This is the fifth issue of the Professional File. The purpose of the Professional file is to present one or more possible solutions to a current problem in post-secondary education. The solutions that are described have been found to be effective on at least one campus. Topics and authors are approved by the Publications Committee and the Executive Council of CSSHE. The Professional File is published up to four times per year by CSSHE and will be distributed free of charge to CSSHE Members. File 4 provided a general description of the procedures the University of Toronto employs to link planning and budgeting. File 5 provides an example of the application of these procedures. File 6 will describe a different example. I welcome your comments and suggestions regarding this series.

Norman Uhl, Editor

ABSTRACT

Throughout the 1980's colleges and universities have been intensely concerned about strategic planning. As a concept, strategic planning has come to be understood well, as have the several processes by which strategic plans are formed. What remains undeveloped, however, are means of implementing strategic plans and of making strategic choices. Linking planning and budgeting is a particular area in which the conversion of strategy to action is simultaneously of great importance and great difficulty. There are some specific and practical steps that can be taken towards the establishment of such links:

1. The organization and processes necessary for effective planning and decision-making in universities, with a particular emphasis on reduced allocation.
2. The development and use of formal budgeting and planning criteria for evaluating academic programs and administrative services.
3. The development and use of budget models and internal funding formulas to extend the time perspective of budgeting so that it more closely approximates that of planning, to project the probable consequences of strategic choices, and to indicate the areas in which strategic choices are necessary.

The enclosed paper is the second in a series of three which addresses the various ways and means of linking planning and budgeting.

RESUME

Pendant les années quatre-vingts, les collèges et les universités se sont intéressés particulièrement à la planification stratégique. En tant que concept, cette planification est bien comprise comme sont les procédés nombreux au moyen desquels les plans stratégiques peuvent être développés. Cependant ce qui demeure non-développé est les moyens par lesquels les plans stratégiques peuvent être exécutés et par lesquels les choix stratégiques peuvent être fait. La relation entre la planification et la préparation de budgets est un domaine dans lequel la traduction de la stratégie en action est à la fois d'une grande importance et d'une grande difficulté. Certaines étapes pratiques et spécifiques peuvent être entreprises pour établir de tels liens:

1. L'organisation et le procédé pour la planification et le processus décisionnel dans les universités avec une attention particulière à l'allocation des ressources.
2. Le développement et l'emploi de critères formels de préparation de budget et de planification pour l'évaluation de programmes académiques et de services administratifs.

3. Le développement et l'emploi de modèle budgétaire et de formule internes de financement afin d'étendre la perspective du budget à travers le temps pour qu'elle puisse mieux approcher celle de la planification, pour anticiper les conséquences probables de choix stratégiques et pour identifier les sphères dans lesquelles des choix stratégiques sont nécessaires.

Le document ci-inclus est le deuxième de trois qui s'adressent au différentes manières de joindre la planification à la formation de budgets.

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**Background**

Planning for colleges and universities is usually a complex and contentious process. There are different types of plans and procedures for producing them. But in the end, the various procedures and plans produce statements of goals and objectives for the institution that they serve.

A great frustration in planning is the difficulty that colleges and universities encounter in the translation of plans into action. The greatest difficulty is linking plans and budgets. Budgets, although technically mechanistic, often are the most tangible expression of an institution’s commitments, at least in the short term.

The efficiency and effectiveness of planning and budgeting depends on the periodic evaluation of academic programs and administrative services based on publicly stated and consistently applied sets of evaluative criteria. Such evaluations play the role of "closing the loop" for which most theories of planning and control call.

In practical and potentially more important terms, evaluation can set an agenda for planning, an agenda that focuses on decisions about the allocation of resources. Planning agendas thus determined can have both the short term perspective needed to lend reality to budgeting and the long-term perspective needed to ensure that resources are allocated in ways that lead to the realization of institutional goals and objectives.

The most common and most difficult decision to make about plans and budgets is where to add and where to subtract. Despite considerable interest in "zero based" budgeting and "PPBS" budgeting, most budget decisions are incremental. Colleges and universities have too many fixed assets, whether or not they are so regarded, to change resource allocations in any other way. The length of degree programs effectively forces major changes in enrolment into three or four year cycles, and changes in arrays of programs offered to even longer periods. Tenure imposes even longer limits on cycles of major changes in the allocation of resources.

In most cases budget planning revolves around two questions. One is about the marginal utility of incremental changes in allocations of resources. How much difference will the addition or subtraction of resources make to the quality of an academic program? How much difference will the improvement or reduction of an administrative service make to the quality of academic programs? It is questions like these that systems of evaluative criteria help to answer. A description of such a system follows. Although developed for the University of Toronto, it is applicable to any college or university.

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**Planning and Budget Criteria for Evaluating Academic Programs**

Table 1 provides a summary of the evaluative criteria, their measurement, and alternative courses of action. A discussion of each criteria follows.

1. Quality

   a. Quality of faculty — The most important element in the quality of a program is its faculty. In turn, the quality of faculty can be expressed in terms of the quality of instruction and the quality of research. A separation of instruction and research may be particularly applicable to a professional program with a large clinical or practical component.

      The traditional indicators of faculty strength are published scholarship, teaching
evaluations, research grants and contracts, awards and honours, professional leadership and contributions, and comparative ratings, mainly by peer evaluation. In many programs the size and specialization of the faculty also are indications of the quality, and suggest a minimum size and variety below which a program becomes not viable.

Ratings of quality are necessarily comparative. In the case of the University of Toronto, the reference points for comparison are national or international standards of scholarship. Using these standards, measurements of quality may be expressed as follows:

— exceptional indicates a level of quality that can be achieved by only a few institutions
— strong indicates a position of noteworthy leadership and distinction well above the average for a professional or disciplinary field

— adequate indicates an average level of quality which is respectable but not noteworthy

— weak indicates a level of quality which is below the standards of scholarship normally expected

b. Quality of student — The quality of an institution's or program's students can be measured at either admission or graduation, or both.

At the admission the traditional indicators of quality are grades, standardized test scores, and academic awards. In Canada, secondary school grades and curricula are more uniform than they are in many other jurisdictions. In Ontario, for example, 85 percent of all undergraduates are admitted on the basis of Grade 13 grades. Standardized tests are required for admission to some programs (for example, Pharmacy) and are not used at all in others.

Despite the large degree of commonality in grades, the quality of applicants often varies among programs. For example, the quality of applicants to one program in a university may be considerably lower than the quality of the applicants to another program in the same university, but may be higher than the quality of applicants to the same program in another university. This criterion, then, may be applied either internally against a common university standard or externally against a provincial standard.

At graduation the measurement of quality is more difficult, but placement, admission to advanced programs, student research, career achievement, and academic awards are useful indicators.

c. Quality of facilities and equipment — The significance of this criterion will be greater for some programs than others. It is most significant for programs in the theoretical and applied sciences, performing and studio arts, and clinical health sciences. Although this crите-
the arts and sciences. A secondary role, for example, can be assigned to a program that provides large amounts of service teaching to other programs. Secondary roles are not necessarily permanent. It is possible to provide service teaching without retaining the superstructure of a formal program or organization. As a concept, centrality either is applicable to a program or it is not, hence the expressions: "central", "neutral", and "peripheral". A practical way of determining the centrality of a program is to ask whether or not its absence would seriously alter the quality and content of remaining programs, or would seriously alter the stated purpose of the University. If the answers to these questions are ambiguous, the role of the program in question or the objectives of the University probably are also ambiguous.

b. Demand for access — Demand for access usually is expressed as the number of applications for admission to a program. These numbers in turn can be expressed either as current actual figures or as projected figures. Actual figures are readily available, although there often is a need to sub-divide them in terms of choice (in Ontario, this means first, second, and third choice as reported by the Ontario Universities Application Centre), in terms of secondary applications which indicate the extent of interest in a specific institution or program, and in terms of the quality of the applicants.

Demand for access also occurs after admission, as students make elective decisions about programs within and sometimes among faculties. This demand usually is expressed best as the number of courses taught both to students who specialize in the field and those who enrol in only a few courses.

c. Demand for graduates — From the perspective of planning, the demand for graduates is a significant criterion. But forecasting the need for graduates is extremely difficult. Forecasts of manpower requirements are often problematic if not precarious and more often are forecasts of labour markets more than of manpower needs. Even when forecasters are reliable, they extend to cycles that are shorter than most educational cycles.

In consequence, despite the importance of this criterion, the University must be cautious in applying it. For some programs the criterion bears no relevance; in these cases quality and the demand for access predominate.

Demand for graduates is a long-term concept; it has virtually no meaning in the short term. Consequently its measurement is expressed best as trends: "increasing", "stable", and "decreasing".

d. Demand for research and consulting — in Canada, governments, research councils, foundations, and other public agencies are increasingly setting strategic goals for research. These goals, when funded, represent a demand for research or for a capability to conduct research.

Although it is not customarily called for as a matter of public priority, the demand for consulting from public agencies and private corporations does vary and can constitute a demand for a program.

e. Service teaching for other programs — Service teaching is measurable and usually is expressed in terms of full course equivalents (an FCE is one student in one full-year course or two half-courses). There can be two sources of the demand for service teaching. One is the result of curricular requirements. The other is the result of students interest in elective courses.

The significance of this criterion can vary. In some programs, service teaching is largely a matter of organization; the instruction provided as service teaching could be provided within the program itself. In other programs, service teaching is provided by a distinctly separate discipline or field of study which could not be included practically in the program.

f. Comparative advantage or uniqueness — A program may have distinctive features that merit its support by the university, although it may not be central to its purposes or may be central only through a connection with other university programs. This criterion can be applied at four levels:

i. A program may be institutionally
distinctive if it provides support or a service on which other programs rely and which is not available elsewhere in the university. An example might be a research facility or expertise which supports research in other programs.

ii. A program may be locally distinctive if it serves a particular local need or if its location offers a specific advantage which is not present elsewhere. An example of the first type of local distinction might be an exclusive reliance of a hospital or research institute on a university program. The second type of local distinctiveness might be exemplified by a professional or health science program which has opportunities for clinical practice and demonstration which are not available to other institutions and programs.

iii. A program may be provincially distinctive. Some programs at the university are either the only ones in the province or are among a small number in a field of major importance to the province.

iv. A program may be nationally distinctive for the same reasons that it is provincially distinctive; but on on a broader scale.

There are no degrees of comparative advantage and distinctiveness: a program either has these characteristics or it does not.

3. Feasibility

a. Relationship of cost to revenue — This criterion, while obviously important, is very complex and problematic. It is difficult to assign costs — especially overhead costs — precisely. Under the operating grants formulas, income is earned on an institutional basis in terms of enrolment in program categories that do not necessarily correspond to the university’s academic organization. Hence the link between income and expense is not necessarily direct.

The terms for expressing this relationship also are problematic. Instead of "sur-

plus", "break even", and "deficit" one could have chosen the terms "excellent", "adequate", and "poor". The second series of expressions would be indicative of the potential of a program to close gaps that may be identified by the application of other criteria.

b. Consistency and quality of planning and management, and

c. Flexibility and opportunity — The application of criteria of quality and need may indicate a reasonable and desirable course of action, but the practicality of that course of action may depend on the program in question’s ability to execute that course of action (which in turn may depend on its planning and management capabilities) and on its opportunities to do so.

These criteria are different from one another in one important respect. The consistency and quality of a program’s planning and management may nullify courses of action which otherwise might be chosen. The absence of flexibility and opportunity to undertake a course of action may postpone its execution, but not necessarily nullify it.

Planning and Budgeting Criteria for Evaluating Administrative Services

The criteria for evaluating administrative services are organized differently from the criteria for academic programs because in principle the need for administrative services is more important than their quality in determining their role in the university. Levels of quality of administrative services need only be as high as the academic purpose of the institution requires, even though higher levels of quality might be attainable.

Table 2 provides a summary of the evaluative criteria, their measurement, and alternative courses of action. A discussion of each criterion follows.

1. Institutional role

a. Demand for service and

b. Level of service actually provided — These concepts are of greatest importance and essentially are expressions of supply and demand.
Evaluative criteria

1. Institutional Role
   a. demand for service
   b. level of service actually provided
   c. role of service
   d. role of constituencies served

2. Quality
   a. quality of service
   b. range of service
   c. relevance of service
   d. consistency and quality of planning and management
   e. flexibility and opportunity

3. Feasibility
   a. relationship of cost to revenue
   b. consistency and quality of planning and management
   c. flexibility and opportunity

Expressions of Measurement

- high, medium, low
- central, neutral, peripheral
- excellent, good, average, inadequate
- inclusive, generally broad, narrow, high, medium, low
- good, adequate, inadequate
- much, some, little
- surplus, break even, deficit
- good, adequate, inadequate
- much, some, little

Alternative courses of action

A. Continuation at current levels of activity, including organization, operating budget, complement and facilities
   E
   V

B. Continuation at lower levels of activity, with reduction in:
   i. operating budget
   ii. complement
   iii. facilities
   iv. range of services offered and no change in organization
   U
   A
   L

C. Continuation at lower levels of activity, with reduction in:
   i. operating budget
   ii. complement
   iii. facilities
   iv. range of services offered and reorganization
   T
   I
   O
   N

D. Continuation at higher levels of activity with or without reorganization, and with additions in:
   i. operating budget
   ii. complement
   iii. facilities
   iv. range of services offered
   A
   T
   I
   O
   N

E. Discontinuation

Table 2. Planning and Budgeting Criteria for Evaluating Administrative Services

From an administrative perspective, services should not attempt to respond to a demand that does not exist or is of minor importance to academic programs and institutional requirements. In most cases supply and demand can be expressed by quantitative measures of workload, for example the number of records maintained or the number of buildings cleaned. But supply may not meet demand, as is particularly the case when resources are limited and administrative services are deliberately not funded to an extent that would enable them to respond fully to demand.
3. Feasibility

a. Relationship of cost to revenue — Some administrative services are provided on a cost-recovery basis. When revenues do not equal costs, or costs are not fully charged to users, the university is in effect subsidizing these services. The concept of subsidy is not objectionable; often it is necessary. The size of a subsidy is therefore an important criterion, in both absolute terms and proportional terms in relation to total cost.

b. Consistency and quality of planning and management, and

c. Flexibility and opportunity — These criteria are in most respects the same for administrative services as for academic programs although administrative services normally have greater flexibility and opportunity. The only limitations on the flexibility and opportunity of an administrative service are the time needed by programs and other services to adapt to a change in the service and the time needed to complete projects that have been undertaken by a service but not yet completed.

Application of Criteria for Evaluation and the Focus of Budgeting

There often is in the university a difference between a program and the organizational arrangement under which it is offered and supported. In academic areas the identity of programs and organizations usually coincide, but there are exceptions. In administrative areas, these identities frequently do not coincide, particularly where similar activities occur at both the institutional and divisional level.

But if plans and priorities are to be translated effectively into budget allocations, and if evaluations are to measure efficiency and effectiveness realistically, the focus of evaluation and budgeting must be directed to generically similar groups of programs and activities.

Focus is important for another reason. If a balance is to be struck between divisional and institutional administration, and if budgets are to be set "globally" instead of "line by line", evaluation and budgeting must at least approximately coincide with
levels of managerial responsibility.

As an illustration, the following are the Budget Groups used for the purposes of developing an operating budget at the University of Toronto. For the Budget Groups that comprise administrative and support services, generic functional activities which may occur in academic divisions and in central offices are also indicated.

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<td><strong>Budget Group IV: Professional Faculties and Related Programs</strong></td>
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<tr>
<td><strong>Budget Group V: Other Academic Costs</strong></td>
<td>academic support services</td>
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Budget Group

Budget Group VI: Academic Services
- University of Toronto Library - Operations
- University of Toronto Library - Book Fund
- University of Toronto Computing Service
- Media Centre
- Supercomputer Facility

Budget Group VII: Administration and Governance
- Office of the Governing Council
- Office of the Ombudsman
- Office of the President
- Office of the Vice-President and Provost
- Office of the Vice-President, Administration

- Office of the Vice-President, Human Resources
- Office of the Vice-President, Development and University Relations
- Office of the Vice-President, Research

- Office of the Assistant Vice-President (Planning) and University Registrar

- Office of the Assistant Vice-President, Campus and Student Services

Budget Group VIII: Student Assistance
- Undergraduate Student Assistance
- School of Graduate Studies fellowships and bursaries

Budget Group IX: Physical Plant
- Physical Plant Department (St. George campus)
- Erindale College Physical Plant
- Scarborough College Physical Plant

Budget Group X: General University Expense

Budget Group XI: Ancillary Enterprises

Functional Group

- library service
- library acquisitions
- academic and administrative computing
- media centre
- academic computing

- financial management
- general administration
- logistical services
- (for example, purchasing, parking, and security)

- personnel
- public relations
- development
- research administration

- planning and analysis
- student recruitment
- admissions and records
- space management
- examination scheduling
- financial aid administration
- counselling

- student services
- career counselling
- career placement
- health services
- athletics

- financial aid

- maintenance and services
- utilities
- rent
- alterations and renovations
Figure 1 displays the conceptual relationships of academic plans to plan for budgets. A college or university’s budget would be optimally allocated if all of its programs had costs that realized the standards of quality which the institution held for it. Savings can be realized when actual costs exceed the levels necessary to maintain the institution’s standards, as in the case of Programs B and D in the figure.

Additions of resources can be expressed similarly. For example, the cost of improving Program A to an acceptable standard would be considerably greater than the cost of making a comparable improvement in Program E, even though Program E is much more expensive overall.

The relationship of Program B to Program E indicates how the concept applies to the reallocation of resources between programs. For example, a comparatively small reduction in the resources allocated to Program B could allow the improvement of Program E to an acceptable standard of quality while still leaving Program B above that standard.

The use of evaluative criteria to link planning and budgeting is most useful in support of program budgeting and performance budgeting. Its relevance to program budgeting is obvious since it is the approach that most closely reflects the academic organization of colleges and universities and, in turn, expresses budgets in the idiom of academic planning. When evaluative criteria are coupled with generic, functional definitions (as opposed to organizational definitions) they can be useful in performance budgeting. Performance budgeting that is supported in this way by evaluative criteria thus becomes a particularly useful approach to planning and budgeting in large, complex institutions which by necessity locate similar administrative services in several units, both academic and administrative. Given some of the “alternative courses of action” outlined by the evaluative criteria, the approach can also support zero-base budgeting. The application of the criteria would indeed be a basis on which to decide whether or not to “zero base” certain budgets.
THE CSSHE PROFESSIONAL FILE

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Editor-in-Chief
Norman P. Uhl
Professor of Educational Psychology
Mount Saint Vincent University
Halifax, Nova Scotia
B3M 2J6

Managing Editor
Ken Clements
Secretariat, CSSHE
151 Slater Street
Ottawa, Ontario
K1P 5M1

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