The assumptions and the expectations of the budgeting systems in higher education are presented in an attempt to clarify the magnitude of the task of setting up a budgetary methodology. The assumptions of effective budgeting should be identical to the purposes of the institutions that are served. Developing a system around the acquisition, storage, and transmission of knowledge, however, involves translating qualitative variables into quantitative ones such as credit hours or learning opportunities, support of faculty research, and public service functions. Even more controversial are the expectations people have about college and university systems and budgeting methodologies. There are three categories of people involved: the users, the distributors, and the providers of education. Each has varying perspectives and conflicting expectations. Users expect sensitivity and flexibility; distributors expect equity and efficiency; providers expect austerity and accountability. The financial officer must set up systems that attempt to satisfy all of these. (JMF)
Resource Allocation Management in Higher Education

TECHNIQUES: USE OF SYSTEMS AND BUDGETING METHODOLOGY

ASSUMPTIONS AND EXPECTATIONS IN HIGHER EDUCATION

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The following paper was presented by Dr. Chalmers at the 1972 Annual Meeting of NACUBO in Denver. He was one of three speakers (along with Ben Lawrence of NCHEMS and Eugene Cohen of the University of Miami) to address the assembly on July 11 on the topic of systems and budgeting methodology.

Newcastle without coal is a more likely scene than a NACUBO membership without sophisticated knowledge of current and developing budgetary systems. The real hazard of carrying coal to Newcastle is that one's coal will be found to be an inferior brand. Accordingly, I will not attempt to add to the sophisticated experience of our speaker from WICHE, and I know better than to attempt to emulate the budgetary acumen of my long-time friend and colleague from the University of Miami. Let me speak instead from the perspective of my own background and experience.

Among other things, I am a contributing alumnus to a private university, a contributing taxpayer to three public colleges and three public universities, and a contributing parent paying out-of-state tuition to still another public university. In that sense I would try to speak for those who provide the funds to higher education; for contributing alumni and alumni boards, for taxpayers and legislators, and for parents of college students. I have also been a distributor and a user of these funds; as a professor of psychology, as a program director, as a dean, as a vice president, and as a chancellor, and I will try to speak for those who distribute and use these funds.

Let me set the stage for these remarks by reverting to my original university employment as a faculty member in psychology. A few years ago many behavioral psychologists avoided any reference to the highly complex functioning of the brain by advocating a "black box" theory of behavior. It was, they declared, "relatively unimportant whether one understood what occurred in the brain as long as one observed, carefully, all of the stimuli (inputs) and responses (outputs)." I want to apply a form of "black box" theory to the topic, "Use of Systems and Budgeting Methodology." I will overlook the highly complex functioning of these systems and methodologies at our colleges and universities, and focus instead upon the stimuli (i.e., the assumptions) and the responses (i.e., the expectations) of these systems. My presidential colleagues would agree that we are more than willing to leave the budgetary legerdemain in your capable hands, provided that: (a) you use only the best assumptions that enter into college and university budgeting and information systems; and (b) you meet all of the expectations different people have for these systems—faculty expectations, expectations of governing boards, of state legislatures, of alumni, of parents, of the public, etc. Before you surge forward to take advantage of this unusual offer, let me remind you of something you already know, to wit, that these conditions are impossible to meet. No budgeting methodology or systems approach can make contradictory assumptions or conflicting expectations compatible. Yet I wonder how many people who are critical of your efforts, or of mine, realize this impossibility. Perhaps to make overt some of the assumptions and expectations of budgeting systems in higher education will help to clarify the magnitude of the task and generate greater tolerance on the part of our critics.

Properly, the assumptions of effective budgeting should be identical to (or at least isomorphic with) the purposes of the institutions that are served. Good, at least we have a starting point. To some degree or other, every one of our institutions is engaged in the
acquisition, storage, and transmission of knowledge. Develop a budgetary system around these three activities and we are in business. Well, not quite "in business," since any procedure to allocate salary dollars, equipment dollars, space, faculty-time, etc., is a numerical system. This means someone must translate the purposes of the institution into numbers. This is an anathema to the English professor turned dean. "Everyone knows you can't measure the contributions of a faculty member in numerical terms," says he, as he proceeds to submit a precise numerical salary recommendation for each and every faculty member in his school or college! The point is, everyone engaged in the management of resources in higher education translates qualitative variables into quantitative ones, even as some among us protest that it cannot (or should not) be done.

Quantifiable Variables of Budgetary Systems

What are the numerical counterparts to the teaching, the research, and the service functions of our institutions? Properly, teaching should be measured by the amount of new learning that occurs, weighted perhaps by some measure of retention and transfer. We are approaching this measure in what some institutions refer to as "learning contracts," but much remains to be done before we can write effective contracts in most areas of higher education. What can we, or do we, use in the meantime: credit hours attempted, credit hours completed, contact hours, degrees produced, or some combination of two or more of these highly quantifiable measures presumably related to learning? Ayé, there's the rub, "measures presumably related to learning." Most of us are hooked on credit hours attempted. Operationally, what do we mean by credit hours attempted? A decade ago it meant the number of hours a student sat in a particular classroom. Fifteen "sitting hours" equaled one credit hour. Once we recognized that compulsory sitting does not assure learning, the credit hour became an opportunity to sit for fifteen hours, an opportunity negotiated during a process called registration. This is the first major assumption that is made in the systems approach to budgeting for most colleges and universities—the assumption that a negotiated opportunity to sit in a specific classroom for a finite period of time is related to the amount of learning that occurs. Fortunately, it is related. Spurious as the correlation may be, that opportunity to sit shows a reasonably high relationship with the new knowledge and skills that college students acquire. In the years ahead, there will be better methods to enable us to justify and distribute scarce resources to assure optimum learning, to insert effective learning that does not depend upon classroom sitting, but they await further development and wide-spread acceptance.

What are the budgetary assumptions underlying the support of faculty research? What are the quantifiable variables of this activity? Ideally, it should be measured as a function of the amount of significant new knowledge that is generated. Now, anyone who has ever been a professor or has even talked to a professor knows that the significance of new knowledge or of new creative endeavors can be judged only by history. Yet, it is equally true that anyone who has ever served on a promotions and tenure committee knows that the research performed by one's colleagues is judged on a continuum that ranges from "pot boilers" to "Nobel Laureate potential." Furthermore, quantifiable decisions are made as a result of such judgments, e.g., salary, number of years for promotion to full professor, dollars of research support. The most critical assumption in this area of budgeting is that decisions ought to be based upon peer group evaluations; i.e., that other criteria (e.g., citation index) are less desirable, less reliable, and less welcome.

What assumptions are implicit in the budgets for public service functions, e.g., non-credit instruction? One is tempted to say that so little consideration is given to the oft-repeated function of higher education that there is no budgetary support, hence no budgetary assumptions. Actually, the most prevalent assumption in the services many of us provide is that they must be financially self-sufficient, and since we do not provide them with much more than their own income we are not tempted to saddle them with additional assumptions.

In a similar manner, the service of faculty members to the institution, in categories other than credit instruction and in research, is too often taken for granted and not considered as an integral part of the budgeting processes. These service activities include the inevitable committee work, student advising, etc.

So much for a brief review of critical assumptions underlying present and proposed systems and budgeting methodologies in higher education. For better or for worse, these assumptions exist; they can be improved, and they determine a great deal more about how a college or university operates than most people recognize or acknowledge. They warrant far greater attention than has been accorded them here or elsewhere in recent years.

Much more visible, and even more controversial, are the expectations people have about college and university systems and budgeting methodologies. For purposes of this half of my remarks, I would like to overtly simplify a description of the people who are involved and divide them into three arbitrary categories. First, there are the "users." They are the oncampus people I will define as those who make the most detailed decisions in the allocation of resources. This includes individual faculty members with contracts or grants; people who make decisions about the distribution of dollars between student assistants, various pieces of equipment, travel, etc. It includes department chairpersons, division directors, deans of smaller professional schools, the chief administrative officer of institutes, surveys, museums, etc. These are
E. Laurence Chalmers, Jr., became the eleventh Chancellor of the University of Kansas upon his appointment in 1969. He came to Kansas from the position of Vice President for Academic Affairs at the University of Florida, after twelve years at Florida in various positions both in the Department of Psychology and in university administration. A native of New Jersey, Dr. Chalmers received his A.B., M.A., and Ph.D. degrees from Princeton University. He continues to serve on a variety of boards, committees and councils related to his active and numerous interests in higher education administration.

For the "user," two issues are uppermost. Does the system contain enough sensitivity to adequately represent the needs of the department (institute program, bureau, division, etc.) and is the methodology sufficiently flexible to respond to changing needs? A third concern, related to flexibility, is whether the system recognizes the authority of the local unit to distribute resources (i.e., flexibility is a necessary but not sufficient condition for decentralized authority). A few brief examples of "user" expectations will suffice since most of the examples are familiar to all of you. The chairperson or dean of fine arts expects the system to recognize that painting, sculpturing, voice instruction, and teaching instrumental music are more often limited by the number of contact hours that are possible each week than by the credit hours produced. The chairperson of chemistry expects recognition of the fact that a doctoral student requires X square feet of sole-use laboratory space. The chairperson of the history department expects the system to recognize a far greater need for library books in history than for most other departments or schools.

"User" expectations of flexibility are illustrated by the need: (a) to replace a departed faculty member with one or more graduate assistants; (b) to place large sums of money into equipment purchases on a one-time-only basis; and (c) to move resources from printing charges to the purchase of more computing time as the need for one diminishes and the need for the other increases.

If these expectations of sensitivity and flexibility are not met the system will be under constant attacks from within. Moreover, it should not be assumed that either the "distributors" or the "providers" share these expectations, any more than it can be assumed that "users" lie awake at night concerned that they might have more than their fair share of the institution resources.

This brings me to the expectations of the "distributors." For this group of people expectations of equity and efficiency are uppermost. The college or university president who is not concerned about equitable distribution of resources between units on his or her campus will fill an even shorter term as president than the current average of four years. Similarly, the governing board that is responsible for two or more institutions must be concerned with equity, and should insist upon systems and budgetary methodologies that make it convenient to constantly assess the allocation of resources. The second major concern of the "distributor" is closely tied to the responsibility for multiple, competing budgetary units. This is the expectation that the system can ferret out unnecessary redundancy and thus assist decisions that will result in greater efficiency. This concern of the "distributors" should not be confused with budget cuts that reduce the quality
of instruction and research, or result in the demise of total programs. The "distributors" are concerned about wasting funds that could be redirected more effectively elsewhere on campus. They are not usually prone to eliminate funds.

Again, several examples may help to illustrate the expectations that "distributors" have about information systems and budgeting methodologies. With reference to equity, the governing board of multiple institutions expects a system to reveal whether it costs more to teach freshman English on one campus than on another. The president of a college or university expects the system to provide data that will permit the ranking of campus construction projects, or to help determine whether secretarial services are equitably distributed among the faculties of the several departments, schools or colleges. (I need not add that the game plan of some "users" is to resist being comparable to anyone or anything else. To be unique is to resist equitable treatment!) In sum, the equity expectations of "distributors" translates into a concern about whether there is comparable support for comparable effort. In a period of diminishing support for higher education, it is most likely that information systems and budgetary methods will be expected to provide greater data about inequities of distribution than ever.

Examples of efficiency as perceived by the "distributors" also occur with increasing frequency. Governing boards expect information and budgeting systems to reveal what savings, if any, would result from limiting degree programs in a given subject to a single campus; e.g., "Can the State afford two doctoral programs in nuclear physics?" Presidents and vice presidents expect budgetary systems to provide similar information about multiple units on the same campus, e.g., to indicate whether the department of psychology and the school of business teach essentially the same course in introductory statistics, whether the department of English could teach its Chaucer course every other term to twenty students rather than every term to ten students. Information of this type may be derived from information systems that assess the costs of instruction, the allocation of space, the distribution of secretarial time, etc.

Our third group of people, the "providers," have another set of expectations about systems and budgetary methodologies—expectations that emphasize austerity and accountability. Accountability for the "providers" goes well beyond the requirements of a yearly audit to certify that all funds were expended within the constraints of policy and law. Increasingly, the "providers" want budgetary information to show which areas, programs, departments, etc., received what types of support. "How much of the state appropriation (or endowment, or tuition payments) was used to support faculty research?" "Is undergraduate education getting a fair shake?" These are questions of accountability for which the "providers" expect answers. These are expectations the "providers" have about the development of information systems and budgeting methodology to which all of us must be increasingly sensitive.

Their concern with austerity is an inevitable counterpart to their concern with accountability. "How much is the program in Tongotiki costing?" Implicit is the question, "Can we afford it?" "What does each degree in elementary teaching of art cost the taxpayer (the alumni)?" Implicit is the question, "Does society need more art teachers?" Those of us who are among the "distributors" cannot presume to provide final answers for the "providers." We must try, however, to assure that the systems we develop and apply to budgeting for higher education will yield the types of information the "providers" need if they are to continue to provide maximum support.

I have the distinct impression that I have barely scratched the surface of the multiple and frequently contradictory assumptions and expectations which surround the development of increasingly sophisticated systems of resource justification, allocation, and accounting in higher education.

In summary, it is perfectly clear to me that all you need to do, in your capacity as the chief financial officers of your institutions, is to develop systems and methodologies that will employ units of measurement that are directly related to the amount of learning that occurs and to the amount of significant new knowledge that is developed, and then meet just six expectations, namely, that the systems and methodology will:

1) adequately and sensitively represent the needs of every type of enterprise on campus;
2) permit prompt, flexible decentralized decision-making;
3) document the varying degrees of efficiency with which resources are expended;
4) provide the necessary information for equitable allocation among all users;
5) account by courses, programs, schools and colleges for the use of all funds; and
6) provide data that will assure minimum damage from reductions in funding, if and when such reductions occur.

It is equally clear to me that this is an impossible task, but then you have known for quite some time that you work under a highly improbable, if not a totally impossible, job description.

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