. The plan of
action should include specific objectives stated in the form of intended
outcomes, a sequence of activities and events to lead from one point to
another, and a time-line for reaching the goal. There should also be some
plan for monitoring progress and evaluating the outcomes of the process of
reaching the goal as well as the impact of the goal.

Sixth, there should be some formal evaluation protocol for examining
the comprehensive planning process. The planning process yields a Plan,
a document containing a grand design representing intelligent anticipation
of activities, events, and experimental observations carefully specified in
advance to move from one point to another. Evaluation of the planning process
can be accomplished by persons within the organization or by some group
external to it. (A Comprehensive Planning Process is Displayed in FIGURE 1)

Planning, however defined, has a focus on designing and shaping the
future as opposed to merely changing. Integral to planning are methodologies
for (1) generating goal statements and standards; (2) sorting, categorizing
and prioritizing goals; (3) refining goals, noting interrelationships among them; and (4) specifying the relevance of goals to the support base. As suggested in the preceding paragraphs, organizations strive to gather facts and put them together to produce meaning. These facts can be aggregated under categories such as (1) admissions, (2) financial aid, (3) attrition and retention, (4) instructional program costs, (5) library costs, (6) faculty productivity, (7) personnel benefits, (8) new program development, (9) fund raising, and (10) student learning outcomes. (FIGURE 2 is a model of the relationship of institutional data. The model does not imply that data packages are related only to other packages to which there is a connecting line. Rather, the design suggests that mission and purpose are the core for all institutional goals and that data modules are interrelated with each other and should be supportive of the institutional goals.) Planning, then, critical analysis and requires the development of an analytical capability to collect, array, and analyze a large number of variables in an effort to portray a system of relationships, causality in some cases. The latter is the primary function of the Management Information System.

Because each institution is unique, it is impossible to list a definitive set of environmental assumptions and institutional goals and objectives which any other institution can automatically adopt from elsewhere. In specifying assumptions upon which to base planning, North Central Technical College found it useful to develop a list to stimulate thinking and to group the assumptions. The list of categories for stating assumptions is as follows:

1. Assumptions about the societal context within which NCTC exists
2. Assumptions about external agencies
3. Assumptions about institutional leadership/management
4. Assumptions about NCTC programs (existing and potential)
5. Assumptions about potential clients and enrollment
6. Assumptions about student services
7. Assumptions about staffing and professional development
8. Assumptions about physical plant
9. Assumptions about equipment
10. Assumptions about fiscal resources

Planning assumptions about the societal context in which an institution exists can focus on such issues of health, energy, transportation, learning, training, quality of worklife, leisure, credentializing such as licensing and certification and program and institutional accreditation. Planning assumptions about external agencies can focus on the relationship between institution and state and local governance, higher education as a system, accreditation, and communication. Planning assumptions about existing and potential programs include new credit and non-credit programs growing out of needs analysis or market segmentation studies, use of advisory committees, and institutional development and support programs. Programs can be defined as new in format, new in delivery system format such as cooperative programs, new in evaluation format such as in competency-based education.
A project by the American Association of State Colleges and Universities uses societal trends as societal values as a way of planning futures and bringing planning assumptions into focus. The project uses a cross-influence matrix of 12 societal trends and 12 values to determine goals in 10 areas. The 12 societal trends are population, government, global affairs, environment, energy, economic forces, and technology, human settlement, work, life style, women, and participation. The 12 societal values are change, freedom, equality, diversity, interdependence, pluralism, localism, ethics, knowledge, quality, goals, and forecast. The 10 goal areas are finance, students, research and development, human resources, facilities, faculty, curricula, administration, resources, and marketing.\[13\]

North Technical College also developed a list of categories for specifying goals and objectives (1) as a means for stimulating goals and objectives across a broad range of areas, (2) to provide a guide for similarity of goals and objectives for all departments within the college, (3) as a framework for allocating dollars to goals and objectives across the college. A list of categories of Goals and Objectives is as follows:

**Categories for Specifying Goals and Objectives**

1. **Mission Attainment**
   a. Promote understanding of mission statement within the college
   b. Promote understanding of mission statement outside the college
   c. Facilitate mission attainment (assumptions, goals and objectives, dollars = goals)
   d. Develop means to evaluate mission attainment

2. **Functional Relationships**
   a. Identify agencies and organizations
      (1) School systems
      (2) Business and industry
      (3) Service organizations
      (4) Accreditation associations
   b. Develop policy and procedures
   c. Specify strategy for pursuing positive functional relationships

3. **Qualitative Improvements**
   a. Academic Programs
      (1) Curriculum content and content formats
      (2) Alternative teaching strategies and techniques
      (3) Alternative ways for evaluating competencies
      (4) Minimum competency standards
      (5) Interdisciplinary considerations
   b. Student Services
      (1) Define comprehensive services in light of contemporary needs
      (2) Analyze what exists in light of contemporary needs
      (3) Diagnose needs of students
      (4) Link institutional resources to diagnosed student needs
   c. Institutional Management
      (1) Implement Planning, Management, and Evaluation (PME) System
      (2) Team leadership participatory mode of planning/management
Review policies, functions, organizational structure, and procedures

Program cost analysis

4. MARKET ANALYSIS
   a. Specify method of market analysis
   b. Develop programs in relationship to identified needs
   c. Specify policy and procedures for marketing (promoting) programs
   d. Analyze traditional college bound students by school district
   e. Identify non-traditional client markets
   f. Develop strategies to penetrate further traditional/non-traditional students
   g. Develop strategies to assist organizations diagnose training needs

5. PROFESSIONAL DEVELOPMENT
   a. Diagnose need
   b. Develop programs
   c. Allocate resources
   d. Affirmative action

6. PUBLIC RELATIONS
   a. List the college's major publics
   b. Examine alternative ways to communicate with publics
   c. Specify policy and procedure for systematic cultivation of various publics

7. FUNDING SOURCES
   a. Specify resource requirements over multi-year time-line
   b. Examine alternative funding sources
   c. Create policy and procedures for pursuing grantsmanship
   d. Incorporate grantsmanship into college operations

A second objective of this presentation is to describe the budgeting process and a method for relating fiscal resources to institutional goals and objectives.

An important step in the development of the planning process is the interface of the budgeting process. The budget is clearly the institution's most important and significant statement of resource allocation and use. Through the budget, the president and the administration of the institution present an assessment of the institution's problems annually and, indeed, proposals for dealing with them. Budget is then the vehicle for communicating details of the president's assessment and recommendations. The budget is the chief instrument for forcing and recording executive decisions about institutional priorities, objectives the institution should seek, the share of the institution's resources that should be dedicated to each area, and how costs should be distributed and underwritten. The annual review necessitated by the preparation of the budget also gives the president and the administration an opportunity to weigh the effectiveness of the institution's programs in achieving their purposes, and to consider how they might be improved. Skillfully handled, the budget can become an invitation to institutional creativity rather than bureaucratic drudgery. The process of interfacing the institutional budget with the comprehensive academic planning process will be referred to as "The Alternative Base Concept." ABC is a planning/budgeting process, a way of relating dollars to the organization's goals and objectives.
through the careful study of alternatives.

At the offset of the explanation of this process, let it be clearly stated that ABC budgeting system must be tailored specifically to the needs of each individual institution. Although the planning principles will remain the same, each institution must consider a number of factors which, in all probability, make it different from any other institution. These factors may include:

1. Variation in organizational structure.
2. Current institutional decision-making process.
3. Maturation in institutional planning.
4. Variation in funding sources.
5. Significant differences in the planning calendar.

Within the format of ABC budgeting, alternative base concept is a logical step-by-step approach to budget building, which may be adapted with the five previously mentioned variables.

In a climate where it has become common folklore that of all our social institution's most resistance to change, cemeteries and institutions of higher learning must surely rank at the top, we are fortunate to have at hand a planning process which is designed to produce changes.

The concept of the ABC budget process is to build a budget by establishing three alternative budget bases. The first alternative is a continuation budget base, referred to as maintenance level. The alternatives utilized in establishment of this base may be to assume no increase from the current level expenditures, specific percentage increase, or a specific percentage decrease from current level of expenditures. These alternatives allow the cost center to realign expenditures by object code within specific guidelines. The cost center may further elect to reduce expenditures, or to transfer certain expenditures into another cost center, as long as totals do not exceed maintenance level guidelines.

The second major alternative is a reduced budget base, referred to as skeletal level. The concept is for the cost center to rank a series of reductions within specified percentage levels from the maintenance level. North Central Technical College in the current fiscal year assigned reduction from 1% to 10% reductions to be developed, ten in all, each representing an additional 1% reduction from the maintenance level. These reductions are further prioritized so that the first level reduction would create the least effect on the productivity of the cost center.

The third major alternative planning tool is called expansion package. Expansion package alternative budget base is actually an optional "wish list" of expenditures put together in packages addressing one or more objectives. This approach considers the possibility of additional expenditures beyond maintenance level of operation. It is optional in the sense that not every cost center may find it necessary to request additional funds. Expansion packages are ranked in order of importance to the cost center.
Each of these budgets is inter-related in the budget building process and yields a number of alternatives at each stage of the planning process. These alternatives provide both current and future flexibility should plan or resources be altered.

FIGURE 7 illustrates the ABC budgeting process and indicates the critical decision points at which key data elements are essential. Across the top of the chart are indicated the five decision units that interact to produce the budget document. Although the title of these groupings may vary from institution to institution, their responsibilities within the framework of the planning process will be very similar. The cost center is a unit or natural grouping of activities in an institution's operations for which costs are collected. These elements or segments are budget units for which expenditures are planned. The Academic Council is comprised of division and program directors. The President's Cabinet consists of the chief executive officer of the institution and the institution's three vice presidents - academic affairs, student services and business and finance. The Board of Trustees is the final policy-making group of the institution.

The Budget Committee is comprised of a cross section of the College. Because every faculty and staff member of any given institution is involved in the utilization of college resources, the entire college community, including student representation, should be involved in fiscal planning. At North Central Technical College the Budget Committee was comprised of two representatives of the academic council, one faculty member from each of the four technical divisions, two representatives each from student services, classified staff, and the student advisory board, and was chaired by the vice President for business and finance.

The first series of steps involved development of goals and objectives by the cost centers, with subsequent review by the Academic Council and the President's Cabinet, with final approval by the Board of Trustees. Following this final approval, the goals and objectives go to the Budget Committee for familiarization, and from the Board of Trustees to the President's Cabinet with guidelines for the development of the institutional budget. These guidelines will address themselves to:

1. Maintenance level for cost centers. Prior to furnishing of guidelines, basic work is done by the chief fiscal officer denoting projected income in the form of parameters indicating minimum and maximum expected income for the budget period.

2. The President's Cabinet furnishes a guideline for skeletal levels so that each cost center will project well within the maintenance level projection.

The cost centers then develop budgets relating dollars to goals and objectives. Maintenance levels can be reduced where dollars are not required to support on-going programs or where goals and objectives have been reached. In addition to the maintenance and skeletal levels, budget centers may pro-
ject expansion levels for achievement of additional goals and objectives should additional dollars become available. The Budget Committee ranks and orders expansion packages and makes recommendations to the Academic Council and the President's Cabinet. Budget packages may be referred back to the cost center and again to the Budget Committee for further development and review. The President's Cabinet, with the help of the Academic Council, reviews the budget and places its own recommendations on expansion packages if they vary from that of the Budget Committee. The recommendations and comments of the President's Cabinet are shared with the Academic Council and the Budget Committee prior to the finalizing of the budget through action by the Board of Trustees. In the budget building process there are a number of critical points which require key data elements in order to make decisions. These points of decision may well be referred to as decision opportunities since they provide the opportunity to adjust the budget level of expenditures to meet a number of criteria none the least of which is projected income. Opportunity is also provided to trade off priorities of spending levels to meet a variety of objectives to which departments have ascribed. Each critical decision point may also be described as a key element point. Appropriate data must be readily on hand to assist the decision makers in determining the optimum decision opportunity.

To be useful to decision makers key data elements must be:

1. simple
2. complete on important issues
3. timely
4. reflective of the unique characteristics of the institution.

Financial, space, faculty, enrollment, and special information, or combination of two or more of these elements, comprise the key data elements. These elements may be further divided into historical data or projected data, see FIGURE 4. Historical data may be defined as data collected for some specific planning period up to, and including, any previous time frame in which the body of data reached a conclusion. Projected data is a term referencing a group of data within a time frame not yet concluded.

At the first decision point of furnishing guidelines for the development of cost center budgets it would seen imperative that the maximum number of both historical and projected data elements be available. Financial data relative to past and projected income necessarily involve enrollment data. Financial data relative to past and projected expenditures will involve space faculty and enrollment data. Special studies may also require special data elements involving library holdings, supply and equipment inventories, maintenance and repair records and other elements not usually included in the four other categories.

The first decision point would provide the necessary data elements to allow the Board of Trustees and the President's Cabinet to recommend additional or less expenditures in order to provide a base level for the cost centers to begin developing their new budgets.
At the second critical decision point the Budget Committee reviews the budgets developed by the centers. At this point key data elements would be of a specialized nature relative to the accomplishment of previous goals and objectives (historical) and some objective data (projected) relative to outcomes sought. This data could take the form of a point system relating outcome sought in relation to resources utilized (projected). Again, the recommendation by the Budget Committee impacts the maintenance level budget by either an increase or decrease.

The third and fourth decision point, again by some degree, either increases or decreases the cost centers by rank ordering and recommending expansion packages, that is "wish lists", in anticipation of possible additional expenditures beyond maintenance level of operation. A number of key data elements may be required by the decision makers to aid in the rank order of the expansion packages. Elements of financial data such as unit cost, enrollment projections, space utilization, etc. may impact this decision point.

The fifth and sixth decision points will probably require new additional historical or projected data beyond that expressly requested. A timely income projection based on any new known factors, such as the passing of the bimium budget by the state legislature or a revised enrollment projection, would be appropriate in this instance.

The seventh critical decision point involves monitoring of the projected key data elements previously prescribed by the institution. Most likely data to affect change would be a change in financial or enrollment data. However, projected space utilization, course enrollment, increased energy cost beyond projection, etc., may impact the decision to review and recommend revision of that budget.

An approach to the planning of key data elements is the construction of the composite data element use matrix. The matrix is useful not only in identifying outputs that may be planned by the data processing department, but a useful planning tool in the hands of the decision makers. For anyone who has ever served on a committee (this includes the total academic community) nothing is more frustrating than absent data at a planning meeting. A sample composite data element matrix is included in FIGURE 5.

At each critical decision point, an analysis of the key data elements will provide the decision makers with reasoning which is relative to drawing a logical conclusion to either increase or decrease the budgetary guidelines.

In the final analysis the go, no-go, yes or no, black or white, up or down, left turn or right turn decision will be only as good as the reasoning supporting the premise. In this syllogistical approach to planning the availability of simple, complete, timely, and appropriate key data elements is the link between the maximization of resources utilized and the outcomes sought.
The Board of Trustees has the alternative of approving or requesting revision of the final budget. In the case of a request for revision, the entire step regarding development of budgets with review and recommendations would again take place prior to another presentation to the Board of Trustees.

Following the Board of Trustees approval of the total budget, it is released to the cost centers for implementation. At that time, if projected income is better known, the approval will request the addition or deletion of funds through either levels of skeletal budget released or level of expansion packages released. During this series of reviews, the budget may be altered by variations in income through additional application of skeletal level deductions, further release of dollars for additional priorities of expansion packages, or the possible selective decrease of budgets with review and recommendation by Budget Committee, President's Cabinet and the Academic Council, and of course, final approval by the Board of Trustees. In most instances, boards of trustees will allow administrations to handle minimal changes in total budget without requiring additional approval by the Board.

Evaluation, revision and review are constant effort by the President's Cabinet, the Academic Council, the Board of Trustees, and the Budget Committee. Revision may be made at any critical point during the fiscal year with the use of predetermined skeletal and expansion package formulation. Only when income drops severely below projected skeletal base projections, will it be necessary to go back to the cost centers for additional budget revisions. Once the three budgets are developed by the cost centers, they are relieved of the requirements of budget development until the next fiscal year.

Examination of the responsibilities on a vertical line under the developing bodies indicates that cost centers develop goals and objectives, develop budgets, and finally implement these budgets. The duties of the President's Cabinet are mainly to review, furnish guidelines, evaluate the results, and in some instances revise budgets. The Academic Council reviews and evaluates the budget and the Board of Trustees approves, advises, and evaluates. The Budget Committee has a duty of familiarizing themselves with the goals and objectives and to review, recommend, and evaluate the development of budgets and the results thereof. The process may be described as a two-way process of recommendations and communications.

Although the final budget recommendations are the responsibility of the administration of the College, the ultimate budget decision rests with the College Board of Trustees. Because the educational enterprise is run on a bottom line measured by service as opposed to profit, the process lends itself to interaction by dedicated individuals involved in different function of the institution to focus on purposes and outcome based on the organization's mission, goals and objectives.

A third objective of this presentation is to discuss the relationship between data and its use in a planning, management, evaluation (PME) system. The first section of this document described in some detail a planning process. The second section of this document described a budgeting process for relating...
resources to goals and objectives. That which is planned for during one fiscal year will be managed (implemented and coordinated) during the next fiscal year. Evaluation will occur both during the years the processes of planning and managing take place as well as during the following year. If an institution improves its planning-budgeting process in Year 1, a formative evaluation occurs that same year followed by a summative evaluation sometime later. During Year 2, an institution can improve its managing-budgeting process. A formative evaluation of the managing-budgeting process will be made during that year followed by a summative evaluation sometime later. This concept is basic in order to understand the relationship between data and its use in a PME system. The PME concept is displayed in FIGURE 6.

As indicated earlier in this presentation, organizations strive to gather facts and put them together to produce meaning. These facts can be aggregated under categories such as (1) admissions, (2) financial aid, (3) attrition and retention, (4) instructional program costs, (5) library costs, (6) faculty productivity, (7) personnel benefits, (8) new program development, (9) student learning outcomes, and (10) fund raising. These categories are to be the same as modules developed in the Planning and Data System (PDS), a project by The Council for the Advancement of Small Colleges and generously funded by the Carnegie Corporation of New York over a five-year period. Each of these modules can be used independently to deal with a specific institutional concern or the modules can be linked in ways that deal with a larger set of concerns.

For purposes of discussion, let us assume that an institution had a desire to penetrate further the traditional college-bound student market as well as the older adult markets within a geographic region. Such a stance would require data about potential client markets and their specific educational needs as well as ongoing program cost in order to reallocate resources to accommodate new programs. Data play an important role in the planning process as well as in the management and evaluating functions. It seems logical, therefore, to create a model for the display of data for use at critical points in the decision-making process during the planning/budgeting fiscal year as well as during the managing/budgeting fiscal year. Such a model is displayed in FIGURE 7. Instructional program costs and attrition/retention data are particularly important to make GO/NO GO about the continuation/discontinuation of specific programs. NO GO decisions about particular programs could provide resources to make GO decisions about new programs. Admissions data and attrition/retention historical data are necessary to project future enrollment and anticipated revenue. Admissions data at the beginning of the term are essential in making adjustments during the managing/budgeting fiscal year. Thus, an institution can develop a matrix for sideplaying critical times for reviewing categories of institutional data during the planning/budgeting and managing/budgeting fiscal years.

CONCLUSION

How well higher education meets the needs of its students and the
society in which it exists is a function, for the most part, of its degree of sophistication in planning, comprehensive, long-range, and systematic. Critical as institutional planning is to a college's survival, only a very small number "have effectively developed a plan, based on sound data about themselves and their setting, which is revised at least annually and upon which the institution's leadership acts. daily".1

A comprehensive planning process includes (1) a planning protocol, (2) a planning structure, (3) external and internal assumptions, (4) goals and objectives, (5) a method for developing programs from high priority goals, and (6) an evaluation protocol. Planning is a primary administrative function antecedent to managing and evaluating. A Planning, Managing, Evaluating (PME) system is firmly based on an organizational process which strives to gather facts and put them together to produce meaning. These facts are linked to the mission and essential purposes of the institution and can be aggregated under categories such as (1) admissions, (2) financial aid, (3) attrition and retention, (4) instructional programs costs, (5) library, (6) faculty productivity and reward structure, (7) personnel benefits, (8) new program development, (9) student learning outcomes, and (10) fund raising.

Data are the foundation upon which to build the multi-year institution Plan, a document containing a grand design representing intelligent anticipation of activities, events, and experimental observations carefully specified in advance to move from one point to another. Data are needed (1) about environmental assumptions upon which to base planning; (2) about potential clients and unmet societal needs growing out of a needs assessment or market analysis/market segmentation process; and (3) for managing institutional areas as specified above. Probably most important, however, the data analysis process must strive to produce meaning as it relates to efficiency and effectiveness of relating dollars to institutional goals and objectives.


9. Lifelong Learning Project, 608 13th Street, N.W. Room 608, Washington, D.C.


A Comprehensive Planning Process

1. Planning Protocol
2. Planning Structure
3. Environmental Assumptions
4. Goals Specification
5. Program Development
6. Evaluation Protocol

- Internal
- External
- Market analysis
- Instruction, research, service
- Intraural, intermural
- Prioritize
A Model Of The Relationship Of Institutional Data
FIGURE 4

BASIC DATA ELEMENTS

Historical

enrollment/student

financial

space

personnel

Projected

S

21
### FIGURE 5
IDENTIFIERS FOR POSSIBLE LEVELS OF AGRGREGATION/REPORTING

<table>
<thead>
<tr>
<th>Decision Points</th>
<th>H - Historical</th>
<th>P - Projected</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enrollment and Student Characteristics</strong></td>
<td>1</td>
<td>2</td>
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<tr>
<td>Enrollment by Technology</td>
<td>H/P</td>
<td>H/P</td>
</tr>
<tr>
<td>Course Requirements</td>
<td>H/P</td>
<td>H/P</td>
</tr>
<tr>
<td>Course Section Size</td>
<td>H/P</td>
<td>H/P</td>
</tr>
<tr>
<td>Average Student Load</td>
<td>H/P</td>
<td>P</td>
</tr>
<tr>
<td>Placement Record</td>
<td>H/P</td>
<td>H/P</td>
</tr>
<tr>
<td>Student Profile</td>
<td>H/P</td>
<td>H/P</td>
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<tr>
<td><strong>Staffing &amp; Personnel Characteristics</strong></td>
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<td></td>
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<tr>
<td>F.T.E. Staffing Requirements</td>
<td>H/P</td>
<td>H/P</td>
</tr>
<tr>
<td>F.T.E. Faculty/Student Ratio</td>
<td>H/P</td>
<td>H/P</td>
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<tr>
<td>F.T.E. Staff/Student Ratio</td>
<td>H/P</td>
<td>H/P</td>
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<tr>
<td>Faculty Load Analysis</td>
<td>H/P</td>
<td>H/P</td>
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<tr>
<td><strong>Space Inventory and Utilization</strong></td>
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<tr>
<td>Room Utilization</td>
<td>H/P</td>
<td>H/P</td>
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<tr>
<td>Scheduling</td>
<td>H/P</td>
<td>H/P</td>
</tr>
<tr>
<td>Space Requirements</td>
<td>H/P</td>
<td>H/P</td>
</tr>
<tr>
<td><strong>Income and Expenditures</strong></td>
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</tr>
<tr>
<td>I. &amp; C. Income Summary</td>
<td>H/P</td>
<td>P</td>
</tr>
<tr>
<td>I. &amp; C. Expenditures Summary</td>
<td>H/P</td>
<td>P</td>
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<td>Descriptive Models</td>
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<tr>
<td>Salaries</td>
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<td>Instructional Costs</td>
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<td>Support Costs</td>
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<td>Unit Cost Studies</td>
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<tr>
<td><strong>Special Reports</strong></td>
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<td>H/P</td>
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</table>

**Note:** The table and text are presented as a matrix, with each cell indicating whether a particular identifier is included in the historical (H) or projected (P) data collection.
FIGURE 6
The Planning, Management, Evaluation Concept

YEAR 1       YEAR 2       YEAR 3       YEAR 4       YEAR 5
PLANNING-BUDGETING  MANAGEMENT OF BUDGET  SUMMATIVE EVALUATION

YEAR 1       YEAR 2       YEAR 3       YEAR 4       YEAR 5
PLANNING-BUDGETING  MANAGEMENT OF BUDGET  SUMMATIVE EVALUATION

YEAR 1       YEAR 2       YEAR 3       YEAR 4       YEAR 5
PLANNING-BUDGETING  MANAGEMENT OF BUDGET  SUMMATIVE EVALUATION
### FIGURE 7

**Data And Decision Making**

<table>
<thead>
<tr>
<th>CATEGORIES OF DATA</th>
<th>PLANNING-BUDGETING FISCAL YEAR</th>
<th>MANAGING-BUDGETING FISCAL YEAR</th>
<th>SUMMATIVE EVALUATION</th>
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<td>ADMISSIONS</td>
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<td>LIBRARY COSTS</td>
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<td>FUND RAISING</td>
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<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

**CATEGORIES OF DATA**

- Planning-Budgeting
- Managing-Budgeting
- Summative Evaluation