About SCUP

The Society for College and University Planning is a community that provides its members with the knowledge and resources to establish and achieve institutional planning goals within the context of best practices and emerging trends.

What is Integrated Planning?

Integrated planning is the linking of vision, priorities, people, and the physical institution in a flexible system of evaluation, decision-making and action. It shapes and guides the entire organization as it evolves over time and within its community.

About This Resource

SCUP members have asked for more digital resources. It’s clear to SCUP leadership that digital and mobile are essential elements of a 21st century knowledge resource. As a response, this is SCUP’s first fully mobile publication, downloadable in three file formats which, among them, satisfy the requirements of extant reading devices. Use it. Share it.

For more information, visit www.scup.org
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**Introduction & Overview**

*by Carol Rylee, University of Delaware*

Integrated Resource and Budget Planning, SCUP’s first mobile-friendly publication, is the culmination of several years of discussions, face-to-face roundtables, conference calls, and virtual meetings by the Society for College and University Planning’s Resource & Budget Planning Advisory Group.

We had observed that SCUP’s publications, professional development events, and communications did an excellent job of assuming the integrated nature of resource and budget planning throughout the campus. Like information technology, resource and budget planning is woven into every aspect of our institutions, and is involved whenever planning takes place regarding learning space, academic program change, transformation of student services. The list is literally endless.

But was that enough? We thought not. The advisory group’s work began with the goal of bringing resources to SCUP’s membership that highlight, rather than assume, the role of resource and budget planning throughout all segments of an institution’s operations. The idea of a collection of articles highlighting the diverse areas in which budget and resource planning are integrated into an overall planning effort eventually became the series of articles in this publication. Many of the chapters were written by members of the advisory group, and all are written from the particular operational expertise of experienced practitioners.

One only needs to browse the table of contents of this book to see the diversity of ways that integration of resource and budget planning are integral aspects of a higher education institution’s operations.

Carnegie classification characteristics of colleges and universities help to shape their resource and budget planning needs. This fact is reflected in “Private vs. Public Higher Education Budgeting” and “Community College Budgeting and Financial Planning Issues.”

The various realms within which resource and budget planning is critical at an institution are reflected in the diversity of chapters such as “Predictive Modeling: Linking Enrollment and Budgeting,” “Budgeting Academic Space,” “Budgeting Issues Related to Personnel,” “Academic Resource and Budget Planning,” “Capital Budgeting,” and “A Method for Determining the Cost of Graduate Programs.”

Two chapters share insights into budgeting models. “Performance Based Budgeting” is a case study and “Academic Deans’ Perspectives on the Effectiveness of Responsibility Management” presents original research and suggestions.

Finally, three chapters address the administrative structure needed for successful, integrated resource and budget planning. “A Primer on University Budgets” is a resource to be shared with professionals new to budgeting, or new to budgeting within a higher education institution. “Implementation of Enterprise Financial Systems” presents an overview of the implementation of financial systems critical to gathering and reporting budget and planning information. “Integrated Budgeting and Planning” explores what an integrated planning and budgeting framework is and the benefits that such a framework can bring to your institution, and does so in a very practical, step-by-step way.

I want to thank once again the authors of these chapters, and my fellow members of SCUP’s Resource and Budget Planning Advisory Group for their knowledge, time and effort in crafting such an excellent topic list, and writing or shepherding such excellent articles to production and dissemination. They, and I, hope SCUP members will find this resource valuable in their daily professional lives.
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Chapter 1:
Improving Outcomes From Your Planning Process During Turbulent Times

by Jay V. Kahn, Keene State College

At Keene State College, creating the highest value for students and the community, with the least cost, requires accountability, assessment, continuous improvement, agility, and transparency.
Thirty-five years ago, when I worked for the Illinois Board of Higher Education, the board brought public and private higher education campus leaders together at statewide public policy and master planning discussions. Those meetings contributed toward public funding being leveraged via the efficient and use of resources, to promote access to higher education and choice across public and private institutions. Higher education was seen as a public good, contributing to a more educated citizenry and economic growth. That has changed.

The retreat of state funding for higher education and other factors has increased competition and program duplication among campuses. Subsidies of in-state student tuition has shrunk; the perception of public good investments has transformed into students paying their educational costs, for what is considered private good, by borrowing against future incomes. Students are paying a higher share of costs and both public and private campuses are becoming more enrollment driven. To strengthen themselves in this new environment, campuses have invested in new programs, academic quality, tuition discounting, facility improvements, and philanthropic fund raising.

61% of presidents chose strategic planning and budgeting as their area of highest current interest.

For the last 30 years I’ve led integrated planning processes as a chief finance and planning officer. The role speaks to the importance of directing and redirecting campus funds and effort towards strategic priorities. The goal is positioning the campus to create the highest value for the least cost. While the goal has remained relatively constant, the art and techniques of integrated planning have changed substantially over time.

One of the changes is how accountability, assessment and continuous improvement have become integrated into campus planning efforts. The continuous loop of “Plan, Do, Assess, Act” (See Figure 1) is not simply theory Assessment efforts and benchmarking performance provide evidence crucial to demonstrating how campus planning priorities are contributing to the value/cost equation. Assessment of knowledge gained in the core curriculum and in capstone projects, and by benchmarking retention rates and costs per student against peer and aspirant institutions, provide valuable evidence to the campus, governing boards, and accrediting commissions that planning priorities are moving the college up the value/cost continuum.

Figure 1 The Continuous Loop of “Plan, Do, Assess, Act”

(Click here to open a web browser window displaying this figure at its original size.)
Planning processes which match organizational capacity with environmental needs also need to demonstrate organizational **agility**. Seizing opportunities quickly reduces the risk of start-up expense and accelerates the return on investment; moving quickly helps campuses and their partners fill voids and market needs. Manufacturers and health care institutions need properly trained workforce and they do not have the time to wait for campus responses mired down in process or budgetary conflict.

The reputation for responsiveness to community needs that community colleges have earned for their agility is exactly what public and private colleges are organizing to achieve as well. At Keene State College, New Hampshire’s public liberal arts college with 6,000 students, we are starting up a nursing program; creating a new facility to improve our technology, design and safety programs; and forging formal partnerships with the local chamber of commerce, schools and community colleges to help manufacturers meet workforce needs. We simultaneously face a 48 percent reduction in state funding.

That amount of change, where new activities are launched while other core activities experience constraints, takes greater transparency for stakeholders to understand how decisions are made.

Support of strategic priorities underpinned by a shared understanding of how they affect financial performance requires a unity of effort from the president, her cabinet, academic and financial managers, and employee councils. Campus officers, including the president and vice presidents, deans, department chairs and directors, need a familiarity with the data financial managers present for executive decision making and an understanding of the direct and indirect costs of initiatives. This financial acumen is crucial for aligning campus human, physical, technological and financial resources with strategic priorities and emerging opportunities. Indeed, campus community is fostered and empowered by a shared investment in decision making and understanding the relationship to financial bottom lines.

Deliberate effort to add transparency to decision-making helps campuses mobilize to seize opportunities and prepare contingency plans against potential threats. This is particularly valuable as public bodies withdraw their traditional funding support. A lot of institutional parts need to move together to make our organizations more evidence based and agile, while adding transparency to decision making processes.

These elements and concepts provide a context for what you will learn from the following chapters written by my SCUP colleagues. They share best practices for improving our planning outcomes even during these turbulent times.
Chapter 2:  
A Primer on University Budgets

by Carol Rylee, University of Delaware

For those new to budgeting, or to budgeting in a higher education institution.
Introduction

This chapter is intended as an overview of higher education budgeting topics for individuals who are not professional budgeters or who are new to budgeting in higher education. More detailed information can be obtained from various documents, articles, and books via web search for “college and university budgeting.”

**Definition of a budget.** A budget is an estimate of expected income and expense for a given period in time and is a snapshot of the plan of operations based on that estimate.

**Purpose of a budget.** A budget allows for a “what if” analysis of future plans and enables monitoring of plans in progress. The real priorities of an institution are clearly visible through its budget, and past priorities are made evident by looking at former budgets. A budget permits upper-level administration to view a picture of the effect of decisions made and provides information that can lead to the modification of future plans.

“A budget allows for a “what if” analysis of future plans and enables monitoring of plans in progress.”

**Types of budgets in higher education.** Higher education generally operates using two types of budgets: operating and capital. An operating budget is a plan of revenue to be generated and expenditures (or transfers) from that revenue over a finite period of time (such as a fiscal year).

A capital budget is a plan of funding and expenditures for future buildings, major renovations, and remodeling. A capital budget reflects the priorities in the institution’s capital plan and projects the institution’s financial ability to carry out that plan. Funding for capital budgeting will be described in more detail later in this chapter.

Operating Budget

**University-wide budget preparation.** The institution’s budget director is generally responsible for preparing the institution’s budget. Operating budget guidelines and parameters may come from the institution’s senior leadership, board of trustees or regents, state legislature, or others. The budget director uses these guidelines and parameters, along with assessments of the economic climate, to project income related to investments (both long and short term) and to build appropriate levels for economically driven expenses, such as utility and benefits costs.

When building a university-wide operating budget for approval, the budget director must be aware of the audience for the final documents. Generally, the higher level the audience is, the more concise and summarized the information presented should be. Using graphs and charts to illustrate points and data is a plus when presenting information to a high-level audience. (A pie chart illustrating a revenue breakdown by revenue source is an example.)

A budget director may even prepare a budget in one format or type of information breakdown for review by upper-level university administration (perhaps displaying expenses by salary, utilities, benefits, office supplies, etc.) and then present the same information in a different format (by instruction, research, or administration, for example) for a different audience, such as the state or the board of trustees/regents. And there may be yet a different format used for the public or university community.

While it is time consuming to prepare budgeting information with sufficient flexibility to permit multiple reporting levels/groupings, this facilitates multiple substantive reviews and helps to ensure that the parameters applied provide an accurate picture. (It is important for an institution to consider
budgetary requirements when designing its accounting system so that all budget groupings for all audiences are possible.

It is also important to include selected historical information in any budget presentation. A budget is a snapshot of anticipated future activity and is most informative when it can be compared and contrasted with past actual activity (and maybe a past budget).

When preparing a university-wide budget, the budget director must walk a fine line between providing enough detail to permit accurate projecting and sufficiently summarizing the data to prevent both the audience and budget preparer from being overwhelmed. Careful thought must be given as to when it is appropriate to provide detailed information and when it is appropriate to provide summarized information. As a general rule, summarized data are easier to work with and should be used for projections when possible. However, the budget director must ensure that he or she has sufficient detail and categorization to make it possible to provide additional information if requested. An example of a category that may lend itself to summarization is salaries. Many institutions generally provide a percentage increment for salary increases each fiscal year (not including new positions to be budgeted or positions to be cut). This salary percentage increment can probably be applied to all currently budgeted positions in summary to provide an accurate projection of future salary costs. However, the director should be prepared to provide more detailed estimates, perhaps by department, if necessary.

Some items lend themselves to more detailed analysis and budgeting. An example of such a category is employee benefits. Each type of benefit (health care, pension, dental, etc.) will have a specific set of parameters that needs to be individually applied to build future-year expenses. Health care costs probably do not increase at exactly the same rate as pension costs, for example.

The budget director must apply some thought when determining how to mechanically build the budget that will ultimately be approved by upper-level administration or the board/regents. Although the final report may contain very little detail in order to keep the audience (senior administrators or board members/regents) from being overwhelmed, the budget itself must actually have been built with enough detail to allow for sufficient accuracy and the ability to troubleshoot and answer questions regarding the summarized document.

**Departmental/unit operating budgets.** When a department or unit is building its budget, some of the same principles apply as when building a university-wide budget. Knowing the audience and its appetite for detail is important. Again, the farther down the chain from the university-wide budget one goes, the more detailed the budget/projection.

A department or unit head must be aware of economic constraints on his or her income and of university-wide parameters for future budgeting, such as salary and benefits increases. Generally, such parameters will be used throughout the university at all levels of budgeting. Such parameters also need to be considered when building a budget for a proposal for a contract or grant.

**Know your audience!** It is important to consider your audience early in the budget preparation process. As previously noted, different audiences dictate different levels of detail or perhaps even different “views” of the data. As a general rule, the lower the audience is on the hierarchical “chain” of the university, the more detailed the budget will be. If you are preparing a new program budget for a department chair, then you will likely include extensive detail, such as specific salaries or trips to be budgeted. However, if you are preparing a budget for the board of trustees, then you will likely provide highly summarized data, with salary totals rather than details. This is generally true because the farther up the hierarchy one goes, the larger the budgets are. The department chair is dealing with a budget or budgets for a single department, while the board of trustees is dealing with a budget for the entire
institution. The challenge for the budget writer is to find the balance between detail appropriate for the audience and the relevance and clarity of the data.

“Consider your audience early in the budget preparation process.”

In summary, it is important to understand the audience for which you are preparing the budget and to make every effort to include sufficient details for that audience.

Gathering Historical Information

A budget director will begin gathering information for future-year budget projections well in advance of the required completion date. Historical information must be gathered and assessed for its usefulness in preparing future projections. Historical trends in actual activity related to revenue streams, such as athletics revenue or conferences activity, are important since they influence future budgets. A budget should not be based solely on parameters applied to the current-year budget without considering the amount of actual revenue projected. It is tempting to take the easy route and create a future-year budget that equals the actual amount of revenue expected for the current year. However, it is quite possible that the current actual revenue expected is an aberration from a normal pattern of activity and will not recur. In such a case, the future-year budget, while in line with current year actual expectations, would not be correct. The normal historical pattern of revenue generation over several years must be reviewed and considered when creating a future-year budget.

University-Wide Budget Parameters

Once historical information is gathered, analyzed, and assessed, desired parameters (rates of change) must be determined for both revenue and expense. Following is a brief listing of some of the categories to be considered when setting parameters and some of the considerations for each category.

Revenue:

- **Tuition.** Prime drivers for this category include enrollment and tuition rates. In the case of a university-wide budget, does upper-level administration wish to increase enrollment for each of the next five years? Does it wish to increase tuition by a certain percentage? If so, then such parameters must be applied after considering the historical information already gathered. For example, an enrollment increase for each of the next five years may be implemented after noting a decline in enrollment, which may or may not have been budgeted. A prudent budget would require building the increased enrollment on the actual past enrollment, not on the budgeted past enrollment. Also, are programs to be added or eliminated that would increase or decrease enrollment and/or tuition?

- **Student fees.** Student fees include not only miscellaneous small fees, but also major fees such as those for housing and dining, student health, and recreation. Are student fees to be increased? If so, by how much? Will new student fees be added? What will be the change in the estimated number of students?

- **State appropriations.** How much can the institution anticipate in state funding? Do we have to “return” tuition income (or a percentage thereof) to the state in return for its funding? Understandably, it is extremely difficult to assess state funding in advance of legislative approval, so one might consider budgeting conservatively so that future reductions will not be necessary. However, it is also important not to budget unrealistically low, as this might result in unnecessary reductions.
• **Endowment and temporary investment income.** What interest rates should be assumed for the coming years? What is the economic climate expected to be in the next year or two? Does the institution have an endowment policy in place that delineates how much of the earned endowment income will be returned to support operating expenses? If so, what is the effect on the operating budget for the current year?

• **Contracts and grants income.** How much revenue can the institution expect from contracts and grants income? Is a growth in proposal submissions expected? If so, what is the average success rate for submitted proposals?

• **Facilities and administrative (F & A) return from grants (also referred to as indirect cost or overhead).** When grant funds are expended, it is quite common, particularly when the granting agencies are governmental, for a percentage of the expenditure to be sent to the institution to cover broad grant-related expenses such as utilities expenses, administrative oversight expenses, etc. Such income is returned to the institution in the form of unrestricted income. What potential grants are expected to be awarded? How will already-awarded grants be expended? How much will the institution choose to “waive” or not collect in F & A?

• **Gift income.** How much is the institution expecting in gift income during the next year? Considerations include determining how much of the gift income will be restricted vs. unrestricted. Is a major campaign underway to generate gifts?

• **Sales and services income.** This is a category that can be difficult to project if the institution has an entrepreneurial atmosphere. How much is expected from new initiatives? What changes are expected in the income of existing initiatives?

• **Other revenue.** Miscellaneous other income falls into this category. As with other revenues, one must assess historical patterns, future potential, and anticipated increases.

**Expenses:**

• **Salaries.** How will salaries for existing positions change in the next year? Will there be a general salary increase? Is the institution adding or removing positions? Do we need additional budgets for supplemental teaching or graduate student stipends?

• **Benefits.** Is the institution adding or removing positions that will affect benefits expenses? What rates have been negotiated with major benefit carriers, such as health care or dental? Will there be a change in the benefits offered?

• **Library materials.** What is the anticipated percentage cost increase to retain existing journals? Does the institution expect to significantly change the number of volumes in the library’s collection?

• **Utilities.** What is anticipated in terms of increases to utility rates? Is the institution adding additional space (perhaps a new building) that will affect utility budgets? Are we changing the method of utility delivery (perhaps from gas to oil) in a way that will affect the cost of utilities?

• **Support costs.** All departments need funds to support travel, office expenses, phones, etc. What is the institution’s policy to support these expenses? Will the units be given a set percentage change or will each unit be required to justify an increase?
Financial aid or scholarships. How much of the institution’s budget should be spent on financial aid? How will this budget be increased annually? Do we wish to just apply a percentage change based on tuition changes? Will we be adding students and do we wish to grant them financial aid? Do we wish to replace existing student loans with grants? Do we wish to cover additional student unmet need?

Facilities and capital renovation needs. Does the institution have a new building coming online that will require custodial and other maintenance support? How much do we want to plan annually for building renewal (replacement of roofs, etc.)?

Reserves. How much does the institution wish to include in the budget as a reserve in case of unanticipated events, such as a state funding rollback, enrollment downturn, or unanticipated increase in benefits or utilities costs? Clearly, some considerations would include the level of income to be lost if the institution were required to close its doors for a period of time, the level of expenses to be covered if an income stream were compromised over a period of time, the stability of state funding and the economy, etc. An institution should also consider budgeting reserves for volatile major budget areas, such as benefits or utilities.

Effect of university policies. What is the effect of implementing university policies on the distribution of revenue, such as the transfer of major unrestricted gifts to endowment or the distribution of collected F & A to university departments? Are changes anticipated in these policies? What funds are to be set aside for the future replacement of major equipment (amortization) or for the return of some endowment income to endowment principal to offset inflation? Are expenses for individual colleges or departments driven by the revenue generated, perhaps from tuition? These are just a few examples of policies that must be considered when implementing a university-wide budget. Policies that distribute collected revenue affect the bottom line, since these revenues are not available to support other university expenses.

Program or Departmental Budget Parameters

It is important for individuals charged with compiling a budget for a department or new program to consider parameters of their own. Clearly, the parameters for a university-wide budget discussed above may have an effect and should be considered. Additionally, more detailed considerations are desirable. Does the travel segment of the budget need to be increased? If so, then what is the possible source of funding for this increase? Will the unit retain revenue generated by a new program or will that income roll to the central budget with a specific dollar amount budgeted for expenses? What central costs, such as benefits expenses, are required in new budgets? Other issues related to departmental budgets are discussed below.

Recurring vs. non-recurring. When budgeting, one must consider not only matching sources with uses (for example, not commingling unrestricted and restricted funds), but also whether a particular budget is of a recurring or non-recurring nature. A recurring budget (sometimes referred to as permanent or ongoing) is one that is intended to endure beyond the current fiscal year. For example, the chemistry department is requesting a new assistant professor. Because the department anticipates that this position will be needed for many years to come, the request should be for “recurring” funding.

A non-recurring budget (sometimes referred to as temporary or one-time) is one that is not intended to endure beyond the current year. For example, the math department has a bulge in course enrollment in
the current year, but does not expect this bulge to occur next year. The department requests a lecturer for just the current year and does not request this position for longer than the current year. The department is requesting a “non-recurring” position.

It is important to determine what type of budget (recurring or non-recurring) is required when requesting funding, since this may affect the success of the request. Generally speaking, it is easier to obtain non-recurring funding than recurring funding.

**Building multiple budgets within a single university-wide budget.** A university operating budget contains two major segments: unrestricted funds and restricted funds. Additionally, most institutions choose to further segment their unrestricted funds. Accounting principles require that unrestricted and restricted funds not be commingled. Thus, it is important to consider the source of funds when budgeting so that unrestricted revenue is “matched” with unrestricted expenses and restricted revenue is “matched” with restricted expenses.

Restricted funds are those on which the donor/granting agency has placed restrictions related to their expenditure. For example, an individual may provide a funding gift to the university, but specify that it must be expended only for the art department. If the university accepts this donation, then it agrees to spend the funds as stipulated by the donor—for the art department. The university may not spend these funds for the English department. As such, these gifts or grants must be separately accounted (and budgeted) for. Restricted funds are generally in the form of gifts, government grants for research, and restricted state/federal appropriations.

Unrestricted funds are those over which the university has control of their expenditure. Examples of unrestricted funds include tuition, fees, auxiliary revenues (housing, dining, parking, etc.), unrestricted gifts, and other miscellaneous income, such as from services provided. Unrestricted income is accounted (and budgeted) separately from restricted income. Such discrete budgeting ensures that restricted revenue is not commingled with unrestricted revenue.

Additionally, a university may further segment its unrestricted funds for planning and budgeting purposes. One segment may consist of tuition and student fees, unrestricted state appropriations, unrestricted investment income, and other miscellaneous income, offset by expenses generally related to the basic operations of the institution, such as instructional departments, administration, and academic support units. Auxiliary (or self-supporting) funds may be segmented to permit individual budgeting and accounting for operations that have been determined to be self-supporting (“tubs on their own bottom”). Indeed, each auxiliary operation may be individually segmented, e.g., housing expenditures only come from housing revenue. It is the job of the budget director to appropriately budget segments so that revenues for one segmented area do not “bleed” over to support the expenses of a different segmented area.

A university-wide budget actually contains several, if not many, individually balanced (revenue equals expense) segments. When a budget is prepared, each segment is balanced individually and then all of the segments are rolled up into a single university-wide budget.

**Organization of Budget Information**

While some institutions have modestly-sized budgets, many have multimillion dollar budgets. The detail in large budgets can be daunting to manage, particularly if a budget director were to attempt to calculate a budget for every individual budgeted item. For example, it would be overwhelming to prepare a governing board budget based on each individual salary, each benefit for each salary, etc. However, there are some categories of expense and revenue that warrant very detailed projecting and budgeting.
The budget director should consider which categories need detailed analysis, projecting, and budgeting and which lend themselves to summarization.

The level of detail needed will vary by institution. An institution may wish to separate out those budgetary items that need detailed attention and summarize all remaining items in another group. Examples of areas that may warrant detailed consideration include tuition and fees, sales and services, benefits, utilities, income and transfers to support university policy (such as distribution of F & A to departments), and student financial aid. All remaining salaries and expenses may then be summed and budgeted, especially if all individual items in a particular category are subject to the same percentage change.

A general rule of thumb is to sum at the highest possible level those items that have consistent parameters and require little individual attention. Then, individually detail and budget those items that have inconsistent parameters or for which detailed information is required by senior administration or governing boards. Flexibility is the key! If a budget director knows that he or she will be questioned on the details in a given projection, then it is prudent to build the budget using those details. Adopting a philosophy of budget building based on the audience’s needs and its expectations for having questions answered is key. However, it is also critical for the budget director to recognize that building a budget at the most summarized level possible will help prevent him or her from being overwhelmed by details that may be unimportant. The budget director can then spend his or her energy on those items that do require detailed budgeting for whatever reason.

“Flexibility is the key!”

It is important to be able to easily perform “what if” analyses on the budget. A budget is a dynamic document (to say the least!) until it is finalized for the governing board. The level of detail budgeted will be dictated by the institution’s need to perform “what if” analyses of selected items, such as tuition or benefits.

Another benefit of limiting the amount of detail to only that which is required is the ability to troubleshoot problems. Clearly, when one is dealing with multiyear budgets, the possibility for an error in calculation exists. Having sufficient detail to effectively identify such problems without being overwhelmed by unnecessary detail is an important component of budget building.

When building a budget for senior administration or the board, the amount of detail that should actually be presented deserves some consideration. Just because a budget was built with great detail does not mean that all of those details should be presented. While they should certainly be available to help address questions or concerns, the presentation of many details can easily overwhelm the audience and can even disguise issues that might be apparent with summarization. Again, the rule of thumb is that the higher level the audience is, the fewer details that should be presented. Note the word “presented,” not calculated. Just because details are not presented does not mean that they are not calculated and available for troubleshooting or question-answering purposes.

A word for departmental or college administrators. It is useful for departmental or college administrators to be aware of the information needed to build a university-wide budget. Clearly, a university-wide budget is composed of all of the detailed budgets below it. Being knowledgeable about the methods of gathering and presenting such data can benefit a departmental administrator, and knowing some of the pressures on budgets at a central level can help a unit administrator when compiling new budgets for consideration.
Budget Presentation

All universities maintain a chart of accounts that facilitates financial reporting. Some audiences may require financial reporting by source and function (tuition and fees, gifts, instructional expenses, research expenses, etc.), while others may require reporting by department or college, and still others may require reporting by natural classification (faculty salaries, professional/staff salaries, benefits, travel, etc.). The grand total of revenue and expense for each of these audiences will be consistent, but the details of reports given to them will be different.

For example, University A’s initial university-wide budget report to senior management summarizes expenses related to natural classification. In other words, it presents the recommended university-wide budget for faculty, professional staff, etc. (The amount of detail presented will vary by senior administration preference.) This is the working budget used for comment and discussion. As parameters change, new versions are presented in this same format.

Once senior management approves the budget, University A sorts the same information and budget projections into the data that the board of trustees wishes to see. The expense budget now displays expenses by function—instruction, research, academic support, student services, etc.; within each of the functions, one will find expenses for faculty, staff, etc. The totals are consistent with the version presented to senior management, but the data are organized differently.

As you can see, consideration of reporting requirements is critical to the design of a university’s chart of accounts.

Implementing the Approved Budget

Methods for implementing the approved budget vary by institution. Generally, once the summarized plan is approved by the governing body, the details of parameters and budget changes are applied to create the institution’s operating budget. The gathering of such details often requires software specifically designed for this activity.

Details gathered during the implementation process may include, but not be limited to, salary information for individual employees, selected revenue estimates for individual departments (updated to include the most current data), detailed budgeting of support funds for each department, updated benefits and utilities projections, etc. Consideration of how to implement these details includes whether an interface with payroll is used or desired (to coordinate salary budgets with payroll).

Gathering the details and applying the parameters may lead to a bottom-line budget that is slightly different from that approved by the governing board. It is important for the budget director to be able to identify the source of any changes to the approved plan and to report them accurately. Indeed, it may become apparent that some of the changes are due to faulty execution of the approved plan. Clearly, such items require correction prior to finalizing the budget details and the start of the budget year.

Maintenance of the Fiscal Year Budget

Once a new fiscal year budget is finalized and made available to the university, consideration must be given to maintaining that budget. There are many models for maintenance. Some institutions maintain considerable detail and change their budgets regularly, even daily. They may budget a change each time a position budget changes due to promotion, hiring, termination, etc. They may even change the budget as monthly or quarterly projections are compiled. Conversely, some institutions rarely change their budgets.
The amount of change that an institution processes in its current fiscal-year budget is determined by the amount of staff time it wishes to devote to processing, how accurate it wishes the budget to be, what level of change is desired by individual departments, etc.

It is useful for a budget administrator in a department or college to know what level of detail is maintained by the central financial office. If the level of detail desired by the department is greater than that maintained by the central office, then the department head will need to consider options for maintaining that additional detail. Perhaps it is possible for the department to provide input to the central financial budget, or perhaps the department will need to maintain a separate spreadsheet with the additional detail it desires.

**Monitoring Budgets Against Actuals**

You might recall the purpose of a budget mentioned at the beginning of this chapter: a budget allows for a “what if” analysis of future plans and enables monitoring of plans in progress.

As the fiscal year progresses, university financial personnel (typically from the budget office) will monitor actual activity against the budget. Such monitoring allows for fine-tuning of budgetary methods; more importantly, it allows for comparison of the planned year-end outcome against the projected year-end outcome on a university-wide level.

Because the university-wide plan comprises all of the departmental budgets, it is valuable to monitor those budgets against their projected actual activity. This may occur within the budget office, within individual departments, or within both. It is also important for departments to monitor their actual activity against budget so that they are not surprised by unexpected deficits at year’s end.

**Capital Budgeting**

Capital needs result from one of two situations—the need to maintain already existing facilities and the need to construct new facilities. Budgeting concepts can differ between the two.

**Ongoing maintenance.** The facilities on a university campus are a source of investment, and their value should be maintained through regular maintenance. When buildings are new, ongoing system maintenance needs are light. As buildings age, it is important to replace systems on a reasonable schedule, not only to prevent unanticipated outages, but also to be able to plan for the expenses in a structured way.

The schedule for the ongoing maintenance of major systems and structures will vary by type of construction. One estimate is that a major building with brick or stone construction will have a useful life of 50 years, meaning that in 50 years, one should assume replacing the entire cost of the building.

One school of thought is that an institution should plan to spend 1/50th of the value of its physical plant each year (assuming a useful life of 50 years) on maintenance. Doing so will allow the institution to maintain the value of its physical assets. If a university does not maintain its facilities, then increased emergency maintenance will be required, which is not the most cost-effective way to fund needed renovations. Planning to replace systems on a regular schedule before an emergency repair is needed will not only minimize inconvenience to the campus, but will also help with negotiating prices for the needed work.

Clearly, ongoing maintenance is a large budget item for many institutions. It can be accommodated in one of two ways—through the use of recurring budgeted funding or the use of non-recurring, one-time funding. It is wise for a university to include some recurring funding for facilities renewal, although it is unlikely to be possible to budget all dollars needed on a recurring basis.
Non-recurring funding sources to be considered for ongoing maintenance needs include gifts for major renovations, funds remaining from the budget at year end, bonds, or funds from governmental agencies.

**Funding of new construction.** If a campus is to grow and change, then new facilities will likely need to be constructed. Funding for such facilities can come from several sources. Clearly, many universities rely on state funding for construction. Institutions can also acquire grant funding from federal agencies, particularly if the building is to be used exclusively for research. Gifts from university benefactors or donors are another common source of construction funding. The issuance of bonds, while time consuming, can be worthwhile, particularly if the facility will include some revenue-generating activity that can be used to repay the debt service on the bonds. Indeed, debt management and policy are important activities for many governing boards.

Clearly, when considering funding for new construction, one needs to plan for the recurring costs associated with any new building. Custodial, grounds, and utilities expenses must be funded on a recurring basis. If an institution cannot afford the recurring cost of these expenses within its budget, then it should reconsider whether it can really afford the new building at all.

**Summary**

Budgeting is a useful tool for managing an institution’s resources in order to achieve its strategic plan and for monitoring expenses during a fiscal year. Additionally, preparing a budget is necessary from both a general institutional perspective as well as from a departmental one, although the level of detail presented is reduced the higher in the organizational hierarchy one goes. Assessing recurring vs. non-recurring needs is important, as is defining the “segments” of a budget (auxiliary, basic operating, etc.). Capital budgeting is distinct from operational budgeting, but both are necessary. The reporting of information is paramount to a budget director’s job, as is the facilitation of that reporting through the chart of accounts organization.

**Author Biography**

**Carol Rylee** is the former director of budget at the University of Delaware, retiring in 2009. She served as the chair of the Society for College and University Planning’s Budget and Resource Planning Advisory Group. She has also been active in the Oracle/PeopleSoft Higher Education Users Group, serving as chair of the Product Advisory Council, Budget Product Advisory Group, and the Combined Financials Product Advisory. She is currently working as a consultant and is enrolled in a joint MBA/master of science degree program in information systems.
Chapter 3:
Integrated Budgeting and Planning

by Philip Stack and Andrew Leitch, University of Alberta

Delineates and explains, in a practical way, the benefits of integrating planning and budgeting and the institutional framework needed.
In a rapidly changing world, postsecondary institutions must be able to act quickly when encountering opportunities and threats, demonstrate a commitment to accountability and improvement, and work jointly toward dedicated, specific, and measurable goals. Today’s institutions must operate strategically, designate resources effectively, and share a common vision across multiple academic and administrative units. More than ever, success requires a well-considered and rigorous integrated planning and budgeting framework.

This chapter explores the concept of an integrated planning and budgeting framework and outlines the benefits that such a framework can bring to your institution.

Under Pressure

Which of these pressures does your institution face?

• Reduced government funding
• Changing enrollment
• Government policy that restricts tuition increases
• Aging infrastructure and the corresponding, and growing, deferred maintenance bill
• Increased competition for talented students and faculty from new global competitors
• Increased demands from governments and other stakeholders for specific outcomes, including assurance of future employability
• Conflicting demands for resources that appear to be irreconcilable

To manage these pressures, an institution must be able to articulate its vision, mission, and academic priorities. It must be able to align these elements with all of its resource allocations and practices, including human resources and capital. It must learn to integrate across academic and administrative units in new ways, breaking down silos and overcoming long-standing and unhelpful internal competition. This may appear to be asking a lot. Yet, it is necessary, and by carefully constructing an integrated planning and budgeting framework that works for your institution, it is fully achievable.

Integrated Planning Defined

Integrated planning is the process whereby all planning and budgeting activities throughout every level of the organization are effectively linked, coordinated, and driven by the institution’s vision, mission, and academic priorities.

Although there are a number of fundamental elements common to most integrated planning frameworks, it is essential that each institution develop a framework that is consistent with its culture. In the article “Institutional Planning That Makes a Difference: What Works, What Doesn’t, and Why,” the authors speak to Henry Mintzberg’s advice of “knowing your clay”:

Leaders must know their institutions before they can shape them. In other words, they should avoid an “ahistorical mindset,” i.e., operating as if history began with their arrival at their institution. It is a fallacy to assume that one can define a planning process without first understanding the culture, the people, and the history of that organization…. This is gained only when the leadership listens. (Korschgen, Fuller, and Lambert 2000, ¶ 8)
You need to know your organization, including what it values, how decisions are made, and how the community typically engages in change.

**Getting Started**

As you develop your integrated planning and budgeting process, begin by

1. Identifying a champion
2. Selecting the key planning documents you will use and determining who will approve and be accountable for them
3. Determining the planning horizon for the institution’s longer-term strategic documents and shorter-term operational documents
4. Deciding how to engage the community in the planning process
5. Knowing how the institution will resource the plan
6. Identifying plan performance measures
7. Identifying who will be accountable for the planning framework and who will be accountable for plan implementation
8. Determining whether you need or want to have the planning framework approved and endorsed by your institution

1. **The champion.** To develop and implement an integrated planning framework, you must have a champion at the senior executive level. Ideally, the champion is the president; if not, then it should be the provost or academic vice president.

   The champion must be prepared to speak about the importance of the planning framework and the subsequent plans that are developed within the framework. He or she must dedicate time and energy to the process, not only during the plan development stage, but also throughout plan implementation. This requires an ongoing commitment.

2. **The documents.** Once the champion has been confirmed, you must decide what planning documents your institution will require, what information they will contain, who within your organization will be accountable for them, and what committee(s) will ultimately approve them. Generally, your institution will require four categories of planning documents.

   The first category consists of foundational documents, which typically include your strategic plan and long-range development plan (LRDP) or master plan.

   The second is your academic plan. This outlines the teaching and, if applicable, research priorities of the organization.

   The third includes the faculty and unit plans. Driven by the institutional vision, the faculty and unit plans operationalize the organization’s academic priorities.

   Finally, the fourth is the annual institutional plan, a summary document integrating the vision, mission, and academic priorities of the organization; progress on strategic goals; capital priorities; and resources required to implement the priorities. This document must also include some type of performance measure to determine whether the plans have been successfully implemented.
**Figure 1** illustrates the four categories of documents, their recommended content, and the time horizons normally associated with each.

**Figure 1 Integrated Framework Planning Documents**

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<tr>
<th>Integrated Resource and Budget Planning</th>
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<tr>
<td><strong>Annual Institutional Plan(s)</strong></td>
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<td>• Consolidates strategies and plans</td>
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<td>• States progress on strategic goals</td>
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<td>• Identifies capital priorities</td>
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<td>• Includes annual budget and forecasts</td>
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<th>Faculty and Administrative Unit Plans</th>
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<td>• Outlines detailed objectives and strategies</td>
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<td>• Includes capital requirements</td>
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<th>Academic Plan</th>
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<td>• Core planning assumptions</td>
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<td>• Academic programs</td>
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<td>• Research profile</td>
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<td>• Student numbers and mix</td>
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<td>• Complement to plans</td>
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<td>➢ Midterm 4–5 years</td>
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<th>Foundational Documents</th>
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<td>STRATEGIC PLAN</td>
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<td>• Vision</td>
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<td>• Mission</td>
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<td>• Values</td>
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<td>• Strategic goals</td>
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<td>➢ Longer term 5–10 years</td>
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<td>➢ Linked to such things as president’s term</td>
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<tr>
<td>LRDP (Master Plan)</td>
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<tr>
<td>➢ Long term 20–30 years</td>
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*(Click here to open a web browser window displaying this figure at its original size.)*
3. The planning horizon. The planning horizon is another important element of your integrated planning and budgeting framework. As shown in figure 1, there are various timelines associated with each of the four categories of planning document.

Generally, the foundational documents have longer-term planning horizons. An institution’s strategic plan normally encompasses a timeline of between five and 10 years. The LRDP or master plan has an even longer planning horizon, typically between 20 and 30 years, as it is primarily principle based and driven by high-level planning assumptions.

An institution’s academic plan translates its strategic goals into academic priorities, including teaching priorities and research priorities, if applicable. This document usually has a midterm horizon. If your strategic planning document has a 10-year horizon, then your academic plan may have a five-year horizon. In some cases, depending on the institution, you may choose the same planning horizon for your strategic and academic plans. The timing of these plans may be driven by the term of the president or the requirements of government.

Other planning documents for which time horizons must be confirmed include the institution’s faculty and unit plans, capital plans, and budget and resource plans. These documents may combine both annual and longer-term planning periods. For example, the capital plan may specifically address projects to be implemented over the next year, projects anticipated over a four- or five-year horizon, and projects planned over a 10-year period. Again, these timelines may vary depending on your institution and government requirements.

From a planning framework perspective, the key is to plot out the planning documents your institution requires, their timelines, and how they are aligned and integrated.

4. Engaging the community. Now that you have determined what planning documents your institution requires and their specific purposes and time horizons, you must consider how the institution’s various communities will be engaged in the planning process. Here is where you will rely on your understanding of institutional culture. Planning is not just about the outcome of producing various planning documents; it is about the process of engaging stakeholders and building buy-in for the institution’s vision and academic priorities.

Planning is about the process of engaging stakeholders.

The more you can engage your stakeholders, the more they will see themselves as part of the process. This helps in achieving the vital “bottom-up” component of institutional planning. On the other end of the spectrum, the more that key governance committees are involved in the review and approval of the documents, the greater success you will have in effectively implementing the plans.

Your community engagement process should be broad and multifaceted and use such methods as town halls, existing committee structures, institutional media, a dedicated website, social media, and newsletters. It is important to establish a final implementation date for your plans and then work backward to determine the period for consultation, ensuring that stakeholders agree with the timelines. It is equally important to be sure that the institutional community understands what will happen with the feedback and who will make the final decisions regarding the plans’ content. Any misunderstanding regarding these processes can negatively affect the approval of the plans and their successful implementation.

5. Resourcing the plan. Before beginning detailed planning activities, you must know how the plans will be resourced. While you do not need to have all the details agreed to at the start, you do need a general understanding of the plan’s resource implications and funding sources. Will the institution
establish a new priorities initiative fund? Will some type of institutional tax (budget cut) be implemented to reallocate resources? Will new revenue generation strategies be developed? Will resources be allocated across the board or a more strategic methodology applied? How will major capital be financed? Will there be a new emphasis on fund development?

These are critically important resource issues that must be addressed and confirmed early in the process. If the community dedicates a tremendous amount of time and energy to the planning process only to realize there is no realistic approach to resourcing the plan, then the organization’s planning efforts will fail.

6. Performance measures. Performance measurement is often overlooked in planning exercises, but is essential to assessing the success of your plan. You cannot manage what you do not measure. As you finalize your institutional goals, you must develop measurable stretch performance targets. You may choose from many different types of targets, such as specific enrollment numbers, student quality or engagement levels, research performance levels, fund development targets, or various financial performance measures. You should agree at the start on what the overall performance targets are and over what period, where the data will come from, and who will be responsible for collecting and reporting on the measures.

7. Plan accountability. If the organization is going to truly embrace integrated planning and budgeting, then it must be prepared to allocate resources to the process and ensure that a single individual is assigned the responsibility for supporting the development and implementation of the framework. Depending on the size of the organization, you may have to allocate new resources to support such a position, or you may be able to redevelop an existing position to incorporate these responsibilities. This activity is not something you can do “off the corner of your desk.” Integrated planning and budgeting must be the key responsibility of someone able to maintain the framework and the associated planning and budgeting processes.

It is equally important that a lead individual be responsible for overseeing implementation and progress reporting for each strategic goal, objective, and strategy. Again, if you are not prepared to assign this responsibility and to hold people accountable for implementation progress, then your integrated planning efforts may not succeed.

8. Institutional approval. As a final step in implementing your planning framework, you may wish to consider whether the framework should be approved at the institutional level. If the planning framework represents a very different way of institutional planning, if it involves the implementation of substantially new or different planning documents, or if it requires different review and approval processes from what has been the norm, then you may want or need to have the new framework approved. Approval of the planning framework at the institutional level sends a clear signal that it is no longer business as usual and that the institution is taking a new approach to planning and resource allocation.

Figure 2 provides a different representation of the linkage between the various planning documents. It is very important to note the multidirectional arrow on the left-hand side of the figure. This indicates that none of the associated planning processes are unidirectional. Integrated planning is both a “bottom-up” and “top-down” activity. All of these documents must relate to and influence each other.
The Plans

**Institutional strategic plan.** The institutional strategic plan should contain four key pieces of information: the institution’s vision, a clearly defined mission statement, a statement of the institution’s core values, and the institution’s high-level strategic goals. These four core elements must be developed within the context of a comprehensive environmental scan, a summary of which should also be included in the strategic plan.

The vision statement should be succinct and articulate what your institution aspires to be by describing a desired outcome and invoking a vivid mental picture of your goal. The vision should be achievable but also reflect a stretch target, and the vision statement should be one that the institutional community can identify with and remember, something that inspires, motivates, and energizes people at all levels. The vision statement should be written such that it contains a memorable summary statement that differentiates the organization from its competitors (The Change Factor 2008).

The mission statement should also be relatively brief; it should tell the reader who you are as an organization, what your primary academic/research areas of focus are, who you serve and deliver programs to, and what makes you different from other organizations.
It is also important that your strategic plan contain a set of organizational value statements. Value statements express an institution’s core beliefs to staff, students, and stakeholders. These statements help form the culture of the organization and are useful in decision making. The stated values should be limited in number and should communicate how individuals will interact and which behaviors will guide everyone’s actions.

All of these elements should be developed through an open and comprehensive process that engages key constituent groups both across and external to the organization. In developing these elements, you must be mindful of the institution’s history, its current circumstances, and the external forces affecting it. The degree to which you engage internal and external constituent groups will depend on your organization’s culture.

The time horizon for these statements should be longer term, at least five and up to 10 years. There must be a point in your integrated planning process when these elements are reviewed and either confirmed to be legitimate or in need of revising and updating. Often, the arrival of a new president is an ideal time to review and perhaps rewrite these statements.

All strategic planning activities must take place within the context of an environmental scan. It is important to understand the internal factors and external forces that affect the institution’s ability to achieve its vision and mission. The environmental scan is an essential starting point to the integrated planning process and should include an analysis of the institution’s strengths, weaknesses, opportunities, and threats (SWOT). The SWOT analysis will provide key data, assist with decision making, and help inform the development of the institution’s strategic goals.

The organization’s high-level strategic goals are fundamental to planning. These goals are broad-based statements of what the institution wants to achieve and should be written in such a way that they translate the mission statement into specific statements of achievement. It is very important that the goal statements be limited in number. If you develop too many goals, then the organization may not be successful in achieving any of them. You may have as few as four strategic goals but should not have more than about six to eight. As well, you should write the goals such that performance measures can be developed and progress measured. If your goal statements are strategic in focus, well written, few in number, and measurable, then you will go a long way toward creating a foundation for the successful implementation of your strategic plan.

**Academic plan.** The academic plan captures the academic and research priorities of the institution. It is typically owned by the provost and, where appropriate, by the vice president of research. Influenced by relevant external factors and targeted toward your vision, mission, and strategic goals, the academic plan must be “built from the bottom up” within your institution, and the academic and student communities must have a significant role in its development. You need to consult with these communities, ensure that senior administration is listening actively, be transparent, and communicate continuously throughout the process. If you do not, then it will be difficult to achieve faculty commitment to the academic plan, and your entire planning process may be jeopardized.

In developing the academic plan, you must understand the existing academic culture within the organization, recognize and build upon existing academic strengths, and identify emerging academic themes. The challenge is to recognize that your resources are finite and you cannot be “all things to all people.”

The academic plan should capture a number of key elements. There should be a clear articulation of the academic programs that will be offered at the institution, including size, mix, and type. The plan should also capture any changes in enrollment and student mix you are trying to achieve, including the
proportion of undergraduate, graduate, doctoral, international, or distance-learning students. This is also where you capture specific targets for gender and race.

Directly related to this is the faculty complement plan, which outlines, by faculty or school, the number of academic staff you need to recruit and in what areas and what mix of rank. This may be reflected in specific ratios, such as undergraduate or graduate students to faculty. Again, you may have gender and diversity targets as part of your complement plan.

If yours is a research institution, then you should identify areas of current research strength or areas of emerging strength you wish to build on. Again, be cautious about striving for excellence in more areas than you can reasonably excel in. It is acceptable to indicate your intention to be a comprehensive research institution while identifying a handful of areas of research excellence. Often faculties or schools want to engage in interdisciplinary collaborative education and research programs. Such initiatives should also be articulated in the academic plan.

A further core element that should be part of the academic plan reflects specific priorities related to the student experience. The academic plan should identify critical initiatives in such areas as housing requirements, study and common space needs, the integration of technology into the learning experience, international opportunities, and so on.

Spending time and energy on the academic plan is essential. After all, academic priorities should be driving many, or most, of the institution’s plans. The academic plan will certainly drive the institution’s capital requirements for new study and residential space for students, teaching and laboratory space, and space for research and supporting administrative and auxiliary functions. Very importantly, the academic plan will also drive the institution’s fiscal plan, including how you allocate or reallocate resources to move academic priorities forward.

Academic priorities should be driving most of the institution’s plans.

Faculty/unit plans. The faculty/unit plan is where the “rubber hits the road.” In support of the academic plan, faculty and unit plans detail the objectives and strategies of the faculties, schools, and major support units.

Unit plans go to the next level of detail in articulating the academic programs, student mix, faculty complement, and research priorities of each individual faculty or school. In addition, these plans should outline the unit’s specific capital requirements and goals in areas such as fund development.

In the case of major administrative or auxiliary units, these plans must outline any changes required to support both the overall academic plan and the academic priorities of each of the faculties and/or schools. These units include the registrar’s office, student services, athletics, the library, and central information technology. Like the faculty plans, the unit plans must include the fiscal and capital resources required to achieve the objectives and strategies.

Both the faculty and unit plans should have appropriate performance measures that, to the extent possible, link to institutional performance measures.

Annual institutional plans. The annual institutional plans are the threads that hold all the planning documents together; they demonstrate the integration between institutional priorities, capital requirements, and resource allocations. Updated annually, but looking forward across a longer-term planning horizon, these plans give the reader a clear understanding of institutional strategic goals and academic priorities, the capital required to support the academic priorities, how and where resources will be allocated, and how performance will be measured.
The strategic goals and academic priorities document is simply a restatement of the institution’s goals and priorities as found in the strategic and academic plans. Often this document will show how the academic priorities advance the strategic goals. In some cases, this document may specifically state what will be achieved in the coming year.

The capital plan contains the “building blocks” of your institution. This plan should outline your overall capital priorities over the planning period, including plans for new construction, major renovations, and functional renewal, as well as major deferred maintenance priorities.

The capital plan should be developed in the context of the institution’s LRDP or master plan. The LRDP identifies strategic planning principles that form the basis for achieving the goals, objectives, and strategies expressed in the institution’s academic and unit plans. It also identifies how the institution’s lands and facilities should be developed in response to these plans. The LRDP should:

- reflect the institution’s role as an economic partner and research and teaching leader;
- be responsive to the strategic, academic, and research goals of the institution;
- indicate the character, identity, and diversity of each campus or sector within a campus;
- indicate the institution’s values in such areas as smart growth, sustainability, visual impact, welcoming nature, accessibility, and safety; and
- address the institution’s relationship with mutually beneficial collaborative partners.

For each capital initiative, there should be a direct link between the project and the institution’s vision, mission, and academic priorities. The capital plan should provide a brief overview of each project and describe how the project will meet the approved goals, academic priorities, budgets, and schedules. Very importantly, the plan should articulate how the projects will be developed effectively, responsibly, and with clear lines of accountability. The plan should identify approved capital projects to be achieved over the plan’s term and may also introduce emerging priorities.

The capital plan should also address specific strategies for deferred maintenance, given its extent on many campuses and its effect on an institution’s ability to achieve its goals.

Figure 3 can be a helpful tool in illustrating to board members and other key stakeholders the relationship between capital initiatives and the contents of key planning documents. This type of matrix outlines the different types of capital activity, such as infrastructure renewal or development of new facilities, and quickly illustrates the alignment of those projects with the institution’s strategic plan, academic plan, and LRDP, as well as with government goals.
In order to demonstrate how you will resource your plans, you must develop a financial plan. If you do not have the resources, then none of the institution’s planning priorities can be advanced.

In developing your financial plan, begin by agreeing to some general principles. These include the importance of managing expectations regarding the availability of new resources, ensuring that funding initiatives are tied directly to academic priorities, and trying to isolate new funding for institutional priorities. You must also consider the organizational implications of your resource allocation decisions and understand that there is no such thing as “free money.” Every donation or “fully funded” project has costs to the institution that must be understood and planned for. Finally, you must develop your financial plan on a fully consolidated basis over a multiyear horizon to the fullest extent possible following an open and transparent resource allocation decision process.

To achieve financial integration, you must have a budgeting process that consists of various documents and activities that build upon each other. Figure 4 shows four key components that should be incorporated into any integrated fiscal plan.

First, the figure shows the foundational documents upon which the financial plan is built. Second, it identifies the primary building blocks that make up the fiscal plan and illustrates how each block builds upon the others. Next, it shows how each of the blocks ultimately rolls up into the institution’s overall
operating and consolidated budgets. Finally, and of critical importance, the figure clearly illustrates the significant role of the institution’s executive team in providing oversight and integration across all elements of the fiscal development process.

Figure 4 The Integrated Financial Plan

The budget planning document should contain an overview of the integrated planning process, a summary of the institutional goals and academic priorities, the key budget driver assumptions, and the core institutional assumptions used in preparing unit plans and budget submissions. Wherever possible, key budget drivers should be developed by the institution’s internal experts but tested through an external review process. The budget planning document is a key input in the preparation of faculty and unit fiscal plans as it gets all units to use the same core planning and budget assumptions.

The faculty, unit, and auxiliary plans are based on the foundational documents of the strategic and academic plans; they reference the core assumptions in the budget planning document and identify specific priorities and resource requirements for their respective units. It is important that these plans be reviewed by some form of executive committee to ensure integration across the institution.

Likewise, the capital plan is built upon the foundational documents and the faculty/unit plans, all within the context of the LRDP. As previously noted, the capital plan identifies institutional capital priorities and budgets, including new capital projects, deferred maintenance, and functional renewal initiatives. However, it is still important for each major capital project to be supported by its own business case. The business case should outline the arguments for the project, its alignment with institutional
planning documents, any possible alternatives, timelines, sources of funding, and risk-mitigation strategies.

Using these documents as building blocks, the institution can then develop its budget priorities. It is often helpful to group or organize the budget priorities by vice presidential portfolio. In this way, you can not only demonstrate the alignment of resources with strategic priorities but also assess the proposed allocations across the entire institution, thus achieving a further degree of integration.

All the financial and budget information must then be incorporated into a final set of fiscal estimates. This includes all the core assumptions required to finalize the budgets, such as final enrollment projections, tuition revenues, government appropriations, salary and benefits expenditures, strategic initiative funding allocations, required budget cuts, and so on. The fiscal estimates should be reviewed and approved by the executive team as they represent the core assumptions that the institution will use to prepare its fully consolidated budget.

A fully consolidated budget and resource plan is required to support the comprehensive integrated plan. The consolidated budget must take into account the operating budget (where most of the salary and benefits costs are located), budgeted research revenues and expenditures (where applicable), fund development and other income forecasts, capital budgets, any other major funding envelopes, and auxiliary operations. It is only through a fully consolidated budget that the institution can get a clear picture of its budget position, financial risks, debt levels, and capacity to align resources with agreed-to institutional priorities.

Finally, accountability through performance measures and reporting is critical. Without measuring the progress toward your goals, you cannot tell success from failure. In order to close the integrated planning loop, you must have some type of measurement tool and progress reporting mechanism. Performance measurement is a balancing act. You need the right number and type of measures to assess the organization’s performance, but you must be careful that performance measurement and reporting does not become an exercise in itself. You risk losing focus on the vision when you are too focused on the measures.

Ideally, you should identify a small number of measures for each of the institution’s strategic goals, and then use those measures to monitor progress. To the extent possible, these measures should be appropriate to and used throughout all levels of the organization. These measures are important in making resource allocation decisions and in demonstrating accountability to stakeholder groups.

There are four types of measures to consider: input, output, efficiency, and outcomes, and the appropriate measure depends on the goal. Generally, outcomes measures can be the most telling, as they reflect whether you are actually making a difference by pursuing your stated goals. Once you have developed your performance measures, you then need to determine how you will report on them, how often you will report and to whom, and what you will do with the information. These are all important decisions that will be driven by your institution’s commitment to openness and transparency.

Each of these documents—the statement of strategic and academic goals, the capital plan, the financial plan, and the performance measures—can stand alone or can be rolled into one single annual plan. The choice may depend on your governance approval processes or the audiences for the respective documents. To the extent possible, it is recommended that these four documents be rolled into one comprehensive document. This will help to illustrate the integration of planning priorities and resource allocation decisions and to communicate these decisions to various constituent groups and stakeholders.
Benefits of Integrated Planning

Comprehensive integrated planning and budgeting can provide spectacular advantages. Most importantly, your institution will become far more strategic in identifying and acting on academic priorities. The entire institution will understand the organizational vision and be aligned in ways to realize that vision. Further, the process will aid in making difficult resource allocation decisions and will result in enhanced accountability.

Through the planning and budgeting documents, you clearly articulate your priorities, illustrate how and where you will allocate resources in support of those priorities, and define how you will measure implementation success. Importantly, the process often leads to improved stakeholder relations, as stakeholders have a means by which to assess your goals, priorities, and achievements. For example, integrated planning is the norm for board members from the private sector and industry; they expect the organization to have clearly defined priorities, along with processes that illustrate how it allocates resources to advance those priorities. A commitment to integrated planning and budgeting often leads to better relations with your board and related stakeholder groups.

An integrated planning and budgeting framework will make your organization more strategic and provide you with a distinct advantage over your competition.

Conclusion

Regardless of the size of your institution, developing and implementing an integrated planning and budgeting process is essential. Each of our institutions is complex, influenced by many internal and external forces, and faced with significant competition locally, regionally, nationally, and internationally. At the same time, we are also faced with rapid and profound changes, ranging from advances in technology to greater expectations of our many stakeholders. We operate within a globalized world that drives the types and numbers of students we graduate, the skill sets we teach, and the competition we face. If you do not operate within an integrated planning and budgeting framework, then it will be extremely difficult for your institution to fully assess the environment, plan strategically, and effectively allocate resources—human, capital, and financial.

Implementing such a planning framework will not happen overnight. It takes time to plan, and it takes time to change an organization’s culture. It may even take two full planning cycles before you see profound change.

There will be bumps in the road, but stay focused on the process and the vision. Remember that, in the end, it is not the plan itself that matters most; what matters is the process of engaging your community, identifying and agreeing upon a shared vision, and working together to realize that vision.

*It is not the plan itself that matters most; it is the process.*

References


Author Biographies

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Chapter 4: Community College Budgeting and Financial Planning Issues: A Case Study

by Jennifer Krieger, Kentucky Community and Technical College System

A case study which explicates how the Kentucky Community and Technical College System approaches budgeting.
Background

Soon after his election in 1995, Kentucky governor Paul E. Patton instituted a plan to restructure the commonwealth’s system of postsecondary education to create a more efficient system designed to prepare Kentuckians for jobs in the new era. While Patton looked at all of postsecondary education, he focused on the 29 community and technical colleges distributed across the state, many close enough to compete for students and funds. The legislation enacted to combine these community and technical colleges is known as the Postsecondary Education Improvement Act of 1997 or House Bill 1 (HB1). HB1 established the Kentucky Community and Technical College System (KCTCS), which joined 14 established community colleges and 15 postsecondary technical institutions, first into districts and later into 16, two-year comprehensive colleges (KCTCS 2008). The process of amalgamating two distinct systems into one coordinated system presented an immense challenge. Operating on 68 campuses throughout the state, the 16 colleges and approximately 11,000 full-time and part-time administrators, faculty, and staff are provided with leadership, service, and support by staff working from the KCTCS system office. KCTCS today serves approximately 106,500 students (KCTCS 2011).

The Kentucky Community and Technical College System

KCTCS operates as a system as defined by Merriam-Webster (2011, ¶ 1–2): “a regularly interacting or interdependent group of items forming a unified whole ... a group of interacting bodies under the influence of related forces.”

Operating as a system provides economies of scale in operational areas such as purchasing and staffing. The KCTCS system office also provides consolidated services to the colleges in the areas of budgeting and planning, academic support services, advancement, marketing, web services, accounting, audit services, and technology support. As an example, there may be five staff members in the system office dedicated to payroll, five to purchasing, five to budgeting, and so on. This allows individual colleges to dedicate fewer staff members to these tasks and avoids duplication of effort. Being part of the KCTCS system affords individual colleges leverage and influence in legislative lobbies that they would not otherwise have.

Being part of a system avoids duplication of programs, services, administration, and related functions. Student transfer and articulation are simplified. Policies and procedures are more easily coordinated. Tuition costs are kept consistent. Marketing efforts can be combined and a common brand projected. Synergy and best practices result, allowing KCTCS to strive toward a common vision, common goals, and a legislated mission for the state’s community and technical colleges.

KCTCS has organized its work through solid planning, including two strategic plans implemented during the past decade: 2000–05 (KCTCS 1999) and 2006–10 (KCTCS 2005). Strategic planning within KCTCS is a broad-based, inclusive process that promotes participation at all levels. Budgets are tied to the strategic plan throughout the system.

In the first 10 years following Kentucky’s postsecondary education reform, KCTCS has made tremendous strides toward achieving its vision to be the best community and technical college system in the nation. The challenge is to continue moving KCTCS toward Kentucky’s long-term goals for 2020—an educated and trained workforce, global competitiveness, a standard of living above the national average, and lifelong learning.
KCTCS Governance Issues

Similar to the administrative nucleus of a four-year university, the KCTCS system office forms the administrative core of its 16 colleges. The system board of regents, president, cabinet, and 15 administrative units maintain the mission of providing leadership, service, and support to the KCTCS colleges. The board of regents consists of 14 members, six of whom are constituent members. All other members are appointed by the governor.

Each of the 16 colleges is administered by a college president and a separate college board of directors. The 16 college presidents and the system office cabinet, consisting of the KCTCS chancellor and vice presidents, compose the KCTCS president’s leadership team.

The KCTCS governing structure was formed by the state general assembly. There is no local tax support for the individual colleges; as long as the KCTCS colleges continue to be primarily supported by state appropriations and tuition and fees revenue, then the governance structure is appropriate.

KCTCS Budget Development and Reporting

The total operating budget for FY 2012 for KCTCS from all sources of funding is $900 million. KCTCS has both a biennial and an annual budget process. Additions to a budget line in either budget are sought through the KCTCS strategic needs analysis (SNA) process. SNA is a process for assessing long-range system needs that links the biennial budget request with the KCTCS strategic plan. SNA gathers requests from faculty and staff at the 16 colleges as well as from staff at the system office. The level of input is determined by the college president or cabinet member, who can invite requests from all staff or just from management at his or her discretion. These requests are input into the system (an automated process in Microsoft Access) at each location. Reports are then created that divide the requests by whether they are biennial or annual, recurring or nonrecurring, and capital or current; requests are also divided by funding source (grant, general fund, reallocation, etc.) and by business unit or college. Further, requests are divided into position support requests, current expenses, or salary changes (reclassification, position deletion, etc.)

Each request includes a justification and is signed off at various levels with a priority rating assigned at each level. By the time requests are submitted to the local college or system budget office, they have already been prioritized by the college president or cabinet member and are ready to be acted upon. General description reports of the requests are grouped by strategic priority, and the reports are sorted by college. The president’s cabinet evaluates the requests (keeping in mind that each cabinet member has requests from his or her particular administrative area) and apportions the available funds. All other requests remain in the database until changed, deleted, or funded.

Capital requests are reported separately. A set of reports by funding source and strategic priority includes detailed budget and revenue information. An additional set of reports by expenditure includes strategic priorities.

The KCTCS leadership team reviews the reports and assigns a systemwide priority to each request. Specific ranking criteria are used to establish the systemwide priority. A funding request is then prepared and presented to the board of regents with the recurring biennial budget.
KCTCS Annual and Biennial Budgeting: Multiple Perspectives

The budget process in the Kentucky state government is multileveled and biennial in nature. The discussion that follows identifies features of the process from three perspectives: (1) the statewide/state budget perspective, (2) the postsecondary education perspective of the Kentucky Council on Postsecondary Education (CPE), and (3) the institutional perspective of KCTCS.

Statewide/state budget level. Kentucky’s constitution vests the exclusive power and duty to tax and spend public money in the state’s general assembly. Enacting the budget is the constitutional means by which the legislative branch addresses public policies and establishes public priorities. The commonwealth’s budget is a complete financial plan for the expenditure of all public funds, and the budget bill is law for the duration of a fiscal biennium.

Postsecondary education level. The Kentucky CPE has the statutory responsibility to make a biennial budget request to the governor and general assembly with regard to specific funding amounts to be appropriated (1) to the budgetary base of the institutions, systems, agencies, and programs; (2) to each individual trust fund in the Strategic Investment and Incentive Funding Program; and (3) for all capital projects to be appropriated from each individual trust fund in the Strategic Investment and Incentive Funding Program. (Created by the CPE, the Strategic Investment and Incentive Funding Program is a system of strategic financial assistance awards to educational institutions to advance the goals of postsecondary education. Examples of the program’s individual trust funds include the research challenge trust fund, comprehensive university excellence trust fund, technology initiative trust fund, physical facilities trust fund, postsecondary workforce development trust fund, and student financial aid and advancement trust fund.) CPE works with the state’s postsecondary institutions (as necessary) to develop information to support its biennial budget request. Specifically, the role of CPE in funding Kentucky postsecondary education in general and KCTCS in particular includes

- Determining tuition rates for the state postsecondary educational system;
- Establishing policies regarding appropriations, making recommendations for appropriations to the universities and KCTCS to be considered by the governor and general assembly, and supporting strategies for persons to maintain necessary levels of literacy throughout their lifetimes including, but not limited to, appropriations to the Department for Adult Education and Literacy;
- Reviewing and approving all capital construction projects, including real property acquisitions regardless of the source of funding; and
- Developing a uniform financial reporting procedure.

In 1997–1998, the general assembly bill allocated $11,768,700 to KCTCS, which included funding for administrative costs. However, before any of the appropriation was expended for administrative costs, KCTCS was required to submit a budget plan that identified the estimated expenditures and purposes to the Interim Joint Committee on Appropriations and Revenue and the Interim Joint Committee on Education. The budget plan was required to include, but was not limited to, expenditures relating to the KCTCS board of regents, the office of the president, the chancellors’ offices for the University of Kentucky Community College System, and the Technical Institutions’ Branch. In addition, KCTCS was required to submit a report that identified the actual expenditures and purposes related to administrative costs to the interim joint committees on a timely basis.

KCTCS level. The KCTCS president is responsible for the development and implementation of systemwide budget policies and procedures. Responsibility has been delegated to the KCTCS vice president for finance for (1) the development and submission of the system’s budget requests in alignment
with the strategic plan and (2) the evaluation of the effectiveness of budget implementation in coordination with the achievement of program objectives. The president coordinates the submission and justification of the annual operating budget to the board of regents. The president and the vice president for finance coordinate the submission of the biennial budget request to the board of regents, CPE, and the executive and legislative branches of state government. The budget of the commonwealth is developed prior to each biennial session of the general assembly. This process applies to all public postsecondary education institutions and addresses KCTCS as a total system, rather than as individual colleges. Thus, individual college requests are not considered at the state level.

After the general assembly passes the appropriations bill containing the funding amounts for KCTCS, the colleges’ operating budgets are finalized and approved by the board of regents.

Responsibility for the management of KCTCS funds (including contingencies) rests with the system president. Budget authority is delegated to the college presidents for funds allocated to their specific institutions. Although the KCTCS president may delegate authority for systemwide specific fund management, he or she retains the ultimate responsibility.

**KCTCS College Budget Processes**

**College biennial budget request.** Each college, through appropriate internal processes involving consultation with faculty, staff, and administrators, is responsible for the preparation of a biennial request that reflects the college mission; the needs of the service area; and the high-priority goals and objectives identified in the state, CPE, and college strategic plans, which are then aligned with the KCTCS strategic plan.

Based on the strategic plan goals, the KCTCS colleges create budgets using broad-based local input and develop initiatives to be considered in their biennial operating and capital budget requests. These initiatives incorporate funding requests for capital and strategic needs regardless of funding source. More is better in the SNA request process because it captures ideas regardless of immediate funding.

“More is better in the request process because it captures ideas regardless of funding.”

In April of odd-numbered years, the KCTCS president submits a six-year capital plan to the Kentucky general assembly. In September of odd-numbered years, KCTCS submits a biennial operating and capital budget request. In the spring of even-numbered years, the general assembly enacts the biennial budget. At KCTCS, a focus on centralized budget development with a big dose of management flexibility for budget execution within the individual colleges is the order of the day. The system office sets the broad strokes and the colleges work out the fine points. Once the budget is set for a college, it is up to that college to execute the budget within greatly flexible parameters.

“The system sets the broad strokes and the colleges work out the fine points.”

**College annual budget process.** CPE reviews special initiative requests for operating funds in addition to funds needed to achieve the benchmark funding model. (The benchmark funding model is designed to ensure that Kentucky institutions receive funding comparable to that of benchmark institutions.) Each March, the board of regents establishes priorities and parameters for system and college budgets, including compensation increases. In March/April, colleges develop budgets based on the board of regents’ priorities and parameters. Each local college’s board of directors approves the college’s budget. In June, the board of regents approves the KCTCS budget. In July, colleges implement the KCTCS board-approved budget. Each KCTCS college, following guidelines developed by the system president and board of regents, is responsible for preparing an annual operating budget. The budget is developed under
the leadership of the college president and chief financial officer in consultation with faculty, staff, and other college administrators. Once complete, the college budget request is submitted through appropriate KCTCS processes to the board of regents for approval.

In KCTCS, revenue from all sources equals expenditures for all programs. Restricted funds are restricted by the giving entity; the board does not decide how to spend these funds. Examples of such funds include financial aid, government grants and contracts, and endowment income.

Public funds include state appropriations and tuition, which are combined into one category. Public and other unrestricted funds are used to fund board priorities, such as salary increases, benefits fixed-costs increases, and merit bonuses. Expenditures are by category—personnel, operating, and capital outlay. Locally generated funds, such as fund balances and bookstore commissions, are expended by the college that generates them.

Other KCTCS Considerations

Administrative software system. KCTCS supports a single administrative software system, Oracle PeopleSoft, which merges data from the disparate administrative systems. The selection of a single administrative software system was one of the first decisions made by KCTCS administrators. This decision was made based on discussions about what a single administrative software system would allow KCTCS to accomplish, including centralized support services and easier student mobility from one college to another. The software system also allows a single audit of KCTCS financials.

Tuition rate setting. When KCTCS was created, the individual colleges had different tuition rates and different mandatory and nonmandatory fees. Based on the concept of a single system, tuition was made the same at all colleges. The goal was a single sticker price with no fees in addition to tuition.

The KCTCS Funding Model

Funding requirements for KCTCS were built around a set of conditions and assumptions based on parameters agreed upon with CPE and calculated through the KCTCS public funds allocation model. The model was developed by the KCTCS president’s leadership team in 2002 to ensure equity and adequacy and to help move the system toward the goals set forth in HB1 and the system’s own strategic priorities.

The Kentucky CPE establishes benchmark funding goals for each postsecondary education institution using established benchmark institutions in order to provide equitable funding in relation to benchmarks. When they are available, CPE designates new funds for benchmark funding adjustments. KCTCS must allocate these new funds among the colleges and for systemwide operations; the system has in place a method to distribute new benchmark funding allocations in an equitable manner. The funding model generates a total systemwide funding level approximately the same as the CPE benchmark funding objective for KCTCS.

A set of data elements that may be measured objectively has been identified to drive the model, including semester credit hours, student full-time equivalency, headcount enrollment, square footage of space, and support rates based on comparison with other states. These elements are associated with the base funding level needed to provide necessary postsecondary education services; are based on comparisons with benchmark states, benchmark funding goals, and standard higher education reporting; and are reviewed annually and adjusted as indicated. Data entered and maintained in the KCTCS PeopleSoft system are used in the model.

The KCTCS public funds allocation model measures the adequacy and equity of funding for individual colleges and the system office. As such, model calculations serve as the starting point for the development
of recurring budget requests. The model includes components that address all HB1 mandates for KCTCS (KCTCS n.d.).

The model is designed to calculate the public funds base allocation for each college and for system operations and support. The model is not intended to be used as an internal college budget development tool; setting college priorities and allocating funds to achieve system priorities is the responsibility of the college presidents.

The model addresses only recurring budget allocations. Nonrecurring allocations such as debt service and mandated tuition scholarship funds are allocated each year based on need and the availability of funding. The model neither allocates funds to cover all college activities (e.g., bookstores, customized training), nor does it account for all sources of funds available to the colleges (e.g., auxiliary revenue, noncredit tuition, grants, contracts, gifts).

The model is intended to apportion only a base level of public funding. It uses both internal and external measures to ensure equity and adequacy. The average salary in KCTCS benchmark states is used as the benchmark salary. Other average expenditures in KCTCS benchmark states are also used in each funding component where possible.

A comprehensive study is conducted each year to determine operating costs by instructional group. The distribution of expenditures by program classification system group in KCTCS benchmark states is examined annually.

KCTCS system operations and support funding is a component of the model. The factor used for determining the total system operations and support recurring budget is a percentage of college allocations based on KCTCS benchmark states.

**Serving Community Needs**

The Kentucky Postsecondary Education Reform Act of 1997 (HB1) not only created KCTCS, but also identified its institutions as the primary driver of all workforce and economic development initiatives in the commonwealth.

Major economic changes, including the competitive pressures of the global marketplace, changing demographics, and the need for higher-level technical and supervisory skills, are looming on Kentucky's horizon. The KCTCS president recently held dialogue sessions with community leaders statewide that provided a stark view of the demands of the new economy and the powerful forces that threaten Kentucky’s economic stability.

The new economy has drastically changed the workplace by demanding that 21st-century Americans work more with their brains than their hands. This demand is placing increasing pressure on American workers to get more education and embrace a philosophy of lifelong learning. Employers need workers who possess the essential skills that allow them to respond to the constant technological changes in today's world.

In response to these forces, KCTCS has launched a strategic workforce competitiveness initiative in order to reengineer its workforce training programs to align them more closely with the needs and competitive strategies of Kentucky’s businesses and industries. This initiative includes:

- New programs and delivery systems tailored to the expressed training needs of business and industry;
- Opportunities for online skills training for current workers;
• Broader outreach from KCTCS colleges to business and industry; and
• Constant responsive communication between business, industry, and KCTCS.

A well recruited, trained, and retrained workforce ensures both Kentucky’s survival and an even stronger and more resilient economy in the future.

Measuring and Reporting Outcomes

The determination of what to measure starts with the KCTCS strategic plan, including system goals, core indicators, measures, and targets. In the KCTCS planning process, the board of regents determines what to measure, and those items are articulated as core indicators with their own specific measures, each with a specific target. The data are then made part of the institutional enterprise resource planning system; otherwise, people’s confidence in the data is challenged. What is measured is based entirely on the strategic plan: it is clear from the beginning what is to be measured and how it will be reported. The routine of measurement keeps everyone focused on each core indicator.

“It is clear what is to be measured and how it will be reported.”

Conclusion

From its origin in 1997, KCTCS has maintained its vision of being recognized as the nation’s best comprehensive community and technical college system and has achieved a number of successes (KCTCS 2007).

• KCTCS consolidated 14 community colleges and 15 technical schools into 16 comprehensive community and technical colleges operating on 68 campuses within a 30-minute drive of 95 percent of the citizens in the commonwealth.
• KCTCS 10-year enrollment increased dramatically from 51,643 students in 1998 to 92,828 students in 2008. In 2012, KCTCS will enroll over 106,000 students.
• KCTCS students represented 45.5 percent of all undergraduate students enrolled in Kentucky’s public postsecondary institutions in 2010.
• KCTCS is the largest provider of postsecondary education and workforce training in the commonwealth, with 4,850 businesses served in 2007 via workforce initiatives.
• KCTCS awarded $110.1 million in financial aid to 79 percent of its students through local, state, and federal grants and loans in 2007.
• KCTCS trained nearly 160,000 individuals through community, economic development, and fire and rescue programs in 2007.
• KCTCS colleges awarded 20,970 credentials in 2006–07, representing a 560 percent increase for the decade.
• The board of regents approved or ratified 2,765 new programs, diplomas, options, and certificates over the past 10 years.
• KCTCS offers 600 credit program options.
• Enrollment in online courses increased from 1,336 students in 2000 to 23,800 students in 2007.
• KCTCS provides over 65 online credentials—degrees, diplomas, and certificates—and is the primary supplier of online programs and courses through the Kentucky Virtual Campus (formerly Kentucky Virtual University [KYVU].)

• Funded primarily by state appropriations and student tuition, KCTCS oversees a budget that has increased to approximately $670 million annually.

• During the past decade, the system board of regents authorized 54 capital projects at the 16 colleges. Projects range from renovation of existing facilities to construction of entirely new campuses.

These successes have been achieved because of the clear advantages gained by operating as a system. The structure of KCTCS

• Provides economies of scale;

• Consolidates services (e.g., purchasing, payroll, budget, accounting, grants management);

• Reduces duplication and costs by providing a system office that centralizes and simplifies functions;

• Avoids duplication of effort, programs, services, and administration;

• Simplifies student transfer and articulation from one college to another and from KCTCS to universities;

• Coordinates policies and procedures;

• Keeps tuition costs consistent across the system;

• Combines marketing efforts resulting in projection of a common brand;

• Results in synergy and best practices;

• Allows KCTCS to strive toward a common vision, values, goals, and legislated mission for the colleges;

• Allows a single audit of KCTCS financials;

• Provides a single administrative software system;

• Affords leverage and influence in legislative lobbies;

• Prepares Kentuckians for high-growth, high-wage jobs in the new era;

• Results in what is now the largest provider of postsecondary education and workforce training in Kentucky;

• Provides a home in the system office for such programs as Veterans Services, Adult Ag Program, Crisis Management, Kentucky Board of Emergency Medical Services, Fire Commission, Fire Safety and Training, Kentucky Center of Excellence in Automotive Manufacturing, and Ready-to-Work; and

• Maintains a measure of management flexibility for each college.
Of course, no transformation is without its challenges, which included those involved in implementing the new system, consolidating 29 separate institutions into 16, and requiring the colleges to have both a systemwide and a local focus.

For KCTCS, the transformation of the last decade symbolizes not only the remarkable creation and growth of the system, but the lives that have been changed as a result of the system’s success.

References

KCTCS. See Kentucky Community and Technical College System.


Author Biography

Jennifer Krieger has been with the Kentucky Community and Technical College System (KCTCS) since 2005 where she serves as the director of budgets. Prior to that, she was employed at the University of Kentucky for 30 years in a variety of administrative positions. She has a bachelor’s degree in business management and a master’s degree in public administration with an emphasis in higher education from the University of Kentucky.
Chapter 5:
Private vs. Public Higher Education Budgeting

by Sarah A. Beamer, Bluefield College

Key differences exist between private and public institutions that affect budgeting in critical ways.
Definitions of Private and Public Higher Education

Private higher education institutions are those, typically nonprofit, entities owned and operated by the private sector. These private colleges and universities may be affiliated with other organizations, such as religious orders or other sponsors, or they may be totally independent of any other organization. They typically have their own board of trustees or have a governing group responsible to a broader oversight group, such as a religious order’s regional board. Private colleges are usually single institutions without regional systems (as contrasted with public institutions). However, some private institutions develop partnership-style arrangements with other private colleges.

Public institutions, on the other hand, are those established, supported, and controlled by a governmental agency, most often states. By definition, unlike private institutions, public colleges have no affiliation. They are considered to be “owned” by the citizens of the state in which they are located. Most states operate two, and sometimes three, tiers of public colleges. One tier is the community college, which awards two-year degrees. A second tier is the “four-year college,” which awards bachelor’s and, in most cases, master’s degrees. Many states also have a third-tier public university, the research institution, which offers doctoral and advanced professional degree programs. Within a particular public system, students may move around fairly easily, say from a community college to a four-year college. The network of public institutions within a state is referred to as the public college “system” within that state (as contrasted with the typical stand-alone private university).

It should be noted that even though private institutions are not considered to be tied directly to the public, it is state governments that charter and enable them to operate as nonprofit entities. Further, the federal government grants the tax-exempt status to those institutions operating as such (most colleges and universities are not profit-oriented entities). Finally, private institutions often receive grants from state and federal governments. Therefore, the apparent independence from the control of either federal or state governments is somewhat relative. Governing boards and college administrators must take their fiduciary and ethical responsibilities seriously to sustain institutional independence.

“The apparent independence from the control of either federal or state governments is somewhat relative.”

Governance

Because the governing bodies of higher education institutions ultimately are responsible for their entities’ budgets, a word about the differences in governance structure between private and public institutions is relevant to a discussion about the differences in budgeting.

Private institutions typically are governed by boards composed of “independent” members, individuals selected not because of any specific public representation. These private board members often have some relationship to the private entity, perhaps as alumni, donors, or local/regional community members (including individuals from local industry). While a private institution has its own governing group, this board may be responsible to a broader oversight group as previously noted. Although private institutions do not represent a specific public interest, “in this era of heightened public scrutiny and demands for accountability on the part of leaders at all levels” of all institutions, even private universities represent the general public to a degree (Asin 2010, ¶ 1.) The Association of Governing Boards of Universities and Colleges (2011, ¶ 1) notes that, “regardless of the size, mission, or source of support of the institutions they serve, all higher education boards are accountable to and accountable for the . . . public interest and public trust.”
Since public institutions are established, supported, and controlled by a governmental agency, they have boards composed of “public” members, individuals often selected by the state or other governing agency. These board members may be either elected or appointed. Because of their broad constituencies, the boards of public institutions are scrutinized more intensely than those of private colleges and typically must adhere to “sunshine laws” that require most board business to be conducted in venues providing public access. As a result, special-interest groups of many types are able to place demands upon the boards of public institutions, sometimes diverting attention from core oversight responsibilities. A critical budget challenge relating to the governance of public institutions involves how best to position the institution so that it receives its share of the limited public resources that must be allocated among many competing social needs and political agenda items. The Association of Governing Boards of Universities and Colleges reports that, despite this broad exposure and the fact that public institutions enroll more students, public colleges typically are governed by smaller boards than are independent universities: “average board sizes [are] 29 at private institutions and 12 at public institutions” (Bass 2011, p. 36.)

**Governmental (Typically State) Support**

The most distinctive difference between the budgets of public and private colleges and universities is the governmental subsidy(ies) received by public institutions from their supporting government—in most cases in the United States, the state in which the college or university is located. These subsidies come in three main forms: (1) funding to support the operating budget, often based on enrollment numbers of citizens from that state, (2) capital funding for specific building initiatives, and (3) grant funding for specific programs. The State Higher Education Finance early release report for fiscal year 2008 by the State Higher Education Executive Officers (SHEEO), notes that for fiscal year 2008, “state and local governments invested $85 billion in public higher education,” representing 64 percent of total public institution’s educational revenue (State Higher Education Executive Officers 2008, ¶ 3.) Public institutions also sometimes receive pass-through funds from other state agencies to partner, for example, in offering educational programs such as Upward Bound to low-income students. These typically are not major institutional revenue sources but often help ensure that institutions visibly fulfill their public service expectations.

While in some states governments provide scholarship funding to their citizens who attend in-state private institutions, the funding amounts typically are not nearly as significant as the operating budget subsidies provided by these governments to their public institutions. Also, the mechanics are very different, in that the public subsidies flow straight to the institution, while the private subsidies actually flow to specific students as payments or “tuition assistance grants” on their college or university accounts (and not as funding over and above that received as tuition, as in the case of governmental funding to public institutions).

It is also helpful at this point to mention one additional governmental support distinction for public community colleges. Often, in addition to state support, community colleges receive significant operating budget support from the counties/localities within their service area.

**Student Tuition and Fees**

Another significant budget difference between private and public colleges and universities relates to student tuition and fees. Private institution tuition and fees (particularly tuition) tend to be higher per student than at public institutions. This differential results because of the governmental support described previously. That is, since public colleges and universities receive governmental subsidies, they are less pressed to generate tuition and fee dollars from their students. On the other hand, private...
Another public/private student tuition distinction that is often evident is that public institutions frequently charge a much higher tuition rate to students from out of state. In fact, many public universities give their own state citizens priority in admissions, have fewer admissions spaces for out-of-state students, and/or have more stringent admission requirements for out-of-state students. While some private institutions also have a similar tuition premium for out-of-state students, this situation is rarer than in public colleges and universities. Private colleges may consider residency status for diversity purposes in order to admit students from a variety of states, but residency typically is not a factor in the tuition rates charged. A public institution’s differential tuition rate based on residency results from the state subsidy. In-state students actually pay less than the cost of their education because the state government subsidizes their tuition and fees. The subsidy is given based on the premise that public institutions are enrolling and educating citizens from their own states; therefore, out-of-state students must pay a premium. In many cases, out-of-state tuition levels may be comparable to private college tuition rates. It should be noted that some states have reciprocal in-state agreements with neighboring states.

While the governmental operating subsidy to a public institution is frequently based on in-state student enrollment numbers, it also may be based on performance indicators, other formulas, or a mix of mechanisms.

### Student Financial Aid

Of course, both public and private institutions offer scholarships that result in per-student net tuition levels that may be significantly less than published tuition levels. This financial aid practice is often termed “tuition discounting.” Historically, private institutions generally provide more financial aid to students than do public institutions. Private institutions also tend to award more of their aid to students in the form of grant scholarships than loans; these grants offset the typically higher tuition rates that private colleges charge. As a result, it is not uncommon for the net cost for a student to attend a private college to become much closer to the net cost to attend a public university.

Public institutions often are more closely monitored than private institutions as to their methods for awarding financial aid; therefore, they rely more frequently on the federal calculation to assess a student’s need based on the family’s ability to pay when allocating financial aid. Some public institutions actually guarantee low-income students enough financial aid to graduate either debt-free or with maximum loans not to exceed certain amounts. Private institutions often have more leeway in calculating financial aid awards, using an institutional calculator to allocate scholarships and making significant financial aid awards based on merit as well as need.

### Constituent Support

In general, the constituent support base is broader for public institutions than for private institutions. This is because public institutions have the indirect interest of their funding community—in the case of a state-funded public institution, the citizens of that state are potential supporters as well as potential naysayers. (This is also true for national academies such as the US service academies.) This typically is not the case for private institutions, at least not to the same extent. From a budgeting perspective, the broader constituent base means that, in addition to providing taxpayer support through the public funding process, citizens may be interested in donating personal funds in support of their state’s public institutions. Private institutions do not have this automatic constituency base; while some private colleges and universities have a broader base than others, it still tends to be much more regional (that is, local to
the institution). From a budget monitoring perspective, of course, the public constituency also means that many more eyes are watching how the public institution spends its money.

**Privatization of Public Institutions**

Throughout the United States, beginning particularly in the 1990s, state funding of public higher education began to decrease, if not in outright dollar amounts then in the percentage of the budget supported. In response, some public colleges and universities, or parts thereof, have begun to evolve to a more private model, making the concept of a “public” university somewhat ambiguous in certain cases (Dill 2005). These public higher education entities have drastically minimized or totally eliminated their share of state allocations, instead obtaining their support mostly or exclusively through tuition, fees, and private funding. This scenario is called the “privatization” of public institutions. By definition and their understood mission to serve the public good, such institutions typically still are considered to be public for reporting purposes. This concept of privatization is different from the routine striving of public colleges and universities to enhance their revenues through profit-making ventures such as entrepreneurial development and sale of research and related products, provision of distance education modeled on a private institution example, and the licensing of logo and other items.

As these public institutions minimize or eliminate their state subsidies, they also seek to disconnect themselves from governmental regulation and control. For example, personnel policies, contracting, and ownership of land and buildings may revert from the states or other public agencies to the institutions. Dill (2005, pp. 4–5) suggests that “both state ownership and state control of research universities are becoming less meaningful as well as less effective . . . . [The] move down this slippery slope of deregulation . . . lessens the traditional distinction between the public and private university.” However, Lombardi (2006, ¶ 4) notes that “in the real world, most of public higher education takes place in state and community colleges that remain often 80 to 90 percent funded by public sources . . . . [These institutions] are not at risk of becoming private.”

**Accounting**

A comparison of private and public higher education budgeting would not be complete without at least mentioning the difference in accounting for these two types of institutions. Knowledge of the accounting regulatory bodies involved will help the budget planner understand how the operating budget is reflected in the financial information reported in many data releases.

For accounting purposes, private institutions are governed by the Financial Accounting Standards Board (FASB). Public institutions are governed by the Governmental Accounting Standards Board (GASB). FASB governs accounting for private entities, including for-profit and nonprofit commercial and charitable organizations, while GASB governs accounting for public entities, including all governmental organizations (such as municipalities) and their supporting/supported entities (such as public higher education institutions). Most GASB entities are nonprofit.

The major difference between FASB and GASB regulations involves the grouping of financial activities for accounting purposes. FASB accounting differentiates between three types of organizational activity: unrestricted (which captures the operating budget, among other activity), temporarily restricted (which includes restricted gift activity and restricted endowment payout), and permanently restricted (which records endowment activity). On the other hand, GASB requires even more separation between activity types, including specific groupings for budget activity (unrestricted current funds), temporarily restricted gift funds (restricted current funds), nonoperating funds (primarily state/governmental appropriations), plant/facility/capital activity, loan fund activity (public debt issuance activity), and the endowment or permanently restricted funds.
Concluding Comments

Private higher education institutions are those entities owned and operated by the private sector, while public institutions are those established, supported, and controlled by a governmental agency, most often a state. Key differences exist between private and public institutions that affect budgeting in critical ways. Such differences include governance, governmental support, student tuition and fees, student financial aid, constituent support, and accounting regulations. However, when all is said and done, both public and private institutions must be careful to fulfill their fiduciary responsibilities because higher education overall is essential to the public interest.

“Key differences exist between private and public institutions that affect budgeting in critical ways.”

References


Author Biography

Sarah Beamer, CPA, MBA, is vice president for finance and administration at Bluefield College in Bluefield, Virginia. She also works as an independent consultant, focusing on strategic and capital planning and financial advisory services, particularly for nonprofit organizations and especially for those related to higher education. Prior to entering independent consulting, she served as chief financial officer of Emory & Henry College, established the internal audit department for Virginia Polytechnic Institute and State University’s (Virginia Tech) related corporations, and worked in public accounting for KPMG. She taught national courses for KPMG, was a discussion leader/presenter for the Virginia Society of Certified Public Accountants, served as adjunct faculty for an intensive adult bachelor of business administration program, was a developer and charter faculty member for the Planning Institute of the Society for College and University Planning, and presented at various professional conferences on the topic of planning and budgeting.
Chapter 6: Predictive Modeling: Linking Enrollment and Budgeting

by Dale Trusheim, Washington College, and Carol Rylee, University of Delaware

A simple enrollment projection model and a tuition model allowed the University of Delaware to better plan for an uncertain future.
Introduction

The hard choices that must be made to balance budgets at higher education institutions can be painful and have dramatic consequences that may linger for years. If enrollment projections and therefore tuition income/budgeting projections for future years are inaccurate, then the result may be unnecessary or insufficient budget reductions, both of which can be problematic and contribute to financial instability.

This article addresses the need to link budgeting and planning by describing an innovative solution for developing enrollment projections created through a partnership between the Office of Institutional Research and the Budget Office at the University of Delaware. Planning for an uncertain future in the face of challenging economic conditions continues to be a priority for higher education administration. The purpose of this article is to document an accurate, simple, and effective enrollment forecast model. We also illustrate how the Budget Office uses these data in budget formation.

“Planning for an uncertain future continues to be a priority.”

The number of publications on the topic of enrollment projections for individual institutions is rather limited. The authors are only aware of a few chapters or publications in the literature (e.g., Brinkman and McIntyre 1997; Kroc and Hanson 2001). Recently, the Association of Institutional Research published a paper by Chau-Kuang Chen (2008) that utilizes autoregressive integrated moving average (ARIMA) methodology and linear regression to forecast enrollment for Oklahoma State University. Other quantitative prediction techniques that have been the topics of discussion and papers are the cohort survival method, exponential smoothing, Bayesian inference, and trend analysis.

This suggests that there is not a widely accepted, best-of-breed methodology for the forecasting of individual school enrollment. Furthermore, many of these methods require the knowledge and use of advanced statistical techniques. Not every institution has administrative staff with the expertise to conduct these kinds of quantitative analyses.

The first part of this article presents a very simple method of estimating future enrollment. Of course, simplicity by itself is not valuable unless the prediction has an acceptable degree of accuracy. We have used this enrollment methodology for over 10 years and have been well satisfied with the results. We will present evidence of prediction accuracy at the conclusion of the next section.

“This article presents a very simple method of estimating future enrollment.”

Enrollment Projection Method

Colleges and universities do not operate in a vacuum. Institutional enrollments can clearly be affected by larger economic and market forces. However, the prediction of future enrollment can be thought of as a fairly simple equation. The conceptual framework for our model is that enrollment in any subsequent semester is a function of two variables: new students and continuing students. For example, the prediction of fall semester enrollment is based on how many new students enroll (e.g., freshmen, transfers, readmitted students) and how many of the students who attended in the previous spring semester continue to enroll. The researcher must be able to identify on a term-by-term basis the entry-action status of enrolled students. As an example, there must be a way to determine that, in a given semester, 1,000 students are classified as “first-time freshmen,” 200 as “transfers,” 50 as “readmits,” and 5,000 as “continuers.” Note that there may well be more codes available in the records system to classify students; for the purpose of the prediction model, however, only these four codes are necessary. Students can be temporarily reassigned to the correct category.
Also, it is important to note at the outset that for the purposes of this article, we are interested only in the prediction of total undergraduate enrollment. Technically, the methodology of this prediction model could be used at the graduate level or even down to the specific undergraduate college or department level. This might be done in instances of differential tuitions for academic programs within a college or university.

Another requirement of the projection method is that some previous enrollment history is available. Some projection methods require historical enrollment data that go back over 40 years. An important advantage of our simple model is that it requires only the most recent three to five years of enrollment history. When completed, the matrix in figure 1 would contain sufficient data to predict spring and fall 2008 enrollment, although it would be helpful to have earlier years to compare retention percentages.

Figure 1 Enrollment Matrix

<table>
<thead>
<tr>
<th>Historical Term</th>
<th>Student Entering-Action Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Freshman N</td>
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<tr>
<td>Spring 2005</td>
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<tr>
<td>Fall 2005</td>
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<td>Spring 2006</td>
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<td>Fall 2006</td>
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<tr>
<td>Spring 2007</td>
<td></td>
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<tr>
<td>Fall 2007</td>
<td></td>
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<tr>
<td>Predicted Term</td>
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<tr>
<td>Spring 2008</td>
<td></td>
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<tr>
<td>Fall 2008</td>
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</tbody>
</table>

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Development of the enrollment projection model consists of four basic steps: (1) obtain historical enrollment to identify full-time and part-time ratios; (2) develop the retention percentage for continuing students; (3) obtain new freshman, transfer, and readmitted student targets for future semesters; and (4) run the numbers through the model to generate predictions. Note that by using the model in this fashion, it is possible to generate best-case, worst-case, and probable-case scenarios to assist with budget planning. Running what-if scenarios is one way to anticipate the impact of external market forces on future enrollment.

Step 1: Obtain historical enrollment. To depict student flow and generate a prediction for future enrollment, we use Microsoft Excel. Figure 2 is a representative worksheet that contains enrollment information by student group for recently available fall term history. Cell K21 indicates that over a three-year period, 99.8 percent of first-time freshmen are full-time students. On the other hand, only 60.3 percent of readmitted students are full-time over the same three-year period.
Since the enrollment projection model depends sequentially on the prediction of fall-to-spring and spring-to-fall enrollment, it is necessary to generate a second worksheet that contains only spring semester historical enrollment. These data are presented in figure 3. Note that in figures 2 and 3, five-year, three-year, and two-year full-time percentage ratios are presented. At the University of Delaware, the enrollment management committee reviews the assumptions of the projection model, and at that time it is decided which of the percentages should be applied to the predicted headcount. Note also that the data and formulas in figures 2 and 3 are updated as numbers from new terms become available. For example, when the fall 2008 official term enrollment is obtained, these numbers are added to figure 2 and the formulas that calculate the two-, three-, and five-year averages are correspondingly updated.

Note: FR = freshman; TR = transfer; CO = continuer.

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Figure 3 Spring Term Historical Enrollment as of the Official Enrollment Extract Date

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
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<tr>
<td></td>
<td>FULL-TIME UNDERGRADUATES</td>
<td>PERCENTAGE OF FULL-TIME STUDENTS</td>
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<td>Nonresidents</td>
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<td>Spring</td>
<td>FR</td>
<td>TR</td>
<td>CO</td>
<td>Readmit</td>
<td>TOTAL</td>
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<td>FR</td>
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<td>CO</td>
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Note: **FR** = freshman; **TR** = transfer; **CO** = continuer.

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**Step 2: Develop retention percentage.** Conceptually, the next step in the model is to predict what percentage of students who are enrolled in the fall semester will return for the next spring semester. Also, the model attempts to predict what percentage of students who are enrolled in the spring semester will enroll again in the following fall. These percentages will be quite different as fall-to-spring retention numbers are higher than spring-to-fall numbers, largely because of the senior class that leaves the university upon graduation.

Figure 4 demonstrates how the retention percentages for continuing students are obtained using the statistics provided in figures 2 and 3. The important three-to-five year summaries are contained at the bottom of figure 4. Fall enrollment in column B is the total enrollment as of the official 10th day. For example, cell B17 in figure 4 is equal to cell F27 (n = 9,180) from figure 2. The subsequent spring enrollment number (column C in odd-numbered rows) that follows the fall cell is equal to the count of continuing students as of the spring official enrollment date. For example, cell C17 in figure 4 is equal to cell D28 (n = 8,509) from figure 3.
Similarly, spring enrollment in column C (even-numbered rows) is the total enrollment in a spring semester. For example, cell C18 in Figure 4 is equal to cell F28 (n = 8,653) from Figure 3. The fall continuing enrollment in Figure 4 (column D) is the number of continuing students enrolled from Figure 2. For example, cell D18 in Figure 4 is equal to cell D28 (n = 6,729) from Figure 2.

Important summary information is found in the average retention calculations. Again, an enrollment management committee can determine whether it is best to use two-, three-, four-, or five-year averages. The calculations in Figure 4 are simply averages of the corresponding percentages as shown. It would also be possible to sum actual counts of starting and continuing students and compute percentages in that way. We have done the computations both ways and, in practice, there is minimal difference in the results. It is possible that smaller schools might see a bigger shift in the summary calculation, but this is not known until it is investigated.

Step 3: Obtain student targets. The third step in the development of the model is to ascertain the desired number of freshmen, transfers, and readmitted students. In our case, the total number of freshmen and transfers for a fall semester is determined by the provost and his enrollment management committee. That number is then given to the Admissions Office, and that unit is entrusted with delivering
the needed results. Through careful monitoring, we know as the admissions year progresses how close the Admissions Office is to achieving the enrollment target. In practice, we do not currently have targets for readmitted students or for freshmen and transfers in the spring semester. However, we do know, based on recent history (e.g., figures 2 and 3), what the numbers of students in these categories have been. Our approach has been to calculate three-year averages for the number of readmitted students in the fall or spring semesters, as well as the three-year average for freshmen and transfers in the spring semester. We assume that recent enrollment history will be predictive of the future, so these averages are simply input as values for the predicted semesters.

Step 4: Run numbers to generate predictions. The key numbers needed for the model are now available from figures 2, 3, and 4, and we can now use them to predict future spring and fall enrollment. First, we know from figure 4 that the average three-year retention rate for all students who begin in a fall term and continue to the next spring term is 92.67 percent. We know that the average retention rate of all students who begin in a spring term and continue to the next fall term is 77.0 percent. Second, we will have hard coded the freshman and transfer targets for the relevant fall semesters, and we can easily calculate the average number of readmitted students and spring freshmen and transfers from the data presented in figures 2 and 3. Finally, we can use the data from figures 2 and 3 to calculate the full-time ratio of the various types of undergraduate students, as shown in figure 5.

Figure 5 Three-Year Average Percentage of Full-Time Students by Student Type

<table>
<thead>
<tr>
<th>Student Group</th>
<th>Spring Semester 3-Yr Average</th>
<th>Fall Semester 3-Yr Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-time freshman</td>
<td>83.8%</td>
<td>99.8%</td>
</tr>
<tr>
<td>Transfer</td>
<td>70.9%</td>
<td>84.3%</td>
</tr>
<tr>
<td>Readmit</td>
<td>76.5%</td>
<td>60.3%</td>
</tr>
<tr>
<td>Continuer</td>
<td>94.8%</td>
<td>95.3%</td>
</tr>
</tbody>
</table>

(Click here to open a web browser window displaying this figure at its original size.)

Figure 6 displays the enrollment projections by student category. The “Total Student Group” section is the predicted headcount enrollment. The first column contains the most recent semester of actual data. The spring 2008 semester is the first semester in the predicted category. The numbers for freshmen, transfers, and readmits are simply three-year averages of the numbers of new students that would be expected in these categories in the spring semester. The estimate of 8,678 continuers is obtained by multiplying the total number of students available to return from the prior fall by the five-year average fall-to-spring retention rate for continuers (92.42 percent from figure 4). In other words, 9,390 x 0.9242 = 8,678.
Figure 6 Predicted Institutional Enrollment by Student Type and Time Status

<table>
<thead>
<tr>
<th>Total Student Group</th>
<th>Enrollment History</th>
<th>Spring 08 Predicted</th>
<th>Fall 08 Predicted</th>
<th>Spring 09 Predicted</th>
<th>Fall 09 Predicted</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Most recent term:</td>
<td>Estimated</td>
<td>Estimated</td>
<td>Estimated</td>
<td>Estimated</td>
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<tr>
<td></td>
<td>Fall 07</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Freshmen</td>
<td>2,277*</td>
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<td>2,200</td>
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<td>2,100</td>
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<tr>
<td>Transfers</td>
<td>351*</td>
<td>122</td>
<td>350</td>
<td>122</td>
<td>350</td>
</tr>
<tr>
<td>Readmits</td>
<td>33*</td>
<td>25</td>
<td>38</td>
<td>25</td>
<td>38</td>
</tr>
<tr>
<td>Continuers</td>
<td>6,729*</td>
<td>8,678</td>
<td>6,787</td>
<td>8,664</td>
<td>6,776</td>
</tr>
<tr>
<td>Total</td>
<td>9,390*</td>
<td>8,838</td>
<td>9,375</td>
<td>8,824</td>
<td>9,264</td>
</tr>
<tr>
<td>Full-time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshmen</td>
<td>2,275*</td>
<td>11</td>
<td>2,195</td>
<td>11</td>
<td>2,096</td>
</tr>
<tr>
<td>Transfers</td>
<td>304*</td>
<td>86</td>
<td>295</td>
<td>86</td>
<td>295</td>
</tr>
<tr>
<td>Readmits</td>
<td>17*</td>
<td>19</td>
<td>23</td>
<td>19</td>
<td>23</td>
</tr>
<tr>
<td>Continuers</td>
<td>6,436*</td>
<td>8,225</td>
<td>6,468</td>
<td>8,212</td>
<td>6,458</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part-time</td>
<td></td>
<td>Estimated</td>
<td>Estimated</td>
<td>Estimated</td>
<td>Estimated</td>
</tr>
<tr>
<td>Freshmen</td>
<td>2*</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Transfers</td>
<td>47*</td>
<td>36</td>
<td>55</td>
<td>36</td>
<td>55</td>
</tr>
<tr>
<td>Readmits</td>
<td>16*</td>
<td>6</td>
<td>15</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>Continuers</td>
<td>293*</td>
<td>453</td>
<td>319</td>
<td>452</td>
<td>318</td>
</tr>
<tr>
<td>Total</td>
<td>358*</td>
<td>496</td>
<td>393</td>
<td>496</td>
<td>393</td>
</tr>
</tbody>
</table>

Note: Asterisks (*) indicate actual values.

Similarily, the fall 2008 column contains the admissions targets of 2,200 new first-time freshmen and 350 transfer students. The estimate of 38 readmitted students is the historical average of readmits in a fall semester. The estimate of 6,787 continuing students is derived by taking the total number eligible to return from spring 2008 (n = 8,838) and multiplying that total by the five-year average of spring-to-fall retention, or 0.7679 (8,838 x .7679 = 6,787).

The final step in the calculation is to obtain estimates for how many students within the total headcount will have full-time status. These estimates are shown in the full- and part-time panels of figure 6. They are obtained by multiplying the total headcount predictions within each student group by the corresponding percentages from figure 5. For example, the model predicts that 122 transfer students will enroll in spring 2008. The three-year average for full-time transfer students in figure 5 is 0.709. Therefore, 86 transfers are expected to be full time (122 x .709 = 86), and 36 are expected to be part time. Note also that the Microsoft Excel spreadsheet can carry these computations out for as many future terms as desired. Otherwise, the further out the projections go, the less accurate they are.

Perhaps the final question is whether this very simple method of predicting enrollment is accurate. Figure 7 presents representative numbers for how well the model worked for several different terms. We make no effort to assess accuracy for any term other than the most recent. This is because the model is...
updated at least twice a year when the predicted term enrollment is replaced with actual enrollment and all percentages are recalculated.

Figure 7 shows that the model is quite effective in predicting actual enrollment. For example, for the fall 1999 semester, the model predicted a total headcount enrollment of 15,395. Actual enrollment in fall 1999 was 15,443, or a difference of only 48 students (less than one-half of one percent). Typically, the model is able to make predictions that are well within one percent of actual enrollment.

Figure 7 Representative Accuracy of Enrollment Projection Model

<table>
<thead>
<tr>
<th>Accuracy of Enrollment Prediction for Fall 1999</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonresidents and Residents Combined</td>
<td>Predicted</td>
<td>Actual</td>
<td>Diff</td>
</tr>
<tr>
<td>Freshmen</td>
<td>3,597</td>
<td>3,561</td>
<td>36</td>
</tr>
<tr>
<td>Transfers</td>
<td>568</td>
<td>582</td>
<td>-14</td>
</tr>
<tr>
<td>Continuers</td>
<td>11,070</td>
<td>11,126</td>
<td>-56</td>
</tr>
<tr>
<td>Readmits</td>
<td>160</td>
<td>174</td>
<td>-14</td>
</tr>
<tr>
<td>TOTAL</td>
<td>15,395</td>
<td>15,443</td>
<td>-48</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Accuracy of Enrollment Prediction for Fall 2003</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonresidents and Residents Combined</td>
<td>Predicted</td>
<td>Actual</td>
<td>Diff</td>
</tr>
<tr>
<td>Freshmen</td>
<td>3,440</td>
<td>3,379</td>
<td>61</td>
</tr>
<tr>
<td>Transfers</td>
<td>600</td>
<td>602</td>
<td>-2</td>
</tr>
<tr>
<td>Continuers</td>
<td>11,430</td>
<td>11,582</td>
<td>-152</td>
</tr>
<tr>
<td>Readmits</td>
<td>169</td>
<td>168</td>
<td>1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>15,639</td>
<td>15,731</td>
<td>-92</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Accuracy of Enrollment Prediction for Fall 2006</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonresidents and Residents Combined</td>
<td>Predicted</td>
<td>Actual</td>
<td>Diff</td>
</tr>
<tr>
<td>Freshmen</td>
<td>3,440</td>
<td>3,450</td>
<td>-10</td>
</tr>
<tr>
<td>Transfers</td>
<td>600</td>
<td>579</td>
<td>21</td>
</tr>
<tr>
<td>Continuers</td>
<td>11,818</td>
<td>11,628</td>
<td>190</td>
</tr>
<tr>
<td>Readmits</td>
<td>162</td>
<td>151</td>
<td>11</td>
</tr>
<tr>
<td>TOTAL</td>
<td>16,020</td>
<td>15,808</td>
<td>212</td>
</tr>
</tbody>
</table>

Note: Error (difference) is predicted minus actual.

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Tuition Model

The Budget Office uses a Microsoft Excel spreadsheet to model the tuition income generated by the enrollment projection method. It is important to recognize that the Budget Office’s use of the projection method does not occur in a vacuum. There is a significant amount of discussion between the Institutional Research staff member who maintains the enrollment model and the Budget Office staff members who maintain and run the tuition model.

Specifically, staff members from both Institutional Research and the Budget Office review not only the final student numbers from the enrollment model but also the underlying assumptions. Budget Office staff must understand (and agree with) the reasons for major changes in graduation rates, the mix
between resident and nonresident students, and full-time vs. part-time student counts. Additionally, there is discussion regarding how many years of trend are most appropriate for each factor in the enrollment prediction. Understanding the impact of one-year anomalies in the data and predicting when these anomalies will become permanent trends is an important part of understanding the enrollment model, and thus tuition dollars predicted to be generated.

We request that the enrollment projection model be run three to four times per year. Although the model predicts numbers for both full-time and part-time undergraduates, the Budget Office uses only full-time student counts in the tuition model. We do not use the model to predict tuition dollars from part-time students since the model projects headcount. Part-time tuition is generated by credits taken, not headcount, and individual part-time students take differing numbers of credit hours. Part-time income is projected by the Budget Office based on dollar trends from the past several years.

There are four basic parameters used to calculate undergraduate tuition income at the University of Delaware: (1) full-time/part-time mix, (2) resident/nonresident mix, (3) fall-to-spring attrition, and (4) upcharge over a certain number of credits per term. Note that the previous presentation of the enrollment projection method described calculations for nonresident headcount only. In practice, a separate worksheet is constructed for resident headcount as well.

- The full-time/part-time mix is critical to accurate calculation of tuition income. One cannot simply assume that all current full-time students (less graduated students) will be full time the following year. Some students may have just a few credits left to complete their degrees and thus will move to part-time status for their final year. Economic factors play a role in whether students return for a full-time term or finish out in part-time status. The trend of what percentage of student headcount is full time vs. part time may change over time, and it can be tricky to determine if such a change is a one-time anomaly or the start of a future trend. The dollars involved when determining this mix can be significant, as the difference in income from a three-credit course vs. full-time tuition is large for each student.

As mentioned above, the University of Delaware uses the full-time headcount predicted by the enrollment model in its full-time tuition revenue calculation, but uses dollar trends in predicting part-time tuition revenue.

- The resident/nonresident mix is important to all schools that have differential tuition rates for state residents vs. students from out of state. The same concept applies to schools that have differential rates based on other factors, such as course of study. Determining what percentage of students will be from in-state and what percentage will be from out of state sounds like an easy calculation, but it can be fraught with difficulties, particularly for states with relatively small populations. One might plan for a certain number of resident freshman students but come up short when the final tally is in, thus making it necessary to dip into the waitlist and probably accept additional nonresident students to fill out the class. Additionally, states with large resident populations may find that they are unable to fill their nonresident targets and must round out the class with additional resident students. For schools dipping into the nonresident waitlist (and thus shifting the target mix of the freshman class toward nonresidents), the news is good financially as nonresident tuition is generally much higher than resident tuition. The opposite is true of those schools dipping into the waitlist for resident students. In either case, it is important to determine the cause of the shortfall in reaching the targets for either resident or nonresident students so that an assessment can be made of whether the shortfall is for one year only or will be ongoing. Even if it is determined that the shortfall is a one-year anomaly, it will still have a four-to-five year impact on tuition revenue as that “shortfall class” works its way through its undergraduate years.
The full-time residency mix is an important part of the tuition projection model, as it predicts how many full-time residents vs. full-time nonresidents will be paying full-time tuition.

- It is important to understand the drivers behind fall-to-spring attrition and to assess differences from year to year. Such changes affect the total number of students paying tuition annually and can either be of a one-time or an ongoing nature.

- Some schools have a limit on the number of credits per term that can be taken under the flat full-time rate. This prevents not only student over-registration (which ensures course availability), but also ensures tuition revenue flow by preventing students from taking an inordinately high number of courses per term and thus reducing the total number of terms to degree completion.

  The University of Delaware currently has an upcharge for credits in excess of 17 credits per term. The tuition revenue from this upcharge is predicted based on dollar trends from past years applied to the projected tuition rates.

A representation of the tuition model follows. Note that this representation is an example only and does not include actual calculations in the cells. There are five steps to completing the tuition model. They are (1) entering full-time fall enrollment numbers from the enrollment projection model, (2) entering full-time spring enrollment numbers from the enrollment projection model, (3) entering current-year full-time tuition for resident students and the projected tuition increase, (4) entering current-year full-time tuition for nonresident students and the projected tuition increase, and (5) verifying the calculations. Each step is identified in the model presented in figure 8.
Figure 8 Tuition Projection Model for Full-Time Undergraduates

<table>
<thead>
<tr>
<th>UNIVERSITY X Undergraduate Tuition Model</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STEP 1</strong></td>
</tr>
<tr>
<td># Full-time Students: Fall</td>
</tr>
<tr>
<td><strong>STEP 2</strong></td>
</tr>
<tr>
<td># Full-time Students: Spring</td>
</tr>
<tr>
<td>(Assume 7% attrition rate resident, and 6% nonresident)</td>
</tr>
<tr>
<td>Average Number of Students Both Semesters</td>
</tr>
<tr>
<td><strong>STEP 3</strong></td>
</tr>
<tr>
<td>Current Year Full-time Resident Tuition</td>
</tr>
<tr>
<td>Tuition Increase 3.00%</td>
</tr>
<tr>
<td>Tuition Increase (Rounded)</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>% of Resident Students: Full-time in Fall</td>
</tr>
<tr>
<td><strong>STEP 4</strong></td>
</tr>
<tr>
<td>Current Year Full-time Nonresident Tuition</td>
</tr>
<tr>
<td>Tuition Increase 3.00%</td>
</tr>
<tr>
<td>Tuition Increase (Rounded)</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>% of Nonresident Students: Full-time in Fall</td>
</tr>
<tr>
<td><strong>STEP 5</strong></td>
</tr>
<tr>
<td>Full-Time Undergraduate Tuition Income</td>
</tr>
<tr>
<td>Total Full-Time Student Base (Fall and Spring)</td>
</tr>
<tr>
<td>Full-Time Resident Tuition</td>
</tr>
<tr>
<td>Full-Time Nonresident Tuition</td>
</tr>
<tr>
<td><strong>Total Full-Time Undergraduate Tuition Income</strong></td>
</tr>
</tbody>
</table>

(Click here to open a web browser window displaying this figure at its original size.)

Most schools predict multiple years, and additional years can be added with references to the prior years’ enrollment and tuition rates. This enables projection year 1 to be the driver for all future years being modeled.

The use of this model enables one to develop easily changeable scenarios for both enrollment numbers and tuition rates. Additionally, one can easily develop calculations that enable quick decision making,
such as how much each one percent in tuition increase will generate in additional revenue or how much each $10 in tuition increase will generate in additional revenue.

Use of this model also assists in comparing actual tuition revenue to projected tuition revenue, as it allows one to easily see the assumptions on which the revenue was calculated and compare projections to both actual enrollment and dollars generated.

Accurate budgeting of tuition revenue is critical to universities and colleges, as for most it is the primary source of revenue. It might be tempting to underbudget tuition so as to have a built-in cushion, but campus confidence in such numbers is important and it will quickly be visible that the numbers are being “worked.” And clearly, budget officers do not want to overbudget tuition, as that will produce a revenue shortfall. An accurate model for projecting tuition revenue, based on an accurate model for predicting enrollment, allows for an accurate tuition projection. When the tuition model is used in conjunction with the enrollment projection model, all relevant factors and parameters are visible not only to the maintainers of the models, but also to institutional upper management. Such models provide a factual basis on which to predict future-year tuition income and are also useful in enrollment management.

“An accurate model for predicting enrollment allows for an accurate tuition projection.”

References


Author Biographies

Dale Trusheim is assistant provost for institutional research and assessment at Washington College in Chestertown, Maryland. He has over 25 years’ experience in the field of institutional research and has been active in both the national Association for Institutional Research and the North East Association for Institutional Research.

Carol Rylee is the former director of budget at the University of Delaware, retiring in 2009. She served as the chair of the Society for College and University Planning’s Budget and Resource Planning Advisory Group. She has also been active in the Oracle/PeopleSoft Higher Education Users Group, serving as chair of the Product Advisory Council, Budget Product Advisory Group, and the Combined Financials Product Advisory. She is currently working as a consultant and is enrolled in a joint MBA/master of science degree program in information systems.
Chapter 7: Capital Budgeting

by L. Carole Wharton, L. Carole Wharton, LLC

In higher education, capital budgeting is its own beast. Here’s how it works.
It is a rare campus capital project that is fully funded in the early planning and design stages. Institutions take months, if not years, to gather the funding necessary to complete most of their projects. Thus, the capital budgeting process is often long and arduous, and capital budgeting is both an art and a science. Capital budgeting that leads to successful project execution is a combination of timing, luck, persistence, and good planning. Much of the success depends on conditions external to the campus. Campus planners, budgeters, and project managers must be alert to those conditions and flexible enough to respond quickly, either to avoid delays or higher borrowing costs or to take advantage of opportunities created by favorable financial markets or the priorities of public officials and/or donors. This chapter examines the larger context—what are the drivers and challenges of campus construction; what is the campus context for developing capital projects; what are the types of capital projects and what is included in a capital budget; who sets the priorities and makes the capital funding decisions; what steps must campuses follow to project, fund, and execute capital projects; what is included in a supporting operating budget; how should monitoring and communications be addressed; and what constitutes capital budgeting success.

“Capital budgeting is both an art and a science.”

Context

After several decades of little construction activity (except, possibly, on major research campuses), the beginning of the 21st century found colleges and universities in the midst of a construction boom driven by several factors:

- Heightened expectations from faculty, students, and staff for
  - an inviting and comfortable campus
  - facilities with amenities equivalent to those students had at home or available in their communities
  - state-of-the-art instructional and activities spaces
- Aging facilities in need of renovation/renewal, resulting from years of underfunded renewal budgets
- Facilities that could no longer meet new building codes or support new kinds of research, building operating equipment, and instructional technologies
- Facilities not competitive with peer campuses or commercial spaces, including residence halls and recreational facilities
- Not enough space in all or specific areas
- Demand for more energy-efficient/green buildings

Challenges

At the same time, institutions faced surging costs as a result of worldwide competition for construction materials, a highly competitive labor market for construction workers, and intense competition for public funds and philanthropic dollars. By late 2008, those challenges were heightened by a worldwide financial crisis expected to last well into the next decade. Institutions can expect the costs of constructing and maintaining facilities to continue to escalate, while public and donor funding and the ability to borrow
remain severely constrained. In this context, budgeters must be mindful of their stewardship of campus infrastructure and creative in facilities planning and financing.

Where to Begin

The strategic plan. Every institution has a strategic plan, whether written or in the mind of its leader. This plan imagines a future state and strategies for attaining that state. Ideally, campus capital outlays should be based on a strategic plan, but this is seldom the case. Key strategic plan elements include mission, vision, environmental context, major goals, and objectives relevant to facilities planning (e.g., projected enrollment, projected student profile, program plans). The strategic plan, implicit or explicit, provides the overarching framework for more specific facilities planning.

The master plan. The institution’s master plan specifically addresses the present and projected future state of the campus’s physical elements—land and structures and their relationships to one another. Key master plan elements include location, condition, and use of current facilities and their environs; factors that may affect planned changes, such as program priorities and external dynamics (e.g., on-campus amenities, student housing, community concerns regarding parking and traffic); sustainability issues; and preservation of heritage properties. The master plan projects the future use of the entire site, including clustering and relationships among facilities, circulation and land use, and the campus’s relationship with the surrounding community. It also recommends a multiyear plan for completing a series of projects that can be used to develop short- and long-term capital budgets.

Types of Capital Projects

Guided by their master plans and their ability to secure funding, institutions must divide their capital requirements into categories and use these categories to set priorities. There are always trade-offs. Priority setting involves choosing between safety and security requirements, stewardship of current facilities, and quality and quantity of housing for campus programs. Institutions must, however, include safety and infrastructure maintenance among the highest priorities in their capital plans; otherwise, they risk losing credibility with funders, endangering students and staff, violating statutes, and creating/adding to a backlog of deferred maintenance. Broad categories of capital projects include:

- **Life safety, security, and other mandated requirements, such as accessibility for the handicapped.** Some of these projects can be funded from the operating budget, but frequently they can be grouped, designed, and awarded as a single capital project to save time and money.

- **Infrastructure, such as utilities and major systems renewal.** Institutions have benefited greatly from the seminal work of Harvey Kaiser (1993) and others who made the case for the renewal of facilities systems by surveying their infrastructures and establishing condition indices to guide priority setting and estimate costs for ongoing maintenance. Projects can be planned and addressed in groups and undertaken over multiple years. (For additional information on campus renewal models and funding strategies, see Rose 1999.) Trustees and public officials respond favorably to the stewardship inherent in planned renewal and may create special funding categories to support well-defined, ongoing facilities renewal programs. Some states treat this category as a separate budget item in the executive capital budget.

- **Construction to address program requirements,** listed in the order of priority that funders seem to prefer: (1) alterations, (2) renovations, (3) additions, and (4) new construction. This category addresses an institution’s need to remain current with curricular and technological changes, keep pace with student and faculty demands, and remain competitive with peer institutions. It is often the most difficult category to justify to public funders, but the most
attractive to donors. Those preparing capital budgets must be attuned to both campus demands and the attitudes and inclinations of funders to determine what the budget can bear.

- **Land or facility acquisition.** Projects in this category may be acquired through gift or purchase or a combination of the two. Purchases may be funded through the same means as other capital projects.

**A Word About Sustainable Design**

The most rapidly growing area of interest in campus construction involves sustainable design, materials, and practices. Encouraged by students, faculty, staff, and emerging public mandates, campus planners are incorporating green design into all their project programming. Public officials are beginning to understand and appreciate the long-term impact of greening on future budgets and are encouraging institutions to move forward. However, green design may require trade-offs—despite the long-term advantages to both operating budgets and the environment, present capital costs may be too great to convince funders to make every green choice. Campus planners must take these trade-offs into account as they develop their plans and budgets.

**The Capital Budget and What It Includes**

Capital budgeting consists of organizing and projecting large, one-time outlays of funding, typically from sources other than the operating budget and often from borrowed funds, into a plan for the design and construction of individual projects. The capital budget is an outline of costs projected over a number of years and may include one or more projects. The capital budget may be expressed in current-year dollars throughout the plan’s (typically five) years, or it may be escalated in the years beyond the expected first year to show projected costs over the plan’s life.

Balancing funding for a series of projects over multiple years is a challenging process that requires close coordination with internal and external stakeholders. In most cases, each project is unique and planners cannot rely on estimates based on past projects; rather, estimates for upcoming projects must be based on new internal and external conditions.

The capital budget includes:

- Fees for architectural and engineering (A/E) services to design the project (this may also include fees for such specialists as acoustical or structural engineers or preservation experts)
- Fees for project management and/or owner’s representation services
- Commissioning fees to an outside party to ensure that systems and equipment installed can be operated and maintained by staff and will meet the design intent and users’ needs
- Fees for a contractor to construct the facility and install permanent fixtures and equipment

The capital budgeting process for a specific project begins with the development of a program of requirements, typically funded from the campus operating budget and developed by a consultant working closely with the facility’s future users, campus planners, and other members of the institution’s facilities management team. The program sets the broad outlines of user requirements; an approximation of the size and types of spaces, their adjacencies, and the supporting technologies; and any special requirements. It also includes considerations for infrastructure elements, such as utilities, access, circulation, and landscaping.
Once approved, the program becomes the basis for selecting an A/E team to design the facility. The costs of the A/E team and related oversight services, as well as the costs of the project through completion of construction, are funded through the capital budget. The design process is lengthy and highly interactive, involving the design team, users, campus planners, campus operations staff, and, depending on the source(s) of funds, external reviewers and potential donors. The final design package includes detailed drawings and contract documents that serve as the basis for contractors’ project bids. If the institution is unlikely to have sufficient funds to complete the entire project, then the package may also include dividing the project into usable phases to be priced separately by contractors during the bidding process. Most bid packages will also contain a series of alternates that can be added to or subtracted from the project to meet the projected budget. Once the contractor’s price is known and negotiated, the capital budgeters must determine whether there are sufficient funds to go forward. If not, options include phasing as defined in the design package, excluding alternates, waiting for a more competitive construction climate and the hope of lower bids, or redesigning or shelving the project. (For a discussion of project programming adaptable to an institutional environment, see Cotts 1999, pp. 145–51.)

**Timing and Who Decides**

Whether public or private, institutions must secure approval of their capital budgets from their respective governing boards. However, whether an institution is public or private affects the timing of project execution and the structure of a capital program.

- If a campus depends on state or local government funding for its facilities construction and renovation, then in all likelihood that governmental entity will require
- Local governing board and/or state coordinating or governing board approval of the project program of requirements before any funds are included in the executive budget; in addition, approval may be required for subsequent stages of the project process, including selection of the architect, various design phases, and award of the construction contract
- Executive-level (governor or county executive) approval and inclusion in the executive’s budget request of the state legislature or county council
- Approval of the state legislature or county council via inclusion in an appropriation
- Incorporation into the state or county’s multiyear planning process in order to balance demands among competing institutions and/or agencies and to maintain state or county capacity to borrow funds, generally through the issuance of bonds

Timeliness and timing are essential for public institutions to secure their project’s inclusion in an executive budget request. With respect to timeliness, program requirements must be submitted early enough to allow for full review and approval. Campus planners must work closely with review agency staff to address their questions and concerns and to provide accurate budget projections. Each review and approval step takes time, and it can take years for a project to emerge as a state or county priority to be included in the executive’s capital budget. Even when institutions are fully responsive during the review process, their projects must compete with other state or county projects. Thus, timing also becomes an important consideration. If the governor has promised to build more prisons, then campuses may have to wait a year or more for their projects to rise to the top. They may also need to stretch out funding over a period of years. Projects, especially large ones, may be broken into funding phases corresponding to design and/or construction phases. As a result, a large project may appear in the government’s capital budget for several years before being completely funded. As each budget cycle passes, costs for projects not included must be re-estimated; in the case of long delays, projects may need to be entirely redesigned.
and their costs escalated accordingly. Capital planners must maintain as much flexibility as possible to overcome these obstacles.

Private institutions paying for their facilities (or public institutions constructing facilities funded from nongovernmental sources) will require

- Fund-raising and/or the ability to borrow, generally through a local municipality or financial institution
- Multiyear planning in the case of multiple projects to maintain the capacity to raise or borrow funds
- Up-to-date knowledge of debt instruments and financial market conditions at the time when cash is needed to secure the most advantageous rates
- Careful cash flow management

In particular, cash management throughout a project’s life is critical. While private institutions may have pledges for large gifts, they may not have the cash in hand as donors stretch the payment of pledges over several years. Many institutions secure bridge loans to see them through until pledges are collected. While cash management is the responsibility of the finance office, campus planners and capital budgeters must be mindful of the available funding streams and the anticipated cash flow from each as they develop and maintain the capital budget.

Some states and counties permit private institutions to borrow using the state or county authority, which may require a review process to balance competing demands.

Some federal funding is available for specific types of facilities, particularly research facilities. Each agency has its own requirements (which are beyond the scope of this discussion); however, the elements of budgeting are generally the same, regardless of the source of funding.

Project Costs in the Operating Budget and How They Are Estimated

In addition to the cost of the program of requirements, there are many other project costs that are funded from the operating budget, as shown in figure 1.

Figure 1 Project Costs in the Operating Budget

<table>
<thead>
<tr>
<th>One-Time Costs</th>
<th>Permanent or Long-Term Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultant to prepare program of requirements; owner’s representative; and other consulting services, such as assistance with third-party financing or developing a capital campaign</td>
<td>Hiring and training staff to operate a new or expanded facility, especially with newer technologies</td>
</tr>
<tr>
<td>Swing space; staging areas; and relocation of staff, furnishings, materials, and activities during construction</td>
<td>Hiring new faculty and staff to offer programs in the additional space</td>
</tr>
<tr>
<td>Outfitting new spaces with items not covered in the construction budget, such as desks, chairs, other moveable furnishings, noncapital information technology, and supplies</td>
<td>Additional utilities, security, and maintenance of the new square footage</td>
</tr>
<tr>
<td>Move-in costs after construction</td>
<td>Multiyear costs of financing the design and construction</td>
</tr>
</tbody>
</table>

(Click here to open a web browser window displaying this figure at its original size.)
Beyond budgeting for the ongoing costs of operations and maintenance, campuses are beginning to address the future renovation of their facilities by creating a reserve fund upon project completion (Manns 2003–04). Increasingly, private institutions are requesting that major gifts for construction also include reserve funds for future renovation, especially in the case of named facilities.

While operating budget staff members prepare the operating budget items that support the capital project, campus planners/capital budgeters must provide them with critical information to ensure accurate and timely estimates. Those engaged in capital project development must provide the operating budget office and administrative staff with accurate information on

- When noncapital furnishings will be installed (there is no need to include some items in the request if the building will not be finished during the budget year)
- When the institution will assume responsibility from the contractor for utilities, maintenance, and operations
- When the facility must be staffed and occupied
- The amount of a reserve to be set aside for investment in the facility’s renewal

In most cases, partial-year occupancy is the norm for the first year, with full occupancy and cost escalation budgeted for the second and subsequent years.

**Elements of a Capital Project Process**

For public and private institutions, what has to be funded, the sources of those funds, when the funds are needed, and the required approvals are shown in figure 2.

**Figure 2 Elements of a Capital Project Process**

<table>
<thead>
<tr>
<th>What</th>
<th>Fund Sources</th>
<th>When Needed</th>
<th>Approvals/Project Oversight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
</tr>
<tr>
<td>Program of requirements</td>
<td>Operating</td>
<td>Operating</td>
<td>Before hiring an architect</td>
</tr>
<tr>
<td></td>
<td>budget</td>
<td>budget</td>
<td></td>
</tr>
<tr>
<td>Preparation of a request for proposal (RFP) for design assistance (architectural and engineering services, generally referred to as A/E services)</td>
<td>Operating</td>
<td>Operating</td>
<td>Few weeks prior to advertising</td>
</tr>
<tr>
<td>What</td>
<td>Fund Sources</td>
<td>When Needed</td>
<td>Approvals/ Project Oversight</td>
</tr>
<tr>
<td>---------------------------------------------------------------------</td>
<td>-------------------------------------</td>
<td>---------------------------------------</td>
<td>------------------------------------------------------------------</td>
</tr>
<tr>
<td>Selection of A/E (may require external firm to assist in selection); the A/E may augment the team with specific technical skill sets, such as a civil engineer for site exploration, an information technology (IT) specialist, a landscape architect, and an acoustical engineer for performance spaces</td>
<td>Public: Operating budget</td>
<td>Generally 1–2 years in advance of construction of a major project</td>
<td>Public: State/local government agency will likely select the A/E with input from the institution; large institutions or systems may have authority to select on their own</td>
</tr>
<tr>
<td>Selection of contractor and award of contract</td>
<td>Capital budget</td>
<td>Duration about 18–24 months for average-sized projects</td>
<td>Private: Institution manages design process (may be assisted by owner’s rep)</td>
</tr>
<tr>
<td>Equipment (if contractor installed)</td>
<td>Capital budget</td>
<td>At appropriate points during project*</td>
<td>Private: Institution manages selection of equipment</td>
</tr>
<tr>
<td>Commissioning</td>
<td>Capital budget</td>
<td>Typically at close of project, but should begin at outset</td>
<td>State/local government agency may oversee</td>
</tr>
<tr>
<td>Post-construction installations of equipment and furnishings</td>
<td>Operating budget</td>
<td>Coordinate with contractor</td>
<td>Institution oversees and installs</td>
</tr>
</tbody>
</table>
Estimating Costs of Design and Construction Project Components

Budgeters must be familiar with different design and construction delivery modes and the return on investment, long-term effectiveness, and impact on the operating budget of each. While the project’s design team will make many of the decisions and develop the cost estimates, it is incumbent on capital budgeters to have an understanding of the process. (For a straightforward discussion of design and construction administration processes and strategies, see Waite 2005.)

Close to a science, estimating the cost of construction begins with the gross square footage set forth in the program of requirements along with any special requirements, such as particular equipment or technologies or unusual site conditions. (For a thorough discussion of estimating and managing project costs, see Crimm, Morris, and Wharton 2009.)

The A/E will determine the cost per square foot based on the type and complexity of the project, delivery mode, materials, and prevailing wage rates for the geographic area in which the campus is located. The A/E will estimate construction costs using his or her experience and a variety of standard sources that collect and publish actual design and construction costs by type of facility and region of the country. Among these are the Engineering News-Record (http://enr.construction.com/economics/) and RSMeans Reed Construction Data (http://rsmeans.ReedConstructionData.com), both of which offer regularly updated construction cost estimates for materials and labor for individual cities across the country. Capital budgeters must be aware of these sources and other estimating techniques the A/E uses.

Some rules of thumb:

- A program of requirements may range from under $50,000 to over $2 million, depending on the project’s size and complexity
- In general, design costs will range from 8 to 12 percent of the construction contract
- Fixed equipment may run from 10 to 20 percent of construction costs, depending on the type of programs to be housed
- Actual construction cost will likely account for 75 percent of the project budget
• Each project needs a contingency fund to cover unanticipated or unknown costs; this fund may be as high as 20 percent of the construction cost, particularly when the project is complex or located in a facility or on a site with latent conditions, such as in the case of historic properties or properties where chemicals have been stored.

Although well-honed techniques are used to develop cost estimates, external factors play a major role in determining actual costs. When developing the capital budget, institutions must attempt to project the possible market conditions at the time when construction contracts will be awarded for each major phase—the cost of labor, steel, and other major construction materials; the costs related to the competition for A/E and construction firms during construction booms; and the costs of borrowing. To estimate capital project costs from start to finish, institutions can develop a simple spreadsheet that shows all costs on a single page with easily manipulated variables to allow for instant updating. Waite (2005, p. 29) provides an example of the cost elements that should be included in an estimating sheet.

The cost estimating process should start with a base year, usually the month and year that the project is scheduled to begin (or the first time funds are expected). Thereafter, each element (goods or services) should be escalated to the expected time of purchase or contract award in order to calculate the full design, construction, and equipment costs. In all likelihood, the capital budget will be revised several times, especially if the project schedule slips or major program changes are made.

“In all likelihood, the capital budget will be revised several times.”

Monitoring and Communicating

From the time an institution decides to begin a capital project to the time of project completion and full occupancy, the budget and facilities management offices must coordinate closely and strive to keep users informed of progress or delay. Everyone involved in the process must be mindful of and vigilant in keeping the project on schedule. Every delay in a review process, either internal or external, can have cost and programmatic implications. Every shift in bond-market pricing can have an impact on the operating budget for years to come. Especially for public institutions, delays in appropriations can cost a year or more of the facility’s planned usage in addition to the cost of workarounds caused by the delay. Scope creep and schedule slippage are the capital budgeter’s nightmare. Change orders, whether caused by program changes, design oversight, or latent conditions, can burn up the contingency budget. Thus, it is incumbent on campus project managers to control user program changes and to communicate any changes to the budgeters as soon as they are approved; likewise, it is incumbent on budgeters to communicate changes in the funding environment to the users and the design and construction project teams. All players must remain open and flexible throughout the life of a project, something closer to an art.

“Scope creep and schedule slippage are the capital budgeter’s nightmare.”

Defining Success

For funders and administrators, success is a project delivered on time and on budget. For facilities management staff, success is an efficient facility that is easy to operate and maintain. For the CFO, success is a facility with operating costs coming in on or under budget. For almost everyone else, success is a facility that meets user requirements—one that is attractive, inviting, and easy to navigate; one in which traffic flow among spaces is smooth; and one in which users want to spend time. But for the campus planner/capital budgeter, it is all of the above, the result of careful planning, accuracy in projections, attention to detail, flexibility, quick response to changing conditions, attention to stakeholder requirements, and open communications—in other words, the result of both art and science.
References


Author Biography

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Chapter 8: Performance-Based Budgeting
by Fay S. Parham, Middle Tennessee State University

Performance-based budgeting is a way for public institutions to meet the demand for accountability.
What Is Performance-Based Budgeting?

Performance-based budgeting can be viewed in at least two ways: (1) budgeting funds based on planned activities that must be performed (teaching classes, conducting research, meeting accreditation or state requirements) and (2) budgeting requests for increased funding based on past accomplishments and future planned initiatives.

With either definition, the emphasis is on performance, whether it be related to past or future events. Performance-based budgeting also is a way for public institutions to meet the public demand for accountability—verifying that the institution is a good steward of the public funds entrusted to it.

Performance-Based Budgeting at the Federal Level

The Government Performance and Results Act of 1993 (GPRA) changed budgeting for processes to budgeting for results. Strategic plans were to be used to focus the daily work of agency employees toward the achievement of established goals aimed at producing specified improvements and benefits for the agency’s constituencies. John Mercer, a former mayor of Sunnyvale, California, was primarily responsible for implementing a highly successful performance-based budgeting system in his city. According to the U.S. Government Accountability Office (GAO), the Sunnyvale system was the blueprint for GPRA, which also reformed the governmental cost accounting system then in use.

According to John Mercer’s website,

For the first time, federal agencies were mandated to become specifically results-oriented. Under GPRA, they are required to develop long-term Strategic Plans defining general goals and objectives for their programs, to develop Annual Performance Plans specifying measurable performance goals for all of the program activities in their budgets, and to publish an Annual Performance Report showing actual results compared to each annual performance goal. The Annual Performance Plan goals should show the expected progress toward meeting the long-term goals of the Strategic Plan, and both plans must describe the strategies and various resources needed to meet their goals. (emphasis added) (Strategisys n.d., ¶ 1)

Mercer subsequently developed computer software to aid governmental agencies in the task of linking their strategic plans with the budget process (see www.john-mercer.com). A performance-based budget should show not only what a specific amount of money will be spent on, but also what is expected to be accomplished as a result of that spending. Of course, money is usually only part of the resources that are needed to achieve a desired result. The total resource picture should be included in the details of the agency’s strategic plan.

Performance-Based Budgeting at the State Level

Unlike in other countries, states in the United States are not compelled by the federal government to implement performance-based budgeting or reporting systems. States have done so strictly on a voluntary basis (Cunningham and Harris 2005).

Funding based on performance is not a new concept at the state level. It has been used for years by numerous state legislatures to determine the annual allotment of state funds to public higher education institutions. In 1998, 47 states used some form of performance-based budgeting (Melkers and Willoughby 1998). The longevity of these programs varies widely. For example, Tennessee was the first state to establish a performance funding program for all state institutions of higher education in 1979. North Carolina began its program for community colleges in 1999, and Pennsylvania’s program started in 2001.
Almost half of all the states have used a performance funding program since that time (Williams 2005). Some states, however, have subsequently abandoned their programs.

South Carolina began a state performance funding program in 1997 following a 1988 law that states each institution of higher learning is responsible for maintaining a system to measure institutional effectiveness in accord with provisions, procedures, and requirements developed by the Commission on Higher Education. All institutions must submit an annual report on the assessment of institutional effectiveness to the South Carolina Commission on Higher Education prior to August 1 of each year. (University of South Carolina Institutional Assessment and Compliance n.d., ¶ 1)

In many cases, performance-based budgeting requires changing an institution’s culture. Performance-based budgeting might be considered by some to be invasive budgeting. An institution and its individual units can no longer simply request a certain amount of funding for the subsequent fiscal year. Goals must be set that support not only the subunit (college or school) but also the major unit (university or state). Mission statements and strategic plans must be established to show the direction in which the unit is headed; the unit must also show how those statements and plans support the entities to which the unit reports. The strategies that will be used to reach the unit’s goals, the annual targets for each, and the progress achieved during the year must also be reported. To be most effective, such practices must be pervasive throughout the institution.

“Performance-based budgeting might be considered to be invasive budgeting.”

As a consequence, people within the institution may begin to feel vulnerable, particularly when this type of budgeting model is first implemented. They no longer have the autonomy they once enjoyed, and they may feel that they are now being put under a microscope and forced to prove their contribution to the larger unit. Small units sometimes feel that they must continually justify their existence. To be successful, it is essential to remove any fear associated with this process and replace it with a long-term view of the benefits that can be achieved for units at all levels. Employees must see their connection to the institution as a whole and understand how their activities contribute to the institution’s progress and well-being.

In some states, such as Minnesota, most state funding is not based on performance, and the relatively small amount that is does not create a strong enough incentive for a number of institutions. The requirements of the early system in Minnesota did produce results that some institutions found beneficial, apart from the state funding aspect. A strategic planning element was later added to the mix, but unfortunately no connection was made between the goals of the strategic plan and the performance standards of the budgeting process. This disconnect led to the abandonment of the performance aspects of the process, and its future is now in limbo (Cunningham and Harris 2005).

A performance-based budgeting system was adopted in Texas for reasons similar to those of most other states: “The primary motivation for implementing performance budgeting was clearly one of increased accountability of state agencies to the state government” (Cunningham and Harris 2005, p. 31).

The State of Louisiana uses a performance-based budgeting system that was established by law in 1997. According to the state’s website,

performance-based budgets, like program budgets, are constructed by program but focus on program goals and objectives, measured by outputs, outcomes, efficiency, and quality. Appropriations are not only linked with programs, but also with expected results specified by performance criteria. (State of Louisiana Office of Planning and Budget 2008, p. 1)
The most effective and long-lasting performance budgeting programs appear to be those that start with a strategic plan. Perhaps the most frequently cited definition of strategic planning is John Bryson’s: “a disciplined effort to produce fundamental decisions and actions that shape and guide what an organization is, what it does, and why it does it” (Bryson 2004, p. xii). A strategic plan should include goals, objectives, strategies, and measurable annual targets (benchmarks). Benchmarks can be based on internal comparisons or comparisons to specified peers, which can either be currently similar organizations or organizations the institution seeks to emulate.

“The most effective performance budgeting programs start with a strategic plan.”

Performance-Based Budgeting at the College Level

Each year educational institutions undertake the lengthy, and usually tedious, process of establishing a budget for the next fiscal year. Like other types of institutions, colleges and universities have a choice of the type of budget process to be used. An extreme form is zero-based budgeting, in which each unit must start with a zero allotment in each line item and then support each request for funds, regardless of category or purpose, for the coming year. Conversely, some institutions may simply increase all budgets by some same percentage over the previous year’s budget. Others use a combination approach that is somewhere in between.

The Nova Southeastern University (Florida) Example

Nova Southeastern University’s budget merely broke even each year until newly appointed president Ray Ferrero, Jr., and new executive vice president George L. Hanbury, II, realized in early 1998 that the university needed a vastly different approach to budgeting for it to “thrive and prosper” (Heron and Corbyons 2006, ¶ 1). The old organizational model of each college within the university operating autonomously was abandoned, and a more centralized approach was installed. A university-wide computing system was also implemented so that all units would be using the same data, now housed on a central database system.

The institution’s new performance-based budgeting system was based on the federal government’s guidelines for higher education grants, OMB Circular A-133. Each year, the college deans submit their lists of new and continuing initiatives and the amount of funding/resources required to accomplish their goals. Other university units are then permitted to enter their budget requirements into the online system. The requests must include facts and figures from the prior fiscal year and the current year to date, as well as projections and plans for the upcoming year. The schools and colleges must also include a list of selected peer institutions and benchmarks they seek to attain. Subsequent budget allocations are based in part on a college’s past attainment of its set benchmarks.

By using performance-based budgeting, which includes goal setting and the recognition of unit accomplishments, Nova Southeastern University has significantly increased its enrollment over the past several years and is now a financially strong institution.

Performance Funding: How Have Things Changed?

Early performance funding programs typically focused on basic measures of institutional or student success, e.g., retention rates, graduation rates, the cost of educating a student. Many states have since expanded their programs to include other standards, such as measures of student learning and strategies to increase students’ involvement in their own education. The Tennessee performance funding program allows public colleges and universities to earn additional state funding (up to 5.45 percent of an institution’s annual formula-generated appropriations) based on their performance on standards
designated by the program (Tennessee Higher Education Commission 2010). That is a notable increase from the two percent value used when the program began (Williams 2005).

Although Tennessee has continued its program since its inception in 1979, it has changed what institutions are required to measure. In the early years, the program measured a few basic quality indicators, including accreditation of academic programs, program field evaluations (documented through the testing of seniors), general education outcomes (also documented through the testing of seniors), and surveys of student satisfaction.

The standards have been modified periodically, usually on a five-year cycle. A major change in the funding formula for higher education institutions was established in 2010, with a focus on outcomes rather than inputs. This change was reflected in the new performance funding standards for 2010–2015. Standards for both the 2005–2010 cycle and the 2010–2015 cycle are presented below (Tennessee Higher Education Commission 2005; 2010).

2005–2010 standards:

- Standard one—student learning environment and outcomes
  - 1A Student learning: general education
  - 1B Student learning: major field assessment
  - 1C Accreditation and program review

- Standard two—student satisfaction
  - 2A National Survey of Student Engagement
  - 2B Alumni survey
  - 2C Employer survey

- Standard three—student persistence
  Institutions are required to provide a self-assessment plan related to issues of student persistence and to develop three goals related to student persistence including benchmarks for each of the next three years. Significant progress will be measured in relation to the predetermined benchmarks. A comprehensive report is also required for each year.

- Standard four—state master plan priorities
  - 4A Institutional strategic planning goals
  - 4B State strategic planning goals
  - 4C Articulation and transfer (for universities only)
    9. Fall-to-fall retention rate of first-time transfer students
    10. Total number of first-time transfer students
    11. Retention of at-risk transfer students (GPA lower than 2.5 at time of transfer)
  - 4D Job placement (for community colleges only)
• Standard five—assessment outcomes
  - 5A Assessment pilot (documented usage of the nationally utilized Delaware Study for universities and the Kansas Study for community colleges)
  - 5B Assessment implementation (specifically covering the institution’s quality enhancement plan developed for the Southern Association of Colleges and Schools as a condition for accreditation)

2010–2015 standards:
• Standard one—quality of student learning and engagement
  - 1A General education assessment
  - 1B Major field assessment
  - 1C Accreditation and evaluation
  - 1D Satisfaction studies (National Survey of Student Engagement, alumni and employer satisfaction studies)
  - 1E Job placement (community colleges only)
  - 1F Assessment implementation (quality enhancement plan)

• Standard two—quality of student access and student success
  Institutions focus on five sub-populations (from a choice of 13 listed). Success in Standard Two is defined as increases in the number graduated in the institution-selected groups.

Why have things changed?
There are two main reasons for the change in focus from inputs to outcomes:

• Changes in public focus. Given the constant increases in higher education tuition and fees, parents (and the public) have become more concerned, or at least more vocal, about the quality of their children’s educational experience. They want to believe that they are getting the best value for their money. Although many parents have always looked at graduation rates to some extent, the press now tells them that they should also focus on other aspects of the college experience, such as the quality of advising, opportunities for involvement in out-of-class activities, availability of faculty outside of class, amount of time the average student spends studying or working, and help provided to secure a job after graduation.

• Changes in accrediting agency focus. Regional accreditation is extremely important for higher education institutions. The Southern Association of Colleges and Schools, long recognized as having the toughest accreditation standards of the seven regional accrediting agencies recognized by the U.S. Department of Education, changed its focus from inputs to educational outcomes as the basis for colleges and universities to retain their accreditation. Other regional accreditors have quickly followed suit.

Results of the Changes
The increased emphasis of accrediting agencies and state regulatory entities on student outcomes, as opposed to their traditional focus on inputs (number of faculty, admission standards, etc.), has led to major changes in educational institutions. Meeting the new standards requires that new initiatives, which can subsequently become standard to a program, college, division, or entire university, involve faculty in
both their creation and execution. For example, implementation may result in moving a faculty member from a full-time teaching post to an appointment that is part-time teaching and part-time administrative. In turn, other faculty members may be asked to take over some of the reassigned instructor’s classes, or additional faculty may be hired. In today’s economic climate, it is more likely to be the former. However, even a temporary, non-tenure-track position increases an institution’s personnel expenses.

If the new initiative is a major one that becomes permanent, then new staff positions in multiple areas may be added to accomplish the day-to-day administration of the program. Providing more academic and/or career advising services to students is an excellent example of this. Such an initiative could result in establishing a new advising center with a dozen employees, adding advisors in each academic college, adding new supervisory employees, etc. Further, institutional effectiveness and assessment offices have been established at most colleges and universities to coordinate the requirements of state agencies and regional accreditors at a cost of hundreds of thousands of dollars annually.

**How Middle Tennessee State University Uses Performance Funding Requirements for Institutional Improvement**

Most of the daily activities of Middle Tennessee State University (MTSU) revolve around meeting the requirements of its academic master plan, its strategic plan, and the state performance funding program. All three are interrelated and help the university achieve its mission. Of course, this cannot happen without appropriate financing and budget allocations.

**Setting Budget Priorities**

The requirements of the state’s performance funding program must be considered when annual budgets are established for those areas that influence the university’s ability to meet the requirements.

Many of the standards require a substantial institutional financial commitment; this is particularly true at a large university like MTSU, which enrolls more than 26,000 students. Although some standards primarily require indirect resources, such as staff time, they are more the exception than the rule. Bear in mind that these expenses are incurred each year and frequently increase as student populations increase. Also, these costs do not include salaries and benefits for university staff who work in the offices charged with conducting these activities.

The following current standards require substantial funding:

- **Student learning—general education.** Tennessee’s public colleges and universities are required to document the effectiveness of their general education programs by reporting test results for graduating seniors. Each institution must choose one of the national tests approved by the Tennessee Higher Education Commission and administer that test to all seniors in their final semester of college. Most of the national tests are quite costly; e.g., the Proficiency Profile exam by Educational Testing Service (ETS), a major national test vendor, costs $12.80 to $15.80 per student, depending on the type (paper-and-pencil or online) and the number of tests purchased on each order. Testing 4,000 seniors per year can cost the institution more than $63,000 annually. These costs rise with the addition of freight charges to both ship tests from the vendor and return used test booklets; students’ answer sheets must also be submitted to the vendor to be scored. When test proctors and other administrative costs are included, the expense can go much higher. These expenses must be budgeted through the institution’s general operating fund.
• **Student learning—major field assessment.** Tests are also given to seniors during their final semester of college to document their knowledge of their degree field. Institutions can use national exams when they are available; a locally developed exam can be used when a national exam is not available or when faculty do not consider the national exam(s) to be appropriate for their curriculum. Test booklets from ETS cost $24 to $27 each, depending on the number and type of tests purchased on each order. Testing 4,000 seniors could cost the institution more than $100,000 annually—a notable amount in a time of significantly reduced state funding. Although not all majors are required to be tested because of possible exemptions, there are still thousands of students who take the exams each year. As with general education exams, payments for test proctors and other administrative costs increase the expense. These expenses must be budgeted through the institution’s general operating fund.

• **Academic program reviews.** Academic programs for which no approved accrediting agency exists must be reviewed by out-of-state reviewers at least once every five to seven years. Depending on the institution, the reviewer is paid $500 to $1,500 and is additionally reimbursed for travel expenses related to the on-site visit. MTSU currently pays each reviewer $1,400, which covers an honorarium and travel expenses (excluding hotel expenses paid directly by the university). Also, $300 is given to the department conducting the review for miscellaneous expenses associated with producing the self-study report and hosting the reviewer’s campus visit. During the 2005–2010 cycle, an average of nine reviews were conducted each year for a total allotment for this standard of up to $17,000. To make the review program more manageable, the university moved from a five-year program review cycle to a seven-year cycle. That has reduced the number of annual reviews to seven and the annual costs to approximately $12,000, not including hotel expenses. These costs must be budgeted through the institution’s general operating fund.

• **Program accreditations.** Accreditation is an indication of a high-quality academic program. Consequently, institutions want their academic programs to be accredited whenever possible. Because of its positive public perception and other advantages, institutions would likely strive to achieve and retain accreditation even if it were not a standard in a state performance funding program. Also, institutional accreditation is required for colleges and universities to participate in federal financial aid programs.

  Accreditation, however, comes with a hefty price tag. Typical accreditation requirements include appropriate physical facilities, adequate faculty with appropriate credentials, technology support for students and faculty, and advising and placement services for students. Adequate financial resources may also be a requirement. For example, the accreditation standards of the Association to Advance Collegiate Schools of Business (AACSB International) state, “The school has financial strategies to provide resources appropriate to, and sufficient for, achieving its mission and action items” (AACSB International 2008, p. 13).

• **Satisfaction surveys.** A survey is required to be conducted each year as part of Tennessee’s performance funding program. The National Survey of Student Engagement must be conducted during the first and fourth years of the cycle. An alumni survey is required during the second and fifth years. An “employer satisfaction project” is required in the third year. Most institutions choose to conduct a survey to meet this standard, but some conduct focus groups or interviews instead.

  The student and alumni surveys are typically much more expensive than the employer satisfaction project, especially for larger institutions. Constant increases in postage rates and other surveying components make surveys an expensive requirement. Although web-based surveys are now permitted, a lack of reliable e-mail addresses and the general reluctance of both current students and alumni to complete surveys often result in low response rates. Some colleges and universities have offered incentives to those surveyed in an attempt to increase response rates, thus
increasing the cost of the survey. It seems unlikely, however, that these incentives have achieved their objective. A low response rate can make it impossible to generate results useful at the academic department level. According to Tennessee’s performance funding guidelines, a school’s success on the alumni and student surveys is based on the number of questions for which the institution’s mean response equals or exceeds its previous mean or the state or national mean when available. A low response rate can result in lower calculated means than would have been attained with a larger response through no fault of the institution. The number of questions judged to be successful determines the number of points, and subsequently dollars, the institution will receive for its surveying efforts. Although changes to the satisfaction standard are effective with the 2010–2015 cycle, overall expenses will not be reduced significantly. The expected cost of the surveying procedures must be budgeted from the institution’s operating funds.

Supporting the University’s Academic Master Plan and Strategic Plan

Performance budgeting should be linked to a unit’s effectiveness efforts, which should in turn support institutional goals.

- **Unit goals** should support the institution’s strategic plan
- **Goals in the institution’s strategic plan** should support the academic master plan
- **The academic master plan** should support the institution’s mission statement
- **Goals in the institution’s strategic plan** should also support the strategic plans of the governing board and the state

“*Performance budgeting should be linked to effectiveness efforts.*”

The strategic plan goals that relate to the performance funding program should also support, if not mirror, the established institutional goals. An institution is unlikely to have the resources needed to adequately cover mutually exclusive sets of strategic plan goals and performance funding goals. Additionally, the amount of work required to meet two separate sets of goals (and their accompanying strategies and annual benchmarks) can lead to lowered morale for the faculty and staff responsible for achieving them. As a result, both sets of goals—and the university as a whole—suffer. The purpose of setting goals is not to see how many goals can be written; the purpose is to improve the institution through the strategic, systematic efforts of its employees within its available financial resources.

Middle Tennessee State University is part of the Tennessee Board of Regents (TBR or the board) system, which includes all public universities and community colleges in the state other than those in the University of Tennessee system. There are 13 community colleges and six universities in the TBR system, all of which are covered by the Tennessee performance funding program. (Although not part of the TBR system, three campuses in the University of Tennessee system are also covered by the Tennessee performance funding program—UT Knoxville, UT Martin, and UT Chattanooga.)

The TBR strategic planning cycle now coincides with the state’s five-year performance funding cycle. The board establishes its strategic plan and system members formulate their plans to support it. For the current cycle (2010–15), the board’s strategic plan focuses on four priority areas: access, student success, quality, and resourcefulness/efficiency (Tennessee Board of Regents 2010).

The board requires its institutions to frame their strategic plans closely around the board’s plan. The board establishes specific objectives and strategies to meet its goals and asks its institutions to include goals and benchmarks that support these objectives in their strategic plans. Aggregated results for all institutions in the system are reported to the board annually to reflect where the system is in relation to...
its own goals. MTSU’s strategic plan was assembled in such a way as to support both the board’s plan and its own academic master plan. The university’s academic master plan has three primary goals: academic quality, student centeredness, and partnerships. The relationship between the two plans at MTSU facilitates the achievement of the goals in both.

The board now permits institutions to modify their strategic plans as circumstances require. Accomplishing the goals and strategies in the institution’s strategic plan frequently requires annual budget commitments.

Performance Funding’s Part in Overall Institutional Funding

The number of points awarded to MTSU for accomplishments included in the 2009–10 performance funding report equated to almost $6 million in additional state funding. This funding was included in the state allocation for the 2012 fiscal year. All institutional awards for 2009–10 totaled more than $53 million.

This funding goes into the university’s general fund to be distributed during the annual budgeting process. Consequently, it helps fund the operations of the university’s Office of Institutional Effectiveness, Planning and Research (IEPR), which is responsible for activities associated with the requirements of the performance funding program. The typical line items of salaries, travel, professional development, and office operating expenses must be covered in addition to the cost of assessment initiatives. The current economic recession and a reduction in state financial support have recently prevented full funding of the performance funding program. Public higher education institutions across Tennessee, as in many states throughout the country, have been forced to reduce their workforce and operating budgets. These cuts in state funding are expected to be permanent. Unfortunately, the state did not reduce the requirements of the performance funding program proportionately.

The university also supports the assessment activities and other pursuits of academic and non-academic departments across campus. It is certainly not uncommon for state colleges and universities to operate under tight budgets. MTSU’s budgeting process requires that a unit’s request for new funds be accompanied by a solid plan for the future use of those funds. The unit must also demonstrate past performance through performance-based supporting documents.

Other sources of university funding include annual state funding, the university foundation, grants from private sources, federal grants, and private donations.

Examples of Performance-Based Funding for Campus Departments and Divisions

The program review process discussed earlier provides an example of how performance-based budgeting can be used. Academic departments must submit a written response to the external reviewer’s report following the reviewer’s campus visit. The department chair is asked to state, after consultation with departmental faculty, whether the department agrees with the reviewer’s findings—both strengths and weaknesses. The chair also lists the recommendations that will be addressed in an attempt to improve and strengthen the department. The form that is used requires entries for (1) the recommendation to be addressed, (2) the activities to be done to meet the recommendation, (3) the time frame for completion, (4) the person(s) responsible for the activities, and (5) the estimated cost, if any. Each recommendation requires the same specificity.
If the department’s future budget request includes funds for those activities, then the external reviewer’s report can be used to support the request. Even requests for additional faculty lines can be supported in this way.

The department meets with the provost a year after the program review is completed to report on the progress of its improvement plans. Another progress report must be submitted to the provost during the second year following the program review. The department must show continued progress on its plans in order to receive new funding from the university in the following year’s budget. Departments are not forced to continue plans that prove to be less beneficial than originally anticipated. Plans can be revised to incorporate different or newly available methods for accomplishing the original goal, and the original goals themselves can also be revised. In some cases, goals may be met earlier than originally anticipated, and funding may be requested to continue the processes or activities that led to the successes achieved. Data-based documentation of successful performance must be included in the department’s budget request. Again, the external reviewer’s report can be used to support the request for new funds.

“Academic performance awards” given at MTSU are another example of performance-based budgeting. These awards are based on the average score achieved on the major field test (MFT) by a major’s graduating seniors during the preceding year. The scores from both the fall and spring semesters are used in the calculations. A department receives the award if at least 55 percent of its seniors score higher than the comparison score. The comparison score is dependent on the type of test given. If a major uses a national exam, e.g., a major field test from ETS or an Area Concentration Achievement Test (ACAT), then the national average becomes the comparison score. If a locally developed test is used, then the average of the previous three years becomes the comparison score. Some departments take the award quite seriously and instigate their own methods to encourage students to increase their test scores. Initiatives include giving high-scoring students a monetary reward, including the test as part of the grade in a senior-level course, and creating a capstone course in which preparation for the MFT is a major emphasis. The departments’ incentive for achieving high performance on these tests goes beyond the receipt of additional funds for faculty travel. The award also gives a department certain “bragging rights,” because it indicates that the department excels in educating its students.

The National Study of Instructional Costs and Productivity (Delaware Study) is used by more than 300 colleges and universities and was previously part of Tennessee’s performance funding program for the state’s public universities. Community colleges participated in the National Study of Community College Instructional Costs and Productivity (Kansas Study). The Delaware Study was used in the performance funding program to determine how academic programs compared to peer institutions in four areas:

- FTE students taught by FTE instructional faculty by discipline (Classification of Instructional Programs [CIP] code)
- Student credit hours (SCH) by FTE faculty as a percentage of national norm by discipline
- Total organized class sections by FTE faculty: undergraduate, graduate, and total
- Percentage of undergraduate SCH taught by full-time faculty (Tennessee Higher Education Commission 2005)

Careful record keeping and data verification are required by departments to achieve accurate calculations for these measures. It is critical for institutions participating in the Delaware Study to abide by the specific definitions provided for each variable. Otherwise, comparisons between groups of institutions would be invalid, and the institutions would not even be aware of the problem.
Departments can request resources through the budget process to help improve how they compare to peers based on the Delaware Study. Generally, requests include additional faculty lines; the specific results expected from each additional faculty line are also included in the budget request. Not all academic disciplines are reported in the Delaware Study. Consequently, MTSU administration has requested that disciplines not included in the study select appropriate peer institutions with which they wish to be compared in these four areas. All disciplines at MTSU are required to complete all parts of the Delaware Study, even though not all of the data are transmitted to the University of Delaware as part of the official study files.

**Allocation of Available Funds Based on Performance**

The university has two primary sources of revenue: state allocations and student fees. An institution’s allocation of its funds during the budgeting process should be strongly influenced by its strategic plan, including the priorities of its divisions and administration. Resources should be allocated to departments that document recently achieved desirable results and/or to departments that must improve their results and have well-constructed plans for accomplishing their goals.

**Communication**

Institution-wide communication is important in developing and maintaining a successful performance-based budgeting system. The institution’s mission, strategic plan, academic and facilities master plans, performance funding goals, etc., must be conveyed to all affected persons. It is important for employees in all units within the institution to understand how their roles are related to the institution’s overall success. Short- and long-term goals and related annual targets should be publicized, and employees should be made aware of what is expected of them in order to reach those goals. They should also know where they can find any assistance they may need.

Employee salaries and benefits are frequently the largest single type of expense in an organization. Keeping employees well informed on the organization’s paths and progress promotes better results and financial health for all. Well-informed employees are often the most motivated employees, and motivated employees will work hard to help the institution reach its goals. Reaching goals and thereby improving the institution for all stakeholders is the real purpose of performance-based budgeting.

**References**


**Author Biography**

**Fay S. Parham** is executive director of institutional effectiveness, planning, and research at Middle Tennessee State University, which has a student population exceeding 26,000. With more than 30 years’ experience in higher education administration, she has worked in institutional effectiveness/institutional research since 1990. She holds an MBA from the University of Tennessee.
Chapter 9: Academic Deans’ Perspectives on the Effectiveness of Responsibility Center Management

by Linda A. Kosten and Cheryl D. Lovell, University of Denver

A survey of academic deans at doctoral granting institutions reveals a positive regard for RCM.
Wise budgetary decision making helps a higher education institution realize its mission and goals. Poor budgetary decision making may be deadly to its operations and creative activity. A university’s budget structure plays a primary role in dictating who makes decisions, thus determining where the power to make and react to change rests within an institution. Central administrators make many budgetary decisions to ensure an institution’s financial security, productivity, and continued success. To assist in these efforts, administrators hire competent staff and promote capable faculty into leadership roles. In addition, an effective budget and planning structure must be in place in order for administrators, faculty, and staff to understand their roles and be successful in their work. Among these various roles, who decides to grow one program, cut another, or sustain a third? A university’s budget model shapes the answers to these questions.

Given the economic events of recent years that have resulted in decreased funding from states, federal research, endowment earnings, donors, and even families who can no longer afford tuition, the need for an effective budget and planning structure is paramount. As difficult decisions are made, there is a heightened demand for transparency in decision-making processes from stakeholders who extend far beyond the campus. As a result, many colleges and universities are reexamining their organizational structures to determine if they are using every dollar available in the most effective means possible to achieve their stated mission and goals.

University budget models or structures display financially the future plans and priorities of an institution (Meisinger 1994; Wolverton et al. 2001). Six common approaches to university budget modeling include “incremental budgeting; planning, programming, and budgeting systems; zero-base budgeting; performance budgeting; formula budgeting; and cost-center budgeting” (Meisinger 1994, p. 177). These approaches to budgeting have been reviewed and outlined by many other authors, with remarkably similar definitions (Barr 2002; Lasher and Greene 1993; Lasher and Sullivan 2004; Meisinger 1994; Rodas 2001). The newest model on this list is “cost-center budgeting,” also known as “responsibility center budgeting” or “responsibility center management.” In this model, decision making and accountability for budget outcomes are decentralized to “responsibility centers” that take the form of academic and nonacademic units throughout the campus.

Most universities use a blend of budget models, and leadership, history, and current events influence the design and implementation of each institution’s unique model. The model explored here, responsibility center management (RCM), is a university budget management model that decentralizes revenues and expenses to the unit level (Kosten 2009). The concept of decentralized budgeting at universities has been present in the literature and in practice since the early 1970s (Kaludis 1973). Over time, the definition has been refined and the practice has become more widespread. Within an RCM system, access to the university budget is open and shared freely with the university community. The budgetary decision-making process is transparent, and the volume and nature of indirect costs are to be understood by all. Deans and other division managers are held accountable for their budgetary success or failure, and incentives and disincentives for budgetary performance are clear. Budgetary control is in the hands of the decision makers and relates to motivation and performance recognition (Robbins and Rooney 1995; Whalen 1991). Academic divisions are “responsible for generating their own income and managing their own resources” (Whalen 1991, p. 1). They are responsible for modeling revenue and expense and delivering on the projected bottom line. Planning efforts are influenced greatly by budgetary considerations and are entrepreneurial in focus. Staff and faculty are involved in planning processes at both the division and university level. Divisions have ownership for and autonomy in their planning processes. The revenue generated by a particular unit stays with that unit, unless it is paying a bill for service to another part of the university. Deans are acutely aware of the relationship between their revenue and expense (Ehrenberg 1999).
Given this broad list of common characteristics of RCM, a more refined definition was needed in order to conduct an analysis of its effectiveness at multiple institutions. The National Association of College and University Business Officers (NACUBO) conducted a survey of its membership to discover the extent of RCM use by colleges and universities (West et al. 1997). Since RCM has different labels at different institutions, NACUBO felt it necessary to provide a clear and concise definition at the outset of the survey. RCM was defined as a university’s “institutional financial management system having decentralized financial accountability for both revenues and expenses and incentives for the leadership of the academic and non-academic units to achieve positive financial performance” (West et al. 1997, p. 25). NACUBO’s definition of RCM was used for the study described in this article.

Supporters of RCM characterize the structure as placing authority in the hands of the proper decision makers, being more directly related to motivation and performance recognition, and serving as an effective tool for constructive change (Bava 2001; Brown-Wright, Newman, and Bradley 1993; Bruegman 1995; Clark 1998; Clarke and Chancey 1997; Cunliff, Martin, and Mounce 1993; Facione 2002; Hiam 2003; Lang 1999; Mancini and Goeres 1995; Massy 1993; Meisinger 1994; Murray 2000; Nelson and Scoby 1998; Robbins and Rooney 1995; Smith 1985; Strauss and Curry 2002; West et al. 1997; Whalen 1991). Other articles have touted the positive effects of decentralized budgeting on the improvement of campus climate and the effectiveness of fiscal management (Jacquin 1994; Lawrence 1995; Mancini and Goeres 1995). In a study conducted by Brown-Wright, Newman, and Bradley (1993, p. 7), over 80 percent of faculty respondents indicated that the “benefits of such a decentralized system would outweigh negatives.” In addition, the decentralized model was said to promote more “accurate and meaningful” strategic planning activities (Mancini and Goeres 1995, p. 44) and “permit tighter analytical focus on problem areas” (Jacquin 1994, p. 44).

Responsibility center management does have critics who warn university administrators of this model’s damaging downsides (Adams 1997; Chabotar 1995, 1999; Dubeck 1997; Heath 1993; Kirp 2000a, 2000b; Lang 1999; Meisinger 1994; Murray 2000; Rodas 2001; Scott 2001; Wilson 2002; Wolverton et al. 2001). Some present RCM as too focused on the bottom line, with academic performance and priorities sacrificed for fiscal considerations (Meisinger 1994; Murray 2000). Meisinger (1994, p. 187) warns of the potential “for suboptimization ... in that colleges may seek to maximize revenues to the detriment of the entire campus.” Similarly, Murray (2000) warns that the competition created by RCM could result in uneven wealth between campus areas, unreasonable competition for majors, and stolen courses, in which the same popular course content is offered by several units in an attempt to gain revenue. Without vision and academic leadership, Kirp (2000a) argues, RCM has the power to influence unwanted and unforeseen consequences. Adams (1997, p. 61) notes that “the logic of its incentives strongly tempts each unit to develop requirements and to advise students in a way that would keep that unit’s students enrolled in its own courses.”

Within the literature on RCM, it is interesting to note that the positive outcomes were more commonly presented by central and budget administrators while the negative outcomes were put forth more often by individual faculty. In addition to recognizing the key role that academic deans play as middle managers at the fulcrum of the RCM structure, the insight that their voices were missing from the literature as central administrators and faculty took opposite sides of the debate led to the decision to investigate their perspectives.
Sidebar: Institutions Identified as Using Responsibility Center Management

Private Institutions

1. American University (American University Budget Office 2001) [1]
2. Case Western Reserve University (American University Budget Office 2001)
3. Claremont Graduate University (Kirp 2003b; Strauss and Curry 2002)
4. Columbia University (American University Budget Office 2001)
5. Cornell University (American University Budget Office 2001) [1]
7. Emory University [2]
8. Georgetown University (American University Budget Office 2001) [1]
9. Harvard University (American University Budget Office 2001; Bava 2001; Robbins and Rooney 1995)
10. Johns Hopkins University (Bava 2001)
11. Northwestern University [1] [2]
12. Stanford University (American University Budget Office 2001; Robbins and Rooney 1995) [1]
15. University of Rochester [2]
16. University of Southern California (American University Budget Office 2001; Bava 2001; Robbins and Rooney 1995)
17. Vanderbilt University (Kirp 2003b; Strauss and Curry 2002)
18. Washington University (Bava 2001)

Public Institutions

2. Indiana University Bloomington (American University Budget Office 2001; Bava 2001; Birchfield and Cammarata 2002)
3. Indiana University-Purdue University at Indianapolis (Robbins and Rooney 1995)
4. The Ohio State University (Birchfield and Cammarata 2002)
5. University of Idaho (Birchfield and Cammarata 2002)
7. University of Michigan (Birchfield and Cammarata 2002; Strauss and Curry 2002)
8. University of Minnesota (Strauss and Curry 2002)
10. University of South Carolina (Birchfield and Cammarata 2002)

[1] Hybrid institutions; some colleges RCM and some not.

[2] In 2005, a telephone survey was conducted with the staff of each university’s budget office to confirm the presence of a budget structure at the institution with decentralized control of revenue as well as expense. These phone calls also resulted in additional institutions being identified for inclusion in this study.


Method

In developing the method for this investigation, it was acknowledged that academic leadership and its effect on the results of a budget model are inseparable. In other words, the effectiveness of any chosen model depends on the abilities and leadership skills of the administrators implementing the model. Due to this clear relationship, the decision was made to not use a case study approach that would investigate the effectiveness of RCM at only a small number of institutions. Instead, a broader number of perspectives were needed to clearly examine RCM rather than the leadership skills of the administrators involved. Therefore, a survey instrument was designed. The central question asked, do deans currently working at institutions with an RCM structure view this budget model as effective? Thus, the central dependent variable was budget model effectiveness from the perspective of the deans. To flesh out this central question, subsidiary research questions asked

1. As RCM purports, do deans believe they are fiscally aware, empowered, accountable, effective, and entrepreneurial?
2. Do deans perceive more competition, rather than collaboration, with their fellow deans?
3. Are interdisciplinary teaching and research negatively affected by the RCM model?
4. Are decisions driven by bottom-line considerations rather than academic ones?
5. Is the university’s mission hindered while colleges focus on their own self-determined paths?

After an extensive survey development process that included in-depth definition of variables, item development, expert review, cognitive interviews, survey pilot, and item analysis, the survey was administered to 279 academic deans at 27 doctoral research-extensive universities that use RCM. An academic dean was defined as a university administrator who oversees a division of faculty or a college within a larger university and who reports to a central university administrator (e.g., provost, vice president for academic affairs, chancellor, president) (Bright and Richards 2001; Tucker and Bryan 1991; Wolverton and Gmelch 2002; Wolverton et al. 2001). This definition excluded individuals with the titles of assistant dean or associate dean, as well as university-wide administrators with titles including “dean” (e.g., dean of students, dean of the library). The positive outcome scales, with 10 survey items per scale, investigated (1) opinion of the effectiveness of RCM, (2) accountability and entrepreneurialism,
empowerment, and (4) fiscal awareness. The negative outcome scales, with 10 survey items per scale, investigated (1) competition among colleges, (2) a hindrance of interdisciplinarity, (3) a focus on fiscal considerations over academic considerations, and (4) attention to college priorities over university priorities.

Results

One hundred and forty-six (146) useable surveys were returned, a 52.3 percent response rate. While this study did not attempt to describe academic deans at all institutions, or even at all doctoral research-extensive universities, the results of the survey’s demographic items did provide an interesting overview of deans within doctoral research-extensive universities that use the RCM budget model.

Overall, the academic deans surveyed approved of RCM and agreed with the presence of the positive outcomes of RCM to a greater degree than they agreed with the presence of the negative outcomes. The mean score on the first scale, opinion of RCM/effectiveness as a dean, was 4.74 (SD = 1.13, range = 1–6) on a six-point scale (1 = strongly disagree, 6 = strongly agree). In addition, as shown in figure 1, the three other positive outcome scales, accountability and entrepreneurialism, empowerment, and fiscal awareness, all had means greater than five and standard deviations lower than one, demonstrating high agreement from deans with little variation in answers. This answers the first subsidiary question: As RCM purports, do deans believe they are fiscally aware, empowered, accountable, effective, and entrepreneurial? The answer overall was yes, deans did believe they were fiscally aware, empowered, accountable, effective, and entrepreneurial due in part to the RCM budget structure.

![Academic Deans’ Perspectives of RCM](Click here to open a web browser window displaying this figure at its original size.)

<table>
<thead>
<tr>
<th>Scale</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Positive Outcomes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RCM Opinion/Effective Dean</td>
<td>4.74</td>
<td>1.13</td>
<td>1–6</td>
</tr>
<tr>
<td>Accountable/Entrepreneurial</td>
<td>5.21</td>
<td>0.51</td>
<td>3–6</td>
</tr>
<tr>
<td>Empowerment</td>
<td>5.12</td>
<td>0.83</td>
<td>1–6</td>
</tr>
<tr>
<td>Fiscal Awareness</td>
<td>5.73</td>
<td>0.49</td>
<td>3–6</td>
</tr>
<tr>
<td><strong>Negative Outcomes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competition among Colleges</td>
<td>3.55</td>
<td>1.23</td>
<td>1–6</td>
</tr>
<tr>
<td>Interdisciplinary Efforts Hindered</td>
<td>2.64</td>
<td>1.30</td>
<td>1–6</td>
</tr>
<tr>
<td>Fiscal Priorities over Academic</td>
<td>3.29</td>
<td>1.06</td>
<td>1–6</td>
</tr>
<tr>
<td>College Priorities over University</td>
<td>3.64</td>
<td>1.03</td>
<td>1–6</td>
</tr>
</tbody>
</table>

*Note: Scale was a 6-point Likert scale, with a scale value of 6.0 indicating strong agreement and 1.0 indicating strong disagreement.*
The four negative outcome scales addressed the second set of subsidiary questions: Do deans perceive more competition, rather than collaboration, with their fellow deans? Are interdisciplinary teaching and research negatively affected? Are decisions driven by bottom-line considerations rather than academic ones? Is the university’s mission hindered while colleges focus on their own self-determined paths? All the negative outcome scales had means lower than four and standard deviations greater than one, exhibiting less agreement and more variation in responses than in the positive outcome scales.

The first of these questions was addressed by the competition among colleges scale, which had a mean of 3.55 (SD = 1.23, range = 1–6); see figure 1. This mean score did not clearly either discount or account for perceived competition among colleges due to RCM. There appeared to be some competition present, but not an overwhelming amount, and there was a great deal of variation in the responses.

The second of these subsidiary questions was addressed by the scale that measured if deans perceive RCM as hindering interdisciplinary efforts at their institution. This scale had less agreement than the other three negative outcome scales, with a mean of 2.64 (SD = 1.30, range = 1–6); see figure 1. An average of less than three on a six-point scale indicates that there were more deans on average who disagreed with this scale than agreed with it. In other words, on this scale, deans did not perceive RCM as a hindrance to interdisciplinarity.

The third and fourth negative outcome scales addressed the subsidiary questions that concerned bottom-line considerations over academic ones and a college focus over a university one. These scales had results similar to the first negative outcome scale related to competition. As shown in figure 1, the mean scores of these scales were also between three and four and their standard deviations were above one. These scores did not clearly account or discount for these phenomena being a part of the perceptions deans have of RCM and its effect on their campus.

Prior to conducting additional parametric tests, the normality of each scale distribution was evaluated using the Kolmogorov–Smirnov test (p < .05). Three of the eight scales were determined to have non-normal distributions: the fiscal awareness scale, the interdisciplinarity scale, and the empowerment scale. In addition, skewness and kurtosis were evaluated for the distributions of the scale means. Skewness was less than -1.0 for the opinion of RCM/effectiveness as a dean scale, as well as for the fiscal awareness and empowerment scales. Results from these three negatively skewed scales as well as from the interdisciplinarity scale should be reviewed within this context.

Deans’ responses were also analyzed using institutional and college characteristics, including private versus public university, hard- versus soft-discipline college, and budget size.

**Private versus public university.** Some of the deans surveyed were from public institutions and some were from private institutions. (A list of institutions included in this study can be found in the sidebar.) An independent samples t-test was conducted to investigate differences in means for deans at private versus public universities for each of the eight outcome scales. As shown in figure 2, there were four scales on which deans at private universities varied from deans at public universities.
Figure 2: Means and Standard Deviations for Eight RCM Outcome Scales with T-Test Results for Comparison of Mean Scores from Deans at Private and Public Universities (N=146)

<table>
<thead>
<tr>
<th>Scale</th>
<th>Private (n = 63)</th>
<th>Public (n = 83)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Outcomes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RCM Opinion/Effective Dean</td>
<td>5.06 0.88</td>
<td>4.50 1.34</td>
<td>3.064</td>
<td>0.003*</td>
</tr>
<tr>
<td>Accountable/Entrepreneurial</td>
<td>5.36 0.49</td>
<td>5.10 0.50</td>
<td>3.180</td>
<td>0.002*</td>
</tr>
<tr>
<td>Empowerment</td>
<td>5.22 0.85</td>
<td>5.05 0.81</td>
<td>1.209</td>
<td>0.229</td>
</tr>
<tr>
<td>Fiscal Awareness</td>
<td>5.86 0.30</td>
<td>5.63 0.58</td>
<td>2.832</td>
<td>0.005*</td>
</tr>
<tr>
<td>Negative Outcomes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competition among Colleges</td>
<td>3.14 1.13</td>
<td>3.87 1.22</td>
<td>-3.697</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Interdisciplinary Efforts Hindered</td>
<td>2.68 1.42</td>
<td>2.61 1.20</td>
<td>0.313</td>
<td>0.755</td>
</tr>
<tr>
<td>Fiscal Priorities over Academic</td>
<td>3.15 1.14</td>
<td>3.40 0.99</td>
<td>-1.412</td>
<td>0.160</td>
</tr>
<tr>
<td>College Priorities over University</td>
<td>3.73 0.99</td>
<td>3.58 1.07</td>
<td>0.859</td>
<td>0.392</td>
</tr>
</tbody>
</table>

*Note: Scale was a 6-point rating scale, with a scale value of 6.0 indicating strong agreement and 1.0 indicating strong disagreement.

*p < .05

The first significant difference was in the general opinion of RCM and its ability to allow deans to be effective. While both groups of deans had high mean scores on this scale, deans working at private universities had significantly higher scores than their counterparts at public institutions (t = 3.064, p = .003). The second scale with a significant difference was the accountability and entrepreneurialism scale. Again, while all deans saw themselves as accountable and entrepreneurial in the RCM structure, deans at private institutions had, on average, higher scores on this scale than deans at public institutions (t = 3.180, p = .002). The third scale with a significant difference was the fiscal awareness scale. As discussed earlier, on average, all deans surveyed believed they were fiscally aware within the RCM structure. However, scores on the fiscal awareness scale were significantly higher among deans at private universities than at public universities (t = 2.832, p = .005). The fourth scale with a significant difference was the competition among colleges scale. This was the only negative outcome scale with a significant difference. Deans at public universities scored significantly higher on this scale than did their private school counterparts (t = -3.697, p = <.001). There was no significant difference in the mean scores of deans at private and public universities on the four remaining scales: empowerment, interdisciplinarity, fiscal priorities over academic priorities, or college focus over university focus.
Hard versus soft discipline. Discipline type was also examined as a possible independent variable that would differentiate the responses of this large group of deans. Biglan (1973a, 1973b) created a taxonomy that divides academic disciplines on three dimensions: hard versus soft, pure versus applied, and life versus non-life systems. Del Favero (2005) updated Biglan’s work through an investigation of the social dimension of academic disciplines and their interrelationship with the administrative behavior of academic deans and labeled the discipline groups low- and high-consensus fields. Del Favero’s low-consensus fields were very similar to Biglan’s soft disciplines, including arts, humanities, social sciences, business, education, law, and social work; Del Favero’s high-consensus fields were very similar to Biglan’s hard disciplines, including biology, chemistry, physics, mathematics, architecture, engineering, nursing, and medicine. Respondent deans were categorized by discipline type: 48.6 percent (n = 71) were classified as hard-discipline (high-consensus) deans, and 51.4 percent (n = 75) were classified as soft-discipline (low-consensus) deans. There were four significant differences (p < .05). All four of the negative outcome scales were scored significantly higher by hard-discipline deans than by soft-discipline deans, while there was no significant difference on any of the positive outcome scales. The results of this analysis are provided in figure 3. This result indicates that hard-discipline deans were more critical of RCM, which may relate to hard-discipline deans’ more highly developed paradigm for research. The expectations for the performance of a budget model in the mind of a hard-discipline dean may be much higher than those of a soft-discipline dean.
Figure 3 Means and Standard Deviations for Eight RCM Outcome Scales with T-Test Results for Comparison of Mean Scores from Deans of Hard and Soft Disciplines (N=146)

<table>
<thead>
<tr>
<th>Scale</th>
<th>Hard (n = 71)</th>
<th>Soft (n = 75)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Positive Outcomes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RCM Opinion/Effective Dean</td>
<td>4.56</td>
<td>1.29</td>
<td>4.91</td>
<td>0.93</td>
</tr>
<tr>
<td>Accountable/Entrepreneurial</td>
<td>5.23</td>
<td>0.45</td>
<td>5.18</td>
<td>0.57</td>
</tr>
<tr>
<td>Empowerment</td>
<td>5.05</td>
<td>0.89</td>
<td>5.18</td>
<td>0.78</td>
</tr>
<tr>
<td>Fiscal Awareness</td>
<td>5.69</td>
<td>0.51</td>
<td>5.77</td>
<td>0.47</td>
</tr>
<tr>
<td>Negative Outcomes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competition among Colleges</td>
<td>3.83</td>
<td>1.35</td>
<td>3.29</td>
<td>1.05</td>
</tr>
<tr>
<td>Interdisciplinary Efforts Hindered</td>
<td>2.88</td>
<td>1.35</td>
<td>2.42</td>
<td>1.21</td>
</tr>
<tr>
<td>Fiscal Priorities over Academic</td>
<td>3.58</td>
<td>1.07</td>
<td>3.02</td>
<td>0.99</td>
</tr>
<tr>
<td>College Priorities over University</td>
<td>3.91</td>
<td>0.97</td>
<td>3.39</td>
<td>1.04</td>
</tr>
</tbody>
</table>

Note: Scale was a 6-point rating scale, with a scale value of 6.0 indicating strong agreement and 1.0 indicating strong disagreement.

*p < .05

(Click here to open a web browser window displaying this figure at its original size.)

Revenue size. To examine the results from another perspective, deans were sorted into three subgroups: (1) deans who manage a small amount of revenue (less than $20 million, n = 59), (2) deans who manage a medium amount of revenue ($20–$60 million, n = 45), and (3) deans who manage a large amount of revenue (more than $60 million, n = 33). Creating a categorical variable based on budget size provided a factor on which to compare the mean scores on the eight scales for deans who manage small, medium, and large budgets. One-way ANOVAs were conducted and one of the scales, fiscal priorities over academic priorities, showed a significant difference in the mean scores of these three groups (F(2, 143) = 3.229, p = .043). As shown in figure 4, deans who managed small revenue streams believed fiscal priorities were considered over academic priorities more often than did deans who managed medium or large revenue streams. The security of a larger budget may have allowed for less concern over the fiscal outcomes of various academic decisions. This result, however, could have been the case regardless of the budget model in use at the time.
Discussion

This study has added to the existing literature in several meaningful ways. Academic deans’ perspectives of RCM inform the current debate on its use and lay the groundwork for future research. The implications for university administrators and researchers are outlined below.

Implications for university administrators. For those university administrators managing an RCM structure or considering a transition to one, this study has provided some useful insights. These insights are based on an integration of the literature and the study’s results, including both the positive and negative outcomes as well as the open-ended comments from respondent deans.

First, the good news: most deans will embrace a more decentralized budget structure, enjoying the power, autonomy, and information it provides and increasing their entrepreneurial activity. This level of buy-in could only be dreamed of in a centralized structure; the minds of the deans are engaged in the management of the university. However, this also results in a loss, or at least a sharing, of power from the
central administration. The cost of centralized expenses, including everything from facilities to debt management, becomes a topic of discussion at deans’ meetings. This integration of more individuals into the management of the university can be overwhelming if not anticipated and managed effectively. There are some topics or decisions that will unexpectedly send some deans into a rage and others that will be embraced without difficulty. Leading the deans in a decentralized structure is undoubtedly more complex; however, it is also potentially more beneficial to the university.

“Most deans will embrace a more decentralized budget structure.”

Second, deans from the hard disciplines (high-consensus fields) will be more critical of the RCM structure, given their backgrounds using more highly developed paradigms for analysis and research. Anyone who has worked long in higher education administration is aware of the keen critical perspective that hard-discipline faculty members bring to the university community. This perspective should not be feared, but rather embraced as part of the crucial checks and balances that keep university administrators reflecting on their own work. The difficult questions will be asked by these faculty members, and answering them will lead to improvement in the understanding and function of the university administration.

Third, the structure created for the allocation of central costs should be clear and open and include faculty involvement and a regularly scheduled review period. This is a way to protect the university by ensuring that the structure meets the needs of the community as a management tool as much as it is a method for instilling faculty investment. Faculty members tend to be suspicious of complex organizational structures that appear to have mysterious control over the university’s resources. As Gould (2003, p. 112) notes, “In a powerful way, the ambiguous status of knowledge and corporate controls of the university have come to symbolize to faculty in the liberal arts and humanities especially their alienation from their own work.” Administrators do not need to strive to have every faculty member understand the intricacies of the budget structure. However, those faculty members who are interested should be allowed to openly view and question the budget model’s function. These faculty members can then be emissaries to other faculty, assuring them there is no wizard behind the curtain attempting to take away their tenure or academic autonomy.

Fourth, simultaneous with the implementation of RCM, a supplementary structure should be created to encourage interdisciplinary programs. Many respondent deans mentioned that such a structure existed at their institution. It is vital for deans to work out these relationships outside of the discussion of what is best for the students and the program. It is wrong for individual faculty to decide on degree requirements based on which college will receive the tuition. However, an understandable template for revenue allocation that can be applied after academic plans are in place is a useful and necessary tool.

Fifth, university administrators should help deans in colleges with revenue of less than $20 million to keep focused on academic priorities over fiscal considerations. It is easy to focus on the financial outcomes in an RCM structure. Given the ambiguous and multifaceted nature of outcomes in higher education, it is rewarding to see a positive bottom line. It is much easier to see that you “won the game” in the world of finance than it is in the world of higher education. However, such quantifiable results can be deceiving. What was the quality of the student–teacher relationship in the class of 80 students that produced that positive bottom line? If the instructor was dynamic and the subject matter such that it could be conveyed effectively in a large group, then it may have been appropriate. However, if the intent was to improve each student’s ability to write a convincing argument in Italian, then the class size almost certainly negatively impacted the intended student-learning outcomes. Perceived success in higher education is complex, and while quantifiable information is useful in informing decision making, a positive bottom line does not imply a strong dean.
“A positive bottom line does not imply a strong dean.”

Sixth, strong leadership includes selecting and mentoring excellent deans and providing them with the support they need to thrive in a decentralized structure. The new deans at four of the institutions studied by Rodas (2001, p. 174) “appear to have been screened at least partly for their willingness to function within the new resource allocation model.” For RCM to be successful, central administrators must “nurture the necessary competencies” in their deans (Hiam 2003, p. vii). However, deans should not be chosen based on their prior knowledge of business management tools. On the contrary, an intelligent, trusted, respected faculty member with openness to acquiring new, useful management skills is a much finer candidate for the role of dean.

Finally, one method for supporting deans in their budget management function is the creation of an infrastructure of budget and planning professionals charged with assisting them. These staff members should be well versed in university systems and policies and able to interpret and present budgetary information to deans and other faculty. Beyond the required technical skills, these individuals should also have a comprehensive understanding of the college, the university, and the needs of the academic community. Ideally, these budget and planning professionals will function as problem solvers, able to bring together ideas and pertinent university policies in order to propose insightful solutions to challenging situations that have potential budgetary implications.

Overall, RCM does not replace the good leadership, strong relationships, intelligence, and respect required for excellent academic administrators to succeed. Without strong leadership and a thorough understanding of the possible negative outcomes of RCM, an institution could be characterized by turfdom and internal competition and driven primarily by financial considerations.

“RCM does not replace the good leadership required for academic administrators to succeed.”

Implications for research. This study answered the call from other researchers for more in-depth analysis of RCM (Lasher and Sullivan 2004; Zemsky and Tierney 1986). It also explored the role of deans and their job responsibilities from a new perspective, with a particular focus on budget administration. However, it left some key research questions about RCM unanswered.

A line of research that would be interesting to explore next is a comparison of deans from highly centralized universities with a subset of deans from decentralized universities. Are the strengths of RCM missing from institutions that do not use this structure? Are deans at universities with a centralized structure less fiscally aware, less empowered, less accountable, less entrepreneurial, or less effective? And are the negative outcomes less prevalent? Is there less competition among colleges and less prevalence of fiscal priorities superseding academic considerations? Is there more interdisciplinarity and more focus on university priorities?

Related to these questions and the method employed in this study is an additional question: Are there independent measures of the constructs that would not rely on self-report? For instance, is there a method for measuring the level of fiscal awareness a dean actually has, rather than relying on his or her self-perception of this phenomenon? Are there other types of evidence available in university policies or records that could inform the investigation of this topic?

Implications for the future of higher education. When applied intelligently, as an aid to analysis, RCM has its uses. However, as Kirp (2003b, p. 111) notes, “But problems arise when proponents forget that they are talking in metaphors and start to believe they are really running a business.” Indeed, “at many universities the idea of faculty governance of academic affairs is rapidly slipping into irrelevance,
There are broader questions concerning the corporate intrusion of business values on higher education that this study did not begin to explore (Gould 2003; Kirp 2003b). Is entrepreneurialism a virtue in an academic dean? In a budgetary sense, the answer is yes. However, does this trait in a dean promote the public good? Should deans be expected to have the budgetary prowess that is required by a decentralized structure, or should they possess other qualities as middle managers of our universities? Financial success equals survival and results in the proliferation of what is successful. Is what is financially successful in higher education also what is best for forming the next generation of learners, scholars, and citizens? Are we “selling out” or are the needs and wants of the academic marketplace working in our collective favor? These broad and fundamental questions should not be overlooked as universities consider embracing RCM and other management tools. There is a “fear that money and efficiency may gradually come to have too dominant a place in academic decision making and that the verdict of the market will supplant the judgment of scholars in deciding what to teach and whom to appoint” (Bok 2003, p. 19).

In designing university budget structures, there are purposes for decentralization and purposes for centralization. Decentralization is needed to cultivate buy-in and investment of effort, not only to achieve good fiscal management of resources, but also to have academic leaders share in the understanding of the outcomes of their decision making. Academic decisions should not be made in a vacuum. Centralization is needed to move the university strategically, to address new initiatives, and to have some flexibility to recognize and invest in areas of strength. Excellent managers are needed who understand and are invested in the success of the university, not just as a financial entity, but as an institution that protects academic freedom, faculty autonomy, and decision making concerning curriculum, appointments, tenure, and promotion. An effective university budgetary structure supports and nurtures the academic quality as well as the financial health of the institution it is designed to serve. The academic deans in this study believe that RCM, implemented with the proper leadership, clarity, and support from central administration, is a valuable and effective management tool for higher education administration.

References


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Chapter 10: Academic Resource and Budget Planning

by Peggy Bottorff, University of Delaware

A review of the range of ways in which academic units plan their resources, and the issues and challenges they face.
Introduction

The purpose of this chapter is to familiarize the reader with important issues in academic budget and resource planning and to compare several budget models and their implications for the academic enterprise. Institutions vary widely in how they manage their resources; the scope of their academic leaders’ decision making likewise varies greatly. The particular model used at an institution will affect how academic resources are planned and allocated. However, some principles are universally applicable to sound academic budget and resource planning, and some issues are common to any model.

Therefore, it is useful to review the range of ways in which academic units plan their resources and the issues and challenges they face.

The Academic Planning Process

The specific budgeting decisions made at all levels of university academic administration—institutional, provost, college, and school/department—must be driven by the institution’s clearly defined priorities. A successful planning process supports the institution’s goals and aligns decision-making authority with responsibility.

“A successful planning process aligns decision-making authority with responsibility.”

Unit priorities should support institutional priorities, and planning and budgeting must be closely linked to maximize the institution’s progress toward its goals. One manifestation of this linkage is a planning process that encompasses position planning, enrollment planning, and budget planning.

It is useful to define the “primary budget unit” at an institution. A primary budget unit is one that has significant control over its financial decision making and financial resources. Such units have the responsibility and authority to manage many of their own needs with resources under their control and are generally in a position to realize the benefits from cost savings and/or revenue increases. In many institutions, colleges are the primary budget units, but in some cases the primary unit(s) can be the Provost’s Office or academic departments. For the purposes of this chapter, we will assume that the primary budget units are colleges led by deans reporting to a provost.

Planning “above” primary budget units. Often, the provost will hold comprehensive planning meetings with each college dean. As part of this process, multiyear budget, position, and enrollment data may be reviewed. Major issues and stress points should be identified, along with strategies to address these challenges. Sometimes, the colleges will be able to fully address the challenges and needs with their own resources. Other times, additional resources may be necessary in order to address university-wide priorities that do not reside in a single college or to address college priorities valued by the university for which the college itself does not have sufficient resources. These additional resources may come from the institution or may be sought from external sources. External sources of funds for major initiatives include state support (for public institutions), grants, federal directed appropriations, foundation support, and other gifts.

Planning within primary budget units. An institution’s primary budget units—again, for the purposes of this discussion, the colleges—should have internal planning processes that dovetail with the institution’s planning processes. Each dean should work with the department chairs/school directors and other unit leaders in his or her college to address college and unit priorities. The specific ways in which deans and chairs/directors work together vary, but generally planning meetings are held at least annually to review position plans, enrollment projections, teaching needs, and unit initiatives. Departmental and school teaching needs must be defined and planned for in advance in order to manage course demand and
departmental resources. Depending on the institution’s budget model, enrollments may have a direct effect on the college’s resources. If the college’s resources are affected by measures of enrollment or credit hours taught, then enrollment projections will be particularly important.

Deans must manage their resources in ways that position their colleges for short- and long-term success as measured in terms of their academic priorities. There are a number of resource management strategies employed by college deans, including:

- Increasing undergraduate and/or graduate tuition generated by the college (in some models, this directly affects the resources available to the college).
- Identifying new sources of recurring revenue, such as directed state funding or endowment income.
- Increasing sponsored activity, which is often made possible by the development of key research areas, either within a single college or intercollege. Increased sponsored activity can benefit a college’s resource picture in three ways (depending on an institution’s funding model) by
  - providing direct support for new or expanded activities in line with the college’s mission;
  - providing indirect cost return to support expenses related to the research enterprise; and
  - providing the opportunity to direct charge expenses to contracts and grants that were formerly charged to other sources.
- Managing successful self-supporting operations in support of college priorities.
- Cutting costs and realizing gains in efficiency.

As noted, it is central to an effective planning process that all of these strategies be pursued in the context of clearly defined academic priorities.

Types of Expenses in Academic Budgets

Like all institutions, universities incur expenses that help them successfully accomplish their missions. While a glance at any popular rating system will yield a plethora of “measures of success”—admissions selectivity, peer rankings, library holdings, etc.—the real measure of a university’s success is how well it achieves its mission. Every expense in an academic institution must contribute to that mission.

“Every expense in an academic institution must contribute to its mission.”

The broad categories of expenses in academic budgets include

- salaries and benefits
  - tenure-track and other continuing faculty
  - “permanent” professional and salaried staff
  - temporary employees
- operating support expenses
- faculty start-up and other one-time needs
- facilities costs
- support services, such as the library and information technology (IT) support
other allocated costs; in some models, a “tax” or “overhead charge” is applied to colleges for other administrative expenses

**Salaries.** The key resource and generally largest recurring expense of any academic institution is its faculty.

It is important to distinguish between tenured, other continuing, and temporary faculty. Tenure, meaning appointment without term, is bestowed by the university and represents a continuing commitment by the university. Thus, it is essential that the institution have recurring funding identified for all tenured faculty. Only for very specific reasons can a tenured faculty member’s appointment be terminated. For example, at the University of Delaware, the only adequate causes for terminating a faculty member’s appointment within term are “incompetence, gross irresponsibility, or moral turpitude—except for termination caused by extraordinary financial circumstances” (University of Delaware 2008, ¶ 1). Because a tenured appointment is “without term,” a tenured faculty member is always “within term.”

Similarly, a faculty member hired on the tenure track should also be backed by recurring funds: the university should only hire tenure-track faculty when the hope is that the person’s career will progress and that he or she will indeed be awarded tenure in the future.

Continuing non-tenure-track faculty also represent a recurring commitment by the university. The specific terms of appointment determine the nature of that commitment.

Professional and salaried staff positions may be considered “permanent” or “temporary”—the exact nature of the commitment is governed by the institution’s policies and the offer letter. For example, a university may have a policy that any employee who has five or more years of service will be given a full year’s notice if his or her position is eliminated.

In many cases, staff and temporary faculty are hired on “soft funds,” such as external contracts or grants or recovered indirect cost. Employees funded on non-recurring sources of funds should be given specific terms and conditions of renewal. Even if the funding is expected to continue indefinitely, it is wise to notify the employee that the continuation of the position is contingent upon the continued availability of funding. The risks of not doing this may be great. Envision a situation in which a unit with a thriving and increasing research program hires several staff members using recovered indirect cost as the source of funds, but does not in any way indicate to those employees that they are supported by external funds. If at some point in the future the external funding diminishes, then the unit may not have the resources needed to continue to fund the positions.

In most cases, personnel costs include benefits as well as salaries. The method of applying benefits costs to employees differs by institution, with some applying a single average rate to all employees and some applying varying rates depending on the type and/or salary range of employee. In some models, benefits costs may be covered centrally and thus be “invisible” to academic units.

**Operating support expenses.** The amount of operating support needed will be a function of the number of people in a unit, the nature of the work being done, and the types of expenses the unit must pay. This latter category varies with an institution’s budget model; that is, the types of expenses that are borne by units as opposed to within the central budget vary considerably.

For planning purposes, operating support expenses must be projected and sources of funding identified; however, these types of expenses are often more readily reduced than are salary and benefits expenses. It is important to differentiate between expected recurring operating support costs and one-time support expenses and to identify recurring sources for the former.
Faculty start-up. Start-up costs for faculty are a major expense, particularly for research-intensive universities. In disciplines such as the sciences and engineering, most faculty negotiate start-up packages as part of the terms of their hire. These packages vary by discipline but are often well into six figures; for very senior faculty in certain disciplines, they may exceed $1 million.

Academic budget managers must plan for these expenses. While they are often set as the result of specific negotiations, the institution must plan for the amount of investment it is able to make, and those negotiating with faculty must know the limitations. Generally, the disciplines in which faculty require significant start-up investments are also those for which external funding is available. Some portion of indirect cost return can sometimes be used to fund start-up packages. A simple calculation may be done to estimate how much indirect cost recovery is available to offset start-up costs:

• If a unit expects to recover and have available for use toward start-up $X of indirect cost annually from a faculty member, and

• If the start-up package is $Y, then

• The payback period for using indirect cost recovery to pay for faculty start-up is Y/X.

Of course, the key to this calculation is determining the amount of indirect cost that will be available for use toward start-up; this is some subset of the total indirect cost generated. In some institutions, the amount may be zero if all indirect cost recovered is directed to other uses.

This simple calculation also makes clear the high cost of faculty turnover.

Given these realities, there is generally a need for significant additional investment in faculty start-up beyond indirect cost recovery. A possible source for this investment may be released salary in the case of faculty charged to grants or other one-time funds. Some schools may budget a recurring allocation to a start-up fund. Other models for start-up funding include cost-sharing among the department, the college, and the Provost’s Office or other central office.

Facilities. Academic facilities costs include at least three broad categories:

• the cost of maintaining existing space for its current function, be that instructional, office, or research;

• the cost of adding new space; and

• the cost of reconfiguring space for new functions.

These costs are influenced by decisions made within and “above” individual academic units. On a large scale, an institution may decide to invest in a broad academic area, perhaps by hiring a cluster of faculty in related disciplines. This may necessitate additional research laboratories, collaborative space, office space, and equipment. It may even require a new building. Another large-scale decision might be to increase enrollment, necessitating additional classroom space.

On a smaller scale, a college may determine that it could operate more effectively and efficiently if the administrative offices of two closely-related units were combined. This may necessitate office space renovation. Or, the academic leadership may decide to replace a retiring faculty member with one in a somewhat different area who will require more laboratory space. “Dry space” may need to be converted to “wet space” in such an instance.

Sometimes decisions interact to create demands on space. For example, if an institution hires an increasing number of research-active faculty, then the space needs of those faculty may exceed those of
the faculty they replace. Classrooms might be converted to research space, and new classroom space might be added.

**Support services.** The way in which library, information technology, and other key services are supported varies from institution to institution. In centralized models, these costs may all be covered centrally and therefore be “invisible” to academic units. In some decentralized models, these costs may be allocated to units either in part or in aggregate.

While the ways in which these costs are handled defy generalization, there are some issues that are universal. The cost of library periodicals is one such issue. The increasing prevalence of electronic resources in libraries may lead some to believe that costs are decreasing, since online versions of journals may be assumed to be less costly than print versions. However, this is often not the case. Further, inflation in the price of both printed and electronic library materials has far outstripped the Consumer Price Index during each year of the past decade. According to the EBSCO “Serials Price Projections for 2011,” the average increase projected for academic libraries is four to six percent in 2011, moderating from eight to ten percent per year several years ago (EBSCO 2010). Responses to these price pressures vary, and this is certainly a challenging resource management issue for academic institutions.

Another universal issue involves the management of information technology costs and the structure of information technology within an institution.

**Sources of Funds for Academic Budgets**

The resources available for academic budgets may include:

- tuition and fees
- state and/or federal appropriations
- proceeds from self-supporting operations
- endowment income and temporary investment income
- contracts and grants
- indirect cost return
- gifts

Sometimes, the resources available to a college are provided centrally without a clear link to how they were actually generated. For example, a college may get a “base budget” that is not tied directly to tuition generated or, in the case of a public institution, to state funds, but that in fact is funded largely from those sources. In other models, the sources of funds are evident. In these cases, a college dean may get funds in direct proportion to tuition generated, overhead generated, gifts made, etc.

The extent to which a primary budget unit’s resources are tied directly to the activities of that unit may be expressed as the degree of decentralization. This is discussed more fully in the following section.

**Degrees of Centralization/Decentralization**

Academic institutions vary widely in terms of the degree to which academic budgets are decentralized. The nature of budgetary decision making and responsibility in academic units is directly related to this issue. The degree of decentralization also affects which level(s) at an institution benefits from the flexibility associated with increased revenues. For example, in a centralized model, if enrollment increases...
unexpectedly, then the additional revenue is available for the central administration to use. In a decentralized model, that additional revenue will flow largely to the units that generated it, whether it is calculated based on courses taught, majors, or some other measure or combination of measures.

**Centralized budget model.** At one extreme is the (virtually) entirely centralized budget model. In this case, revenues do not flow to the unit that generates them, but instead flow to a central unit or units, such as the Budget Office, which may set unit budgets, or other university-wide offices such as the Provost’s Office, Research Office, Office of International Studies, etc. While the possible configurations are numerous, the key characteristics of such a model are:

- Academic units do not have direct control over (most of) their resources, but rather must seek funding approval from central offices.
- Central offices are in a position to decide which new programs and initiatives will be funded and on what criteria such decisions will be based.
- Depending on the criteria used by central offices to make funding decisions, academic units may or may not have any incentive to increase revenues or reduce costs. It is thus up to the central offices to manage the revenues and expenses of university units in total.
- Units may not have the ability to roll unused funds over to the next year; these funds might be “swept up” by the central budget.

**Decentralized budget model.** At the other extreme is the (virtually) entirely decentralized budget model. Decentralization of budgets to academic units is often done for the primary purposes of “pushing down” decision-making authority to the units and incentivizing the units to increase the revenue they generate. That is, one benefit sought and expected from a decentralized model comes from placing funds in the hands of college deans, who are generally better positioned than central administrators to determine how best to deploy resources to enhance academic programs and benefit students. The idea is to place less financial flexibility and responsibility in the hands of central administrators and more in the hands of deans. In theory, this is accomplished by routing more funding directly to deans and others at their level.

In an extremely decentralized model, the following may be true:

- A large portion of the tuition generated by students in courses and majors associated with a given college flows to that college.
- Indirect cost from sponsored activity flows to the college.
- Other revenues (such as unrestricted endowment income, unrestricted gifts, and perhaps even unrestricted state appropriations) are directed to specific units based on some algorithm.
- Central university expenses are allocated to units based on some algorithm(s).
- Units can roll unused funds forward to future years.

**Advantages and disadvantages of centralized vs. decentralized models.** Decentralized models have several clear advantages:

- They align the responsibility for the outcomes of decisions with the authority to make decisions.
- They result in more resources being controlled by units “closer to the students”—that is, deans and chairs may have more discretion over resources and central administrators may have less.
They provide incentives to managers of units (such as college deans) to increase the revenue available to support academic programs, which may lead to increased resources as well as innovative and entrepreneurial efforts.

They provide incentives for managers to manage their costs.

They provide incentives for managers to plan for the long term—that is, units are not incentivized to “use or lose” their funds.

On the other hand, careful design of such models is needed to address several challenges:

- Funding of high-priority activities that do not generate enough revenue to sustain themselves; these vary by institution but may include programs in the arts and humanities, for example.

- Creation of incentives that are not aligned with university priorities; for example, a model could create incentives for offering increasing numbers of large sections taught by people other than tenure-track faculty or for offering courses that attract students from non-college majors that are not as intellectually important as other courses might be.

- Possible barriers to cooperation among units; for example, if academic units are incentivized to teach a larger share of the fixed amount of total undergraduate credit hours, then they may employ strategies that benefit their units at the expense of others. Similarly, the pursuit of indirect cost recovery may hinder interdisciplinary research efforts.

- Funding of university-wide services such as libraries, the Admissions Office, or academic support offices like Study Abroad.

- Inconsistency in the level of support for central goals and priorities. With a decentralized model, care must be taken to coordinate goals throughout all levels of the institution.

- Appropriate design of the model, in that a model’s outcome can vary dramatically based on how expenses are allocated to colleges. It is important to base decisions about allocation algorithms on reliable models.

  In addition, decisions must be made regarding which offices should reside centrally and which should reside in individual units and how the former should be funded.

  In short, any well-designed budget model should direct resources to the university’s priorities, and any system of incentives should be aligned with those priorities.

  “A well-designed budget model directs resources to the university’s priorities.”

Other Issues in Academic Budgeting

Handling encumbrances. To effectively manage resources, planners must know not only how much money they have, but also how much uncommitted money they have. A very simple example involves a department with a $5 million annual budget, of which $4.8 million is for salaries and benefits for continuing employees. The financial manager really only has $200K of funds over which he or she has any control.

Now, if it is part way through the year and $50K of those funds have already been spent, then the financial manager really only has $150K of funds for which uses may be planned. If a piece of equipment costing $120K has already been ordered, then there are really only $30K of funds available to be spent.
This simple example masks the complexity of this issue for academic budget planners because in this case all of the salaries and benefits were for continuing employees. Frequently, departments have far more complex situations in which the salaries and benefits of temporary or continuing employees may be charged to several sources over a period of time. For example, a department with faculty engaged in active sponsored research programs not only has the added challenge of managing those contracts and grants, but also has the challenge of managing the impact of those multiple sources on its internal funding. If faculty time that was originally budgeted on internal funds can be off-loaded to external funds, then this may release internal funds for other uses.

It is essential that academic budget planners have the tools to manage these complexities. Those tools may be part of the institution’s financial management system; if they are not available, then units will need to create their own tracking systems to manage their use of multiple sources of funds.

**Surpluses, deficits, and flexibility.** As noted, an institution’s budget model determines which units have financial flexibility and authority. One aspect of this is determining who is responsible for surpluses and deficits. Related to this is the issue of reserves: who should administer them and for what purposes?

There are myriad approaches to this, including models in which:

- All surpluses go to a central “pot” and are allocated by senior administrators.

- All surpluses and deficits are managed by the units that generate them and may be carried over from year to year.

- Surpluses are shared between the units that generated them and a central fund, perhaps by a specified split or based on certain benchmarks.

Whichever approach is taken, there should be a correspondence between the units’ authority and responsibility for managing funds.

**Resources needed in academic units to support budget planning.** The level of decision-making responsibility in academic units varies with budget model and institution. However, academic units always have a need for timely, accessible, and lucid information to support decisions. As noted earlier, this information includes budgets, projected revenues and expenses, and unplanned balances, as well as more detailed transactional data.

The financial system must have a well-designed database and powerful reporting tools. There should be a range of reporting tools, from “point and click”-type tools that enable non-financial personnel to see key information to flexible tools that enable “power users” to write their own reports that slice and aggregate data according to their individual needs.

In addition to the data and reporting tools, academic units need the human resources to manage effectively. In general, the more decentralized the system, the greater the planning skills needed in academic units.

**Assessment.** While a thorough discussion of assessment is beyond the scope of this chapter, it should be noted that it is important for institutions to develop specific, measurable outcomes in order to assess their progress toward goals. This assessment of progress can provide a basis for resource-allocation decisions and thus is a critical step in the planning process.
Conclusion

This chapter described variations in academic budget models as well as principles that are universally applicable to sound academic budget and resource planning and issues that are common to any model.

Critical decisions to be made in designing a budget system include

• defining the primary budget unit;
• determining the degree of decentralization;
• aligning incentives with desired activities; and
• addressing the drawbacks of the model chosen, be it centralized, decentralized, or a hybrid.

All of these decisions must be driven by the institution’s clearly defined priorities. A successful planning process supports the institution’s goals and aligns decision-making authority with responsibility.

References


Author Biography

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Chapter 11:
Budgeting Academic Space

by Watson Harris, Middle Tennessee State University

Policies, like learning spaces, can be designed for a desired behavior; a case study from Middle Tennessee State University.
There are many articles about space management, including those that discuss space calculations, metrics, and categories. Fewer articles discuss the space budgeting processes used by administrators to allocate space. The author attempts to fill this void by discussing her administrative experiences with Middle Tennessee State University’s (MTSU) space budgeting processes and her observations of space budgeting practices at other institutions. The discussion of effective space budgeting practices and processes needed by administrators is the primary focus of this article.

**Space Budgeting Considerations**

Space budgeting involves allocating existing and future space to a function and a user. In many ways, space budgeting is similar to financial budgeting. As shown in figure 1, the roles of the financial budget could easily be applied to the space budget.

**Figure 1 Roles of the Financial Budget**

<table>
<thead>
<tr>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>A mechanism for setting priorities</td>
</tr>
<tr>
<td>An institutional plan of action</td>
</tr>
<tr>
<td>An institutional contract</td>
</tr>
<tr>
<td>A control mechanism</td>
</tr>
<tr>
<td>A gauge of risk</td>
</tr>
<tr>
<td>An instrument of communication</td>
</tr>
<tr>
<td>A political device</td>
</tr>
</tbody>
</table>

*Source: Meisinger 1994, p. 1.*

Space information is scattered throughout various institutional documents, including mission and vision statements, policies, and master plans. Embedded in these plans are the implied priorities for space. Space plays a critical role in student choice and retention, faculty and staff recruitment and retention, and the ability to compete for grants and other external funding; therefore, space should be included in the strategic planning process (Temple and Barnett 2007). Additionally, space may create a sense of place fundamental to alumni giving decisions. Facility and campus master plans formally reflect these implied priorities and communicate the institution’s approach to space decisions. As a result, these documents become very political and are often subject to a formal process.

The allocation of space may not always follow the stated policy. For example, a niche academic program with fewer majors and lower space utilization may receive additional resources, including space, due to the prestige the program brings to the institution. Allocation of space could also indicate the political strength of the parties involved. Accrediting bodies wield considerable bargaining power in negotiating better spaces, smaller class sizes, and other amenities for the academic programs they represent. The Association to Advance Collegiate Schools of Business (AACSB International) is one of these strong lobbies as evidenced by the better facilities of most business schools. The following standard is from AACSB’s Eligibility Procedures and Accreditation Standards for Business Accreditation: “The school’s infrastructure fits its activities, e.g., campus-based learning, distance learning, research, and executive education. Classrooms, offices, laboratories, communications and computer equipment, and other basic facilities are adequate for high quality operations” (Association to Advance Collegiate Schools of Business 2008, p. 28). Reactions to these pressures provide insights into the institution’s culture.
Institutional Culture and Space Policies

As Schein (1992) states, a reason for studying culture is to assist in managing. The institution’s culture (defined by the author as structure, enacted environments, perceptions, values, and traditions) influences the policies and processes for space budgeting. Administrators can obtain clues about an institution’s culture by observing the location of units and the allocations of new space, reading university policies and marketing documents, tracing the funding of activities, and noting the traditions and celebrations. It is hoped that these will be congruent with the espoused values of the institution. For example, if the institution’s football team obtains a new stadium or the athletic director has better office furniture than that found in the academic departments, then faculty will perceive that the institution values athletics more than academics.

The location of space is also symbolic of how the institution values both the contribution of an activity or unit and the physical relationship among units. If a unit is moved from the campus core to a space on the perimeter, then the unit employees may feel marginalized or exiled. Institutions with perceived decentralized ownership may have faculty with greater interest in the condition of their spaces. Institutions with fewer spaces controlled by departments may hoard and play games in the scheduling processes. If the institutional mission is to serve the population and the underlying culture is about growth, and if academic departments perceive that a decrease in room capacity will adversely affect faculty staffing models and workloads, then the approved room capacity may be ignored and increased to “squash mode.” (Squash mode is less than 15 square feet per student in classrooms with movable furniture.) Although the institution may create policies to increase the number of square feet per student in classrooms in order to provide more comfortable and effective learning spaces, during times of uncertainty departmental leaders may revert to previous practices. Executive support is critical to maintaining a policy when one or two unhappy departments attempt to reverse it.

Once the culture is understood, policies, like learning spaces, can be designed for a desired behavior (Strange and Banning 2001). MTSU’s departments traditionally have been autonomous and territorial, with all classrooms allocated to specific academic departments. Department chairs have restricted their classrooms to use by their department only. To change this culture and encourage departments to share with one another, the institution agreed to fund upgrades and assume the risk for broken equipment and furniture in those spaces shared with the rest of the institution. A replacement and repair fund was created, and an instructional space-use policy supports this effort by encouraging appropriate scheduling practices.

“Policies, like learning spaces, can be designed for a desired behavior.”

Offices are one of the largest uses of institutional space. The policy for allocating offices depends on institutional goals. For example, institutions supporting the socialization and tenure efforts of new faculty should locate them near departmental faculty and offices. If collaborative, multidisciplinary programs are desired, then faculty should be dispersed throughout the campus. MTSU’s academic office policy recognizes that office space is a rare and valued commodity and offers principles for allocating office space to meet institutional goals, such as the retention of tenure-track faculty. Newly hired tenure-track faculty feel especially isolated during their first year; allocating offices close to the departmental office is essential to the institution’s ability to retain them. Institutions with sufficient office space may have individual offices for all teaching staff, including tenured, tenure-track, full-time temporary, and adjunct faculty and graduate teaching assistants. Less fortunate institutions may require some or all faculty to share offices.

Research spaces involve complex space budgeting considerations and are often the least monitored spaces on campus. Institutions typically have a policy regarding who receives research space. Allocation may occur at the provost, dean, or departmental level. The amount of research space allocated may be
determined by using benchmarks from other institutions or may be based on published guidelines, research funding requirements, or a predetermined square footage per person. Many institutions have a practice of allocating a specific square footage amount for research purposes to each faculty member in specific disciplines. Other institutions require faculty to publish in top-tier journals or generate grant dollars in order to earn an allocation of research space. In addition, research space may be shared by multiple faculty members or by centers. Regardless of the allocation process, research space should be evaluated often to determine if the space is being used as planned. Allocations should be evaluated based on the financial resources and potential growth the research activity brings to the institution. If productivity does not meet institutional expectations, then the research space may be allocated to other research purposes.

Academic and other campus space is owned by the institution or, in the case of public universities, by the state. Typically, after political processes have determined the receivers of space, that space is allocated on a charitable basis with no responsibility for maintaining or securing it. However, in some cases users of space are subject to a usage charge per square foot that often includes maintenance, utilities, and custodial costs. For example, an academic center for community outreach may be requested to function as an auxiliary, becoming self-funded and paying for off-campus space. To service grants, institutions may use the grant’s indirect revenue to pay for the operation and maintenance of the required space. Another approach discussed in the literature (Zachar 1980) is a market solution model that establishes a price for each space, including operating and maintenance costs. Variations of this model may be found in private universities, and especially in university medical hospitals, where “every tub on its own bottom” is the prevailing institutional culture. As stated previously, not all space is equally desirable or functional. A classroom in a newer, centrally located building would have one price at peak times and another at non-peak times. A classroom in a less desirable campus area would have a less expensive price. For shared spaces, charges could be based on the percentage of time the space is used. In this model, institutional funding is shifted from the facilities department to the academic departments. Academic departments are billed for the cost of utilities, maintenance, custodial services, etc., either directly or indirectly. The benefit of the market solution model is that departments become more aware of the costs of space and, it is hoped, become better consumers. The potential problem with this model is that departments may decide to divert funds to other, more pressing needs, creating deferred maintenance issues. Additionally, the institution may lose control over safety, security, and compliance standards.

**Influences on Space Budgeting Processes**

Understanding the external influences on higher education institutions is critical in making space budgeting and allocation decisions. Most states are experiencing reduced revenues and are postponing capital projects and maintenance in order to balance their budgets. States are not funding the true cost of operating and maintaining institutional facilities, resulting in huge deferred maintenance issues and deteriorating spaces.

Further, the cost of operating and maintaining an institution’s infrastructure, grounds, and facilities is likely to be second only to its labor costs (Temple and Barnett 2007), particularly as requests for technology and equipment continue to increase. Technology and equipment are critical for creating the student learning opportunities and skills needed to be competitive in the job market; however, many buildings do not have the infrastructure needed to plug and play the new equipment. The need for more technology coupled with the desire of students for more campus amenities results in institutional resources being shifted away from instructional needs, creating shortages for academic programs.

Academic programs do not grow equally. Some programs experience decreases in enrollment, but space is rarely reallocated. Further, changes in student demographics, such as having more international,
disabled, first-generation, and minority students, typically require an institution to create additional offices to support them. Instructional technology, larger and more diverse student bodies, and new building codes all reduce the amount of space available to students for instruction.

Internal influences are equally as important and varied as external influences. As noted previously, academic programs do not grow equally and smaller programs may be targeted to receive space if they create a niche for the institution. The mission of the institution is another consideration. Repositioning an institution from a comprehensive category to a research doctoral institution creates additional needs for space. Many campuses require a space to be identified before a piece of equipment can be purchased, a grant proposal can leave campus, or a new staff member can be hired. Campus space is often a matching component in competing for a grant, and, in fact, space, dollars, and available faculty are often the constraints on or mechanisms that enable an institution’s growth. This leads to the institution’s desire to manage these influences on its space, usually through a space management process. A space management process includes budgeting and allocating; data collecting; reporting, evaluating, and decision making; and benchmarking.

**Space Budgeting and Allocating**

As a resource, space is similar to dollars. Both are typically held by the institution as a fixed amount allocated incrementally through an ongoing competitive process. Once received, the resource is rarely taken away. The decisions regarding allocations are very political and emotional. To receive dollars or space signals the value placed by the institution on the individual or the activity. Although this may not continue in the current economic climate, the major difference between space and dollars is that dollars have tended to increase incrementally at regular intervals. Conversely, space allocations are generally static until new buildings are completed. Although all dollars spend the same, not all space is the same. Existing space may be in a less preferable location or in a worse condition than new space. With both space and dollars, allocation may be informal or formal, arbitrary or planned, centralized or distributed, depending on the institution’s culture.

“To receive space signals the value placed by the institution on the activity.”

For space, administrators determine the amount needed in the future for each category, function, and unit through the formal facility master planning process. Facility master plans are often approved by trustees, regents, or other governing bodies and are used as a communications tool to inform institutional stakeholders of future plans. If these plans include acquisitions beyond the current campus perimeter, then they may become very political and controversial, especially if the properties to be acquired are located in a historic district. Frequently, professionals are requested to facilitate space budgeting. For example, architects design spaces to meet the institution’s needs, and consultants take snapshots of existing spaces to ensure they are allocated and used in the most efficient and effective manner. The institution must maintain the reports generated by the consultants or the benefits are mostly short term. As discussed later, space allocations are fluid and frequently subject to the politics associated with the hiring or departure of executive staff.

Administrators may allocate newly created or vacated space through a variety of internal processes. For example, MTSU has a university space management website with applicable policies and forms, including a “request for space” database. A Space Allocation Group was created to consider these space requests and make recommendations to the executive officers. Some institutional spaces are excluded from this process because they are either directly related to the functions of the president and vice presidents or they are politically essential or emotionally charged.
Allocating newly created or vacated space is easy compared to dealing with requests for space already being used. Although units are encouraged to search for space within their own areas, they may be unable to identify the space they need. In this case, many institutions have a process in which the requesting individual meets with the individual who is currently allocated the space. Allocation and utilization data are available to assist deans in their identification of and negotiation for space. This allows both parties to understand the need of the other and compromise on a solution and eliminates the unpleasant task of taking space from one unit to give to another. At MTSU, the Space Allocation Group serves as a clearinghouse for collecting information on all space changes and communicating these to the campus.

Institutional administrators collect and maintain space information, manipulate the data into reports needed for communication and decision-making processes, and coordinate and resolve space requests and needs. Bareither and Schillinger (1968) have written a very helpful guide for creating a space inventory and for translating a program or activity into space requirements. Institutions also have their own guidelines. For example, to determine capacities for classrooms with movable furniture, MTSU uses 50 square feet per instructor and instructor station, plus 20 square feet per student in lecture spaces and 30 square feet per student in computer classrooms. The required number of offices may be determined by calculating a full-time equivalent (FTE) for the staff and faculty position lines and extrapolating the current need into the future based on the institution’s desired or probable growth. Policies for allocating offices to students, adjuncts, grant staff, post-retirement employees, and emeritus faculty should be included in the analysis.

**Data Collecting**

Similar to a financial budget with several sources of revenues and categories of expenditures, a space budget also has categories. Space categories are discussed in the Postsecondary Education Facilities Inventory and Classification Manual (FICM) published by the National Center for Education Statistics (2006). Most space may be categorized into (1) gross or net usable area; (2) net assignable or non-assignable; (3) education and general (E&G), non-E&G, leased, or grounds; (4) space-use categories such as classrooms and offices; (5) units or programs such as biology as found in the classification of instructional program codes (CIP); and (6) room function codes such as instruction and research. However, institutions may also have their own additional ways of categorizing campus spaces.

Several organizations publish guidelines to assist administrators in allocating appropriate square feet per discipline, per student, per faculty, and per instructional activity (Council of Educational Facility Planners International 1985). Governing bodies and institutions also establish guidelines to reflect their own policies and preferences. Policies, guidelines, classifications, and codes should be applied consistently across the institution’s space. For example, a technology-enhanced classroom with student computers scheduled for lectures might be classified as a 110 or 210 room-use code (National Center for Education Statistics 2006):

110: “A room or space used primarily for instructional classes and that is not tied to a specific subject or discipline by equipment in the room or the configuration of the space” (National Center for Education Statistics 2006, p. 47).

210: “A space used primarily for formally or regularly scheduled instruction (including associated mandatory, but non-credit-earning laboratories) that require special purpose equipment or a specific space configuration for student participation, experimentation, observation, or practice in an academic discipline. A space is considered to be scheduled if the activities generate weekly student contact hours (WSCHs), the activities fulfill course requirements, and/or there is a formal convener present” (National Center for Education Statistics 2006, p. 49).
If the room in this example is also used as an open computer lab on Friday afternoons, then it may be coded a 110, 210, or 220. (220: “A laboratory used primarily for individual or group instruction that is informally scheduled, unscheduled, or open” (National Center for Education Statistics 2006, p. 50).) A consistent practice across the institution is necessary for making appropriate comparisons.

Both formal and informal space budget and allocation processes require an accurate inventory of existing space, and an accurate inventory is critical to the institution for decision-making purposes. For example, current information on the square footage and features of instructional spaces assists administrators in determining seat capacities. Administrators understand that appropriate seat capacities and arrangements improve the safety and comfort of students and the effectiveness of instruction. In addition, by knowing the condition of a space, an administrator can target that space for renovation.

Features in instructional spaces should be identified for a variety of reasons. Rooms with instructional technology should have planned security, repair, and replacement. Because these rooms are expensive, they should only be scheduled with courses and faculty requiring the technology. Identifying and maintaining information about features also assists in matching them with instructor needs. Example of features include ADA accessibility (ramps, closed captioning, assistive listening devices); furniture type (movable or fixed); A/V equipment (DVD, podcast-recording capable, laptop connections, iPod connections, sound systems); security and room access (card swipe access, combination locks, telephones, call boxes); and flooring (carpet or hard surface). A basic variety of room features is shown in figure 2.
Figure 2 Example: A Variety of Room Features Found at MTSU

(Click here to open a web browser window displaying this figure at its original size.)
Because offices are reallocated before, during, and after semesters and because classroom and other spaces are often converted to different uses, space allocations are fluid. Space data, especially changes in allocation or function, should be regularly maintained and communicated to all collectors and users of the data. Additionally, the campus space should be walked at least once a year to update information about allocations, uses, room codes, conditions, and features. Typically, these walks include staff from the academic departmental offices so they can provide insights into space use. For example, spaces such as conference rooms may be used for instruction, but not be listed in the course schedule. Courses listed as “to be announced” (TBA) may not be using space at all. Some spaces may be shared with other departments or on loan to another department for another function. Failure to identify all spaces used for instruction adversely affects utilization reports and ultimately any future justifications for capital projects. These walks also provide an excellent opportunity to discuss space utilization and goals with the users of the space.

Creating or maintaining an accurate inventory of existing spaces requires a centralized review of all space data to determine what information is needed. This information can be difficult to obtain since administrators may be territorial, protective, and concerned about their data’s integrity. It also may be difficult to find physically; figure 3 provides a checklist of where to look. The difficulty is exacerbated when administrators in the various units do not speak a common language. Common terms may not have a universal meaning. For example, computer labs may be categorized as scheduled or unscheduled. Scheduled computer labs may also be categorized as classrooms with student computers. Consultants to this process should assist the campus in creating a common language. Of course, as with most campus issues, one size does not fit all. A consultant’s failure to recognize the uniqueness of the institution will create confusion and misunderstanding.

Figure 3 Checklist of Possible Locations of Space Information

<table>
<thead>
<tr>
<th>Academic Affairs - Academic departments and colleges</th>
<th>Scheduling Center</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sponsored Programs – grants</td>
<td>Enrollment Management</td>
</tr>
<tr>
<td>Information technology</td>
<td>ADA Campus Coordinator</td>
</tr>
<tr>
<td>Campus Planning – floor plans and capital projects</td>
<td>Campus Security</td>
</tr>
<tr>
<td>Purchasing – fixed assets</td>
<td>Environmental Health and Safety</td>
</tr>
<tr>
<td>Facilities Services – work orders, facilities condition, capital maintenance</td>
<td>Construction and Renovation – local projects</td>
</tr>
<tr>
<td>Custodians</td>
<td>Key Shop – access</td>
</tr>
</tbody>
</table>

(Click here to open a web browser window displaying this figure at its original size.)

The coordination of data into one database helps to mitigate these issues and to develop a common language. To address concerns regarding data integrity and ownership, data may remain in separate locations, but be pulled into a shared web-based database. The affected administrators should determine what data are appropriate to be made public. An example of MTSU’s classroom database is provided in figure 4.
Figure 4 Example: MTSU’s Classroom Database

![MTSU's Classroom Database](image)

**Room LRC 241**

<table>
<thead>
<tr>
<th>First Priority</th>
<th>Educational Leadership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department:</td>
<td></td>
</tr>
<tr>
<td>Maximum Capacity:</td>
<td>20 Resource25</td>
</tr>
<tr>
<td>Square Footage:</td>
<td>634 PFI</td>
</tr>
</tbody>
</table>

**Scheduling** Restricted Master Classroom

**Status:**

**Room Type:** 110-Classroom

**Equipment Descriptions**

- AMX Control
- Access Controlled
- Exits - More Than One Door (2)
- Furniture
- IBM
- Lighting: Zoned
- Master Classroom
- Moveable
- Printers
- Restricted Scheduling
- Room Access: Key
- Tables and Chairs
- Television
- VCR
- Window (6)
- Wireless Access

**Images:**

![Image 1](image1)

![Image 2](image2)

Please refer all questions pertaining to wheelchair accessibility to Disabled Student Services at 615-898-2783, or [www.mtsu.edu/~dssemail](http://www.mtsu.edu/~dssemail)

Send questions or comments to [wharris@mtsu.edu](mailto:wharris@mtsu.edu)

*(Click here to open a web browser window displaying this figure at its original size.)*

Figure 4 shows the data to be included, such as square footage, first-priority owners, room code, features, equipment, and pictures. A link to a room schedule as shown in figure 5 may help in scheduling maintenance, events, and meetings; changing classrooms for faculty; and understanding utilization data.
The database should be created to be manageable, and it should be regularly maintained. If the data stay with their original owners, then the updating process will remain the same. Any additional information needed will be obtained by a walkthrough of the space. All data elements should be compared for accuracy and any variations in data reconciled. For example, MTSU’s Scheduling Center, Campus Planning, Facilities, and Academic Affairs departments routinely review current projects and the resulting changes to space, and every semester they compare space capacities and allocations. Additionally, space information should be transparent and inform the campus. This works best if the information is located on a prominent, convenient website so that the campus community may comment on and confirm the data and, most importantly, self-monitor campus space behaviors. Self-monitoring is often the most beneficial outcome of transparent data.

“Self-monitoring is often the most beneficial outcome of transparent data.”

**Reporting, Evaluating, and Decision Making**

All reports generated and distributed should be appropriate for evaluating, decision making, and benchmarking. This means that the reports must be transparent, web accessible, and in a flexible format that all levels of the institution can understand and manipulate. Data, pictures, and graphs help to explain space issues to college deans and departmental staff. Users of the space data should be encouraged to use the reports to self-monitor and to monitor others. For example, figure 6 provides a visual resource to identify available times for additional courses and to indicate utilization.
Enrollment and utilization reports should include several snapshots taken during each semester. For example, an institution may choose to run reports for expected, first-day, census-date, and last-day enrollment. These various snapshots permit an evaluation of student migration trends throughout the semester, such as those students who may register for 18 hours with the intent to complete only 12. Additionally, departments often increase enrollment beyond room capacity or overbook classrooms, particularly during difficult budget times. Enrollment and utilization reports assist in identifying overbooked spaces at the census date. Departments may also inflate expected enrollment in order to reserve a desired instructional space. In these cases, administrators may choose to move a course to a more appropriately sized space, increase enrollments to match room capacity, or reallocate first-priority ownership to another department.

The report shown in figure 7 also helps to identify low-enrollment courses. Low-enrollment courses are defined by the institution and represent opportunities to reallocate both space and faculty resources. For example, MTSU’s instructional space-use policy states that the right is reserved to cancel any class when the number of students enrolled is deemed insufficient per minimums. All sections must meet the normal minimum number of students per class as follows: 1000–2000 = 15 students enrolled; 3000–4000 = 10 students enrolled; 4000/5000 (dual listed) = 10 students enrolled; 6000 = 8 students enrolled; 7000 = 6 students enrolled. The minimums for 6000/7000 level courses are determined by the majority enrollment (i.e., if the majority of students are registered for the 6000 section the minimum combined enrollment is set at 8 and if the majority of students are registered for the 7000 section the minimum combined enrollment is set at 6. (Harris 2011, p. 4)
Reports can also assist institutional administrators by informing future decisions, such as developing requirements for new capital projects; relocating an academic department; allocating vacated spaces; identifying space availability for emergencies and sudden needs; evaluating priorities for spending of renovation, repair, and replacement funds; determining spaces for conversion to other purposes; identifying accessibility upgrades; and predicting future capacity for growth.

For example, suppose the institution has several vacant classrooms to allocate. Geosciences has made a strong political argument to the provost to obtain the vacant classrooms. A review of the data shows that geosciences taught a total of 67 sections last fall, with two courses (or three percent) offered outside its first-priority space. However, 23 sections from other departments were offered in geosciences’ first-priority space, making geosciences a lender of space. Computer science is also interested, but the data indicate that that department taught as many courses outside its space as other departments did within its space. This appears to be a wash. However, both English and math offered significant numbers of sections outside their spaces and had very few sections offered by other departments within their spaces. Therefore, based on the data, English and math, as major borrowers of space, should receive the most consideration for any vacant classrooms. This analysis is shown in figure 8.

Figure 8 Example: Analysis to Illustrate Space Borrowers and Lenders

<table>
<thead>
<tr>
<th>Department</th>
<th>Total Sections</th>
<th>Sections Offered Outside Space</th>
<th>Total sections in Space From Other Depts</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOS</td>
<td>67</td>
<td>2</td>
<td>3%</td>
</tr>
<tr>
<td>CSCI</td>
<td>46</td>
<td>3</td>
<td>7%</td>
</tr>
<tr>
<td>ENGL</td>
<td>404</td>
<td>176</td>
<td>44%</td>
</tr>
<tr>
<td>MATH</td>
<td>274</td>
<td>150</td>
<td>55%</td>
</tr>
</tbody>
</table>
Space budgeting and allocation processes should be reviewed regularly to confirm the adherence to and effectiveness of institutional policies. For example, an institutional requirement of 67 percent utilization (or 30 hours) between 8:00 a.m. and 5:00 p.m. Monday through Friday should be confirmed for each scheduled instructional space. MTSU also monitors utilization between the peak hours of 9 a.m. and 2 p.m. and encourages departments to meet a 90 percent seat and room utilization target during these peak hours. As shown in figure 9, MTSU still has opportunities to meet the 90 percent target; the institution uses this report to discuss these opportunities. Additional considerations include the use of standard meeting times and the efficient utilization of seats and technology in instructional spaces.

Figure 9 **Room vs. Seat Utilization Report**

Administrators may be asked to predict the number of offices and classrooms needed in the future. There are several issues to consider: What is the past growth rate of the academic program? What is the desired growth rate? Science faculty may claim they are currently understaffed, but if they manage to cover the fall semester’s courses, then are additional faculty really needed? How many adjuncts are being used? An office space database and access to academic staff data can help to determine future office needs. To predict the need for classrooms, administrators may review the current number of lecture and lab courses compared to the number of classrooms with 110 and other codes or the number of seats associated with a program and then extrapolate future need by projected program growth. If all classrooms are not created equal, then how can administrators compare resources among departments and programs? A review of seats available per department may be helpful.
Evaluation of the data is essential to confirm the overall success of institutional space policies. Goals must be measurable, and both policies and the utilization of office, research, and instructional spaces should be evaluated regularly to confirm adherence to goals. MTSU also uses these data to confirm “truth in advertising” in the course schedule. Course information is reconciled among various data sources, such as the course catalog, schedule, faculty workloads, and course-tracking information systems. This ensures that a six-hour course is listed as six hours in the catalog and that workloads adequately reflect those six hours. Through this effort, many problems with the data have been corrected and all involved have a better understanding of how courses are scheduled. In addition, monitoring utilization has identified lesser-used classrooms that have since been converted into faculty offices and research spaces. The message to deans and department chairs is that if they are more efficient with their classroom spaces, then they will benefit from the additional capacity and conversion of spaces.

In the space budgeting and allocation process, an administrator is often the messenger of reality and therefore becomes a target of political attacks. One way to reduce this possibility is to act as a facilitator, using tools such as committees, the hierarchy, data, and self-monitoring to facilitate the decision-making and communication process. These tools will be enhanced by creating and using a common space language, pursuing a reputation for problem solving, becoming familiar with the space culture at all levels, understanding how decisions are made in reality, looking for win-win solutions, staying grounded in the data, designing for desired behavior, communicating and documenting, and providing transparent reports. Although these strategies do not guarantee protection from space wars, they will assist in navigating through the landmines.

**Benchmarking**

Benchmarking should only be conducted using appropriate standards taken from among institutional units and other similar institutions. Administrators may benchmark to inform performance toward institutional goals; however, benchmark buddies should be chosen carefully for comparability. Administrators should consider if the benchmarking exercise makes common sense. For example, are the institutions’ academic programs, instructional methods, and use of space similar? Most institutions have a biology department, but not all biology programs have an animal facility or are located at a sea-grant institution. Do the biology departments have the same number of faculty with the same research requirements? Administrators should also consider the use of alternative delivery methods and their effect on space needs when using benchmarks.

A number of organizations publish benchmarks, such as the example from the Society for College and University Planning shown in figure 10. Administrators can also search for comparable data through the National Association of College and University Business Officers, APPA (the Association of Physical Plant Administrators of Universities and Colleges), state systems, and institutions.
Conclusion

Space budgeting processes are complex and influenced by many external and internal factors, but they are necessary and beneficial in guiding administrators through the allocation of academic space. Through the processes of budgeting and allocating; collecting data; reporting, evaluating, and decision making; and benchmarking, administrators become more knowledgeable about institutional space issues and can recommend better solutions to institutional space problems. Better solutions, such as increased utilization and more appropriate allocations, may increase the opportunities for institutions to recruit and retain students, faculty, and staff during these difficult times.

References


**Author Biography**

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Chapter 12: A Method for Determining the Cost of Graduate Programs

by William E. Knight, Ball State University

The true costs of graduate programs are often unknown.
Once you do know, improvements can be made.
It is no surprise to anyone that American higher education is currently facing financial difficulties. Eighty-five percent of institutions that are members of the Association of Public and Land-grant Universities (APLU) experienced cuts in state support averaging 11.4 percent in 2009, and 60 percent saw additional decreases averaging 6.7 percent in 2010 (Keller 2011). One of the most common long-term strategies of APLU institutions for dealing with financial stress has been review of academic administrative structures and tuition structures.

The same trends have affected Bowling Green State University (BGSU) in Bowling Green, Ohio. The State of Ohio cut its budget by $1.9 billion through three mid-year reductions over the past four years. During 2007–08, 2008–09, and 2009–10, public institutions were not permitted to raise tuition at all, and modest increases in state support did not keep pace with growing expenses in such areas as health care, utilities, institutional aid, and technology. BGSU made permanent budget cuts of $22 million over the past three years. During 2009–10 and 2010–11, Ohio replaced 16 percent of its traditional funding for “state share of instruction” with one-time federal stimulus funding; the state now faces an $8 billion shortfall for 2011–12 and 2012–13, and BGSU faces a cut in state support of about 13 percent in each of the next two years. Further exacerbating the situation is an enrollment decline that continues to affect both tuition and state support revenue. There is a strong sense on campus that, as BGSU’s chief financial officer recently stated, “incremental change is not sustainable.”

Given these challenges, areas that were previously considered as “off the table” or “sacred cows” are now being reviewed for efficiencies. Among these areas are academic programs. While BGSU has carried out academic program review (Piter 2007) since 1997 and demonstrable improvements have been made as a result, program review has not addressed wider-scale academic administrative structures and processes such as assistantship funding for graduate students. Because these structures and processes exist at the university level, the need for a different form of review process has been recognized (Baker 2005; Dickeson 2010).

“Sacred cows’ are now being reviewed for efficiencies.”

The true costs of graduate programs are often unknown since fees and state support (in the case of public institutions) are often received centrally, graduate fee waivers and stipends are managed by a graduate college and/or by individual departments, and expenses for graduate education (faculty compensation and overhead) are difficult to determine. The Office of Institutional Research at BGSU was asked in the summer of 2010 to work with a committee of deans, associate deans, the vice president for enrollment management, and graduate college staff members to develop and implement a method for collecting and analyzing data on the enrollments, revenues, and expenses associated with each of its graduate programs (N = 80) across four years.

Staff members in the Graduate College supplied data on the number of graduate students who applied and were admitted as well as on the dollar amount of stipends for each program. The Office of Institutional Research provided headcount and full-time-equivalent (FTE) enrollments. The Bursar’s Office provided data on fees paid and waivers provided per student, which were then summed to the program level. Data on state support per FTE and expense at the instructor level and at several additional levels of “overhead” were assembled from the Ohio Board of Regents (the state’s higher education coordinating board) website (see http://regents.ohio.gov/hei/subsidy/subsidyFTEprocess.html for details). The Office of Institutional Research assembled and joined all data sets and created derived measures including net fee revenue, percentage of fees waived, and net total revenue, all by program by year. The deliverables provided to the committee by the Office of Institutional Research included program-level cost spreadsheets for four fiscal years; supporting information at the individual student level on fees, stipends, and waivers; a data element guide; information on minimum required vs. mean
actual credit hours earned per program by graduate students at the time of graduation; and information on the number of instructional graduate assistants and the credit hours and class sections they taught.

Figure 1 provides a sample of the cost spreadsheets. Net fee revenue is the difference between fees paid and waivers. The percentage of fees waived is waivers divided by fees. Externally and departmentally raised stipends are disaggregated from those funded by the Graduate College since they do not represent an institutional expense. State support and expenses are shown on separate lines because Ohio’s state support formula is based on enrollments from either the past two or five years (whichever is higher). Master’s-level state support is calculated by multiplying subsidy-eligible FTE enrollments by the subsidy level of each course. Doctoral-level state support is a fixed dollar amount that does not grow with increased doctoral enrollments (see www.ohiohighered.org/financial for details). Expenses are calculated on a per FTE per subsidy model basis by the Ohio Board of Regents. Final net revenue represents the net cost to the university for graduate programs in each department, taking into account fees, waivers, stipends, state support, and expense.
## Findings and Policy Changes

This information provided empirical validation for the long-held belief that graduate education is a very expensive undertaking: it cost BGSU $36 million to offer graduate programs in 2008–09. While every graduate program studied over each of the four years cost more than it raised, the net revenue was different across colleges. In 2008–09, the net revenue for graduate programs ranged from -$630,000 in the College of Technology to -$22,000,000 in the College of Arts and Sciences. Similarly, the percentage of graduate fees waived ranged from 42 percent in the College of Education and Human Development to 87 percent in the College of Arts and Sciences. The belief that state funding makes up for net tuition revenue losses did not turn out to be true, although it was closest to being true in science and technology disciplines and least likely to be the case in arts and humanities disciplines.
An analysis of the credit hours and sections taught by graduate assistants also offered some important insights; this staffing option was only present to a large extent in the College of Arts and Sciences, where the cost of part-time instructors or non-tenure-track full-time instructors might not be significantly greater than the cost of graduate assistants (when fee waivers are considered) on a per credit hour basis. Although graduate assistant stipend and waiver rates vary (as does faculty compensation), an analysis that took into account benefits for full-time instructors as well as stipends and fee waivers for graduate assistants in a typical College of Arts and Sciences field revealed that the average expense for staffing an undergraduate course could range from $2,000 for a part-time instructor to $6,500 for a full-time instructor to $7,000–$12,000 for a graduate assistant (depending on whether out-of-state fee waivers are included).

Perhaps the most surprising finding came from an analysis of the minimum credit hours required for each graduate program as recorded in the graduate catalog compared to the actual average credit hours completed by students in those programs on graduation; on average, students graduated with 50 percent more credit hours than required for their programs. This finding seems to result from the long-standing practice of requiring graduate students who have assistantships to register for at least 12 credit hours per term. Particularly as they move into their second or third years, many students find it impossible to find four classes each term that apply to their degree requirements, so they take unnecessary “filler” courses to reach the 12 credit hours required. We tested this hypothesis by comparing the average excess credit hours in a program where most students receive assistantship funding (the MA in sociology) with one where most students pay fees out of their own pocket (the M.Ed. in curriculum and teaching). The average excess credit hours in sociology represented 70 percent of those required for the degree, while those in curriculum and teaching represented only eight percent.

Several policy changes were discussed and implemented following the presentation of this information. Some of these were immediate, and others will be phased in over time so that currently enrolled graduate students are not affected. First, management of graduate student stipends and fee waivers was moved from the Graduate College to the line colleges, and the funding was allocated proportionately by credit hours. Now, rather than following a “one size fits all” approach, deans are able to use this funding to best serve the enrollment management needs of their areas. While it was formerly the case that any amount of stipend would be met with a full fee waiver (including a waiver of out-of-state fees), now waivers and stipends are de-coupled. If a dean wants to use all of his or her graduate student funding for stipends and none for fee waivers, or vice versa, then he or she is free to do so. Further, the rule that all graduate assistants enroll for at least 12 credit hours each semester has been eliminated. This policy led to students enrolling for excess unneeded credit hours and delaying time-to-degree in some cases. While it has been the case that students with a fee waiver are covered for all classes they wish to take for as many years as they are granted the waiver, the university is now moving toward a policy that ties fee waiver eligibility to the number of credit hours needed to complete each program; if a student’s program is 34 credit hours, then he or she will receive funding for no more than 34 credit hours. In the future, waivers will not apply to students’ general fees. The university is also discontinuing the policy that students who had graduate fee waivers in the previous academic year are granted automatic fee waivers for the following summer, although individual colleges may maintain this policy if they wish. Finally, out-of-state and international graduate students in multiyear programs (particularly doctoral students) are now strongly encouraged to establish in-state residency by the end of their first year so that the university will not need to cover their out-of-state fees.

At the same time that these graduate funding changes were announced to the university community (late in the spring semester of 2011), it was announced that seven graduate programs were being recommended to be cut and that an additional six graduate programs would be reviewed for possible cuts. These recommendations were made following discussions among college deans, the graduate dean, and
the provost; the discussions considered numerous factors such as the cost study, enrollments, opportunities provided by faculty retirements and resignations, and various measures of quality (including faculty scholarship, employment prospects for students once they graduate, and duplication with programs available at other institutions). All of these changes are projected to save approximately $3 million in 2011–12 and an additional $6 million in 2012–13. As can easily be imagined, this news has been met with strong concern by many faculty members who feel that the funding changes will competitively disadvantage their programs. Some faculty members in the programs recommended to be cut or reviewed have also felt that these decisions do not logically follow from the program review process. As of the time of this writing, faculty members are working on strategies to attract more “full fee-paying” graduate students. It also remains unclear whether the proposed program closures will be upheld.

Implications for Planners

Academic programs are the heart of the academic enterprise. Any attempt to decrease their resources or cut them entirely can (and very likely will) lead to intense arguments from affected faculty members. This may be particularly true in the case of graduate programs, which many faculty members hold in very high esteem. Changing the resources available to graduate programs, downsizing them, or cutting them may cause faculty members to feel that their work is of less worth, even if they personally are tenured and do not stand to lose their jobs as a result. Many faculty members at universities feel that the existence of graduate programs and their associated research activities are what distinguishes their institutions from community colleges or liberal arts colleges. It is likely to be claimed that “the best” faculty members will leave the institution as a result of such changes and that “the best” candidates for faculty positions will not wish to apply. As final decisions are made, it is very difficult to overcome these emotional appeals with hard numbers.

Some advice is offered to institutions considering similar actions. First, make all of the information as transparent as possible. At BGSU, all summary data included in the cost spreadsheets were also available at the most granular level possible, down to the level of each student in each class. When one of the committee members mentioned that his faculty colleagues may not believe the numbers, the author shared the disaggregated data with him and asked him to verify the data against departmental records. They matched exactly. His response was that “they may not like it but they can’t argue that it’s wrong.” Second, be sure to readily acknowledge that analyses such as those discussed here are solely focused on enrollment, revenue, and expenses. They make no claims whatsoever about academic quality, which might be measured by such factors as faculty and student research, creative activity, and engagement; learning; graduation rates; alumni employment; and external research funding. Third, while institutional research and other staff members can generate the supporting information, it takes strong leaders, especially at the provost and dean level, to make, explain, and sustain the tough resulting decisions. Unfortunately, nothing we know about the foreseeable future of higher education funding makes us think that the work of academic leaders will become anything but more difficult.

“It takes strong leaders to make the tough resulting decisions.”
References


Author Biography

William E. Knight is executive director of institutional effectiveness at Ball State University. He holds bachelor’s, master’s, and doctoral degrees in education from Kent State University. He previously served as associate vice provost for planning and accountability at Bowling Green State University and as an institutional researcher at Georgia Southern University and Kent State University.
Chapter 13: Budgeting Issues Related to Personnel

by Russell Giambelluca, California State University Stanislaus, and Carol Rylee, University of Delaware

What are the major things to consider when possibly implementing Position Control and Position Budgeting?
Because higher education is by definition labor intensive, a large proportion of total costs at most colleges and universities is associated with employee salaries and benefits. At many institutions, the percentage of these expenses to total expenses well exceeds 60 percent. A category of expense that is so significant merits careful planning and watching.

Salary categories and their proportion to total employee count vary from institution to institution. There are salaries associated with teaching and research faculty and salaries associated with support staff, both academic and non-academic. Each is hired, paid for, and managed by different rules. Tenured and tenure-track faculty have or can attain security of employment, which means that the financial commitment for their salaries remains with the institution until they retire. Because of the concept of tenure and the notion of security of employment, it can be difficult for higher education institutions to respond rapidly to changes in academic focus in the marketplace or economy. Most support staff do not have security of employment.

It is important for all institutions to carefully consider their policies and practices regarding each of these personnel groups. Position control can be an important and powerful tool for managing salary and benefits costs. This is true regardless of whether personnel costs are monitored in the central administration office or at the college, school, or even departmental level. Without position control, it can be difficult to make strategic changes, implement budgetary reductions, or embark on new initiatives.

“Position control can be a powerful tool for managing salary and benefits costs.”

This chapter is intended to provide general information concerning the practice of position control/position budgeting for institutional budget and financial officers who are considering ways to manage salary and benefits costs. Institutions vary by size and academic focus, and, while this writing is sensitive to those differences, it is important to note that administrators must consider how these practices can best be implemented given their organization’s unique characteristics.

Considerations When Implementing Position Budgeting/Tracking/Control

Institutions have a choice when it comes to managing new and existing positions. Some institutions choose a laissez-faire approach, with almost no control over the creation of new positions. In these decentralized institutions, the decision to create and fill a new position is left to the operating unit (e.g., portfolio, college), and the unit is required to provide funding for that position. Some institutions do not even monitor how many positions have been created. Conversely, centralized institutions retain extremely tight control over positions, requiring justification and senior administration approvals to create new positions. An institution’s philosophy regarding span of control, level of governmental regulation, availability of resources, size, leadership style, and culture will often determine whether it exercises more or less control over positions.

Who at the institution should be responsible for position budgeting? If an institution is interested in monitoring its positions, then the responsibility is generally based in one of two offices. The Human Resources Department is one logical location for position control, as most positions will be filled by employees. However, a case can be made that position control should be the responsibility of the Finance Office (and, most appropriately, the Budget Office), since the dollars associated with each position (filled or unfilled) must be monitored and considered in the budgeting process.

When determining where position control should be located, the institution should consider which of the two offices is able to accurately control and monitor all positions. If both HR and finance are capable of handling the responsibility, then the institution should consider whether the dollars involved in the positions are paramount. If so, then it is most appropriate to locate the responsibility for position control
within the finance unit, with an arm’s-length working relationship with HR. Given that positions are a very large portion of the institutional budget (as previously noted, often greater than 60 percent), it is not surprising that most institutions opt to locate position tracking and control in the Budget Office or some other arm of finance.

The benefits paid to employees are also a significant cost to institutions. At many institutions, the cost of staff benefits can run as high as 55 to 60 percent of base salary. It is beneficial to monitor these expenses carefully. Institutions with enterprise financial systems can use their benefits system to capture data for reporting and analysis, which then enhances their ability to control and monitor this important cost component.

There are some potential issues to consider when implementing position budgeting. If an institution wants to run a tightly controlled position management system, then it is important for it to recognize that tight controls add processing steps (workflow) that often take time and labor to execute. In terms of systems and people costs, the resources required to tightly control positions are greater than those required in less restrictive control processes.

The size of an institution is also a consideration. Larger institutions have a greater need to understand the ebb and flow of positions, since the dollars involved are so much greater than in a smaller institution. However, there will also be greater challenges in maintaining tight position control in a large institution. Smaller institutions can use position control mechanisms to respond to budgetary pressures and other forces that can have a significant effect on operations.

**To Track or Control . . . That Is the Question**

If an institution has decided that it wants to manage positions, then a further decision must be made about whether it wants to track/control all positions or only certain types of positions. Full implementation of position control assumes control of all positions related to personnel, including regular full-time faculty and staff, graduate students on stipend, miscellaneous or casual wage personnel, and student labor. For large institutions, full position control may be daunting in its scope; however, it can also be beneficial. Dollars associated with even casual positions may be worth controlling because of their potential financial impact.

An institution may instead decide to implement partial position control, specifying which particular groups of employees to monitor/track/control. Implementation of partial position control frequently includes those groups that have the greatest consistency of expenses, such as full-time faculty and staff. For faculty, it may also be important to retain historical information, such as that about tenure, with position information. It is possible that position information may be shared between HR and finance, with HR monitoring the non-monetary information (such as tenure) and finance monitoring the dollars.

If the number of graduate students or casual wage employees is important for an institution to monitor, then including these groups in the position control system is critical. It is important to recognize that there will be constant personnel changes in these positions and that there may be quite a bit of “position sharing.” The effort involved in monitoring such fluid positions may be quite extensive. Each institution will need to decide which positions to tightly control and monitor, understanding that time involved in maintenance and processing must be considered. Some institutions use a hybrid approach, carefully controlling faculty/staff positions and more loosely controlling casual and student positions using “grouping” of positions at a particular level. This is a reasonable compromise to obtain functionality without excessive cost.
Handling Vacancies

When a position becomes vacant, the funding that would have been used to pay that position’s salary is available for redirection during the period of time that the position remains vacant. Determining who retains the dollars that become available from a vacant position (sometimes called “salary savings,” “breakage,” or “vacancy recovery”) is an important policy decision. Resources from unanticipated vacancies during the year can be handled in a number of different ways. The approach selected by an institution often reflects the institutional attitude toward resource management and control (e.g., centralized vs. decentralized) or the financial circumstances in which the institution finds itself (e.g., budgetary cuts, strategic change).

The following section summarizes the different ways in which salary savings are redirected within institutions. Frequently, at least a portion of the dollars recovered from an unanticipated vacancy are needed to “backfill” for the missing person on either a temporary or a more long-term basis, as in the case of hiring someone to teach a faculty member’s courses. Many institutions make provisions for using a portion of the recovered salary to cover the temporary salary. Options for handling the remainder of the recovered vacancy salary include:

• **Return all savings to the central campus for redistribution to units with greatest need.** This approach has the advantage of providing central campus with an opportunity to scrutinize all recovered vacancy dollars and their use. However, the processes involved when trying to determine what amount of money should be redirected to each unit can be cumbersome and complex. Using this approach for faculty vacancy salary recovery can inhibit academic unit planning, as chairs and deans may not know how many dollars they will be allocated at the time when they need to hire faculty.

• **Return all savings to the central campus and not redistribute funds to units.** This is more common when an institution is under financial pressure and desires to control salary costs by limiting the filling of vacant positions to conserve resources during difficult economic times. This kind of action usually results in the recovery of more dollars because the vacant positions generally remain vacant for a longer period of time. However, this also stresses the unit experiencing the vacancy because the work has to be redistributed to those remaining in the unit. Also, because units cannot predict who will leave and who will stay, critical functions may be affected.

• **Return all savings to the unit to allow for rehire.** This is obviously the most desirable option from the unit’s perspective. It returns the resources to the unit with the vacancy to allow for a replacement to be hired at the same level as the person vacating the position. In this case, the institution does not exercise any real control over the position.

• **Downgrade the level of the vacant position and return a portion of the recovered vacancy dollars to the unit.** Policies regarding changes to positions prior to refilling them can also affect an institution. An institution can set a policy that requires positions to be downgraded to a lower classification level or a lower salary level after they are vacated, thus saving future salary dollars. Some institutions have a policy of reducing all positions to some specified goal amount, such as the midpoint for the level. Institutions with graded salary systems may reduce the vacant position to a lower grade before releasing funds.

Any policies implemented should encourage organizational efficiencies and stewardship of salary dollars while allowing as much flexibility for effective management as is feasible.
“Policies should encourage stewardship of salary dollars while allowing for effective management.”

Benefits Budgeting

Overall budgeting for employee benefits can be complex and resource-intensive. However, careful budgeting is required, since employee benefits costs are a major portion of every university budget and are also one of the fastest growing elements of the budget. Additionally, the institution quite often has little control over the base cost of benefits and their annual increases. Allocating and monitoring benefits costs in institutional budgets can be done in a number of different ways. Each approach offers a different level of specificity and requires a different level of effort.

Benefits budgeting options. One approach for handling benefits budgeting is based on each employee’s choice of benefits (actual benefit costs). This involves calculating individual employee benefit costs for each benefit selected and then recalculating that cost each time a new employee arrives or an existing employee leaves. Additionally, in the case of those employees who change status mid-year, one needs to budget not only the individual employee benefit for the entire 12 months of the fiscal year going forward, but also for the remaining months of the current year. Also, along the lines of the previous discussion on the recovery of vacancy salary dollars, in this model the budget office needs to “recover” benefits dollars from vacant positions during the year. While accurate, this is a labor-intensive method of budgeting, involving a large amount of calculation and input effort. In the final analysis, unless the school is very small, the increased accuracy may not be worth the effort.

A less labor-intensive method involves budgeting the average benefits dollar costs for each type of position, such as faculty, professional, etc. However, today’s propensity to offer employees “cafeteria” benefits plans makes it difficult to determine “average” costs with any accuracy. Assuming that one is able to accurately calculate average costs by type of position, an institution might find this method more useful, particularly if it is a smaller school with a manageable number of employees.

Another option for budgeting benefits costs involves calculating costs by the type of benefit (medical, dental, vision, etc.) and building on the prior year’s actual cost plus projected current-year changes. While this may be sufficiently accurate, it does not address positions added during the year. Under such a model, one would need to fund both the new position cost and its associated benefits expense at the time the position is established. In such cases, it is useful to have a calculated rate for each type of position.

Where benefits are managed. Once the overall budgeting method is determined, it is necessary to consider whether benefits costs will be distributed to unit budgets or handled as part of the central campus budget. Experience shows that the approach for benefits budgeting should follow the approach for position budgeting and control. Decentralized budgeting and position control works best for charging to individual units, due to the requirement to change the benefits budget whenever position information changes. If the campus opts to budget benefits costs centrally, then units are not charged for any of the benefits costs associated with their hiring decisions. In this situation, managers might not be as considerate in making hiring decisions as they would be if the full cost of the position, including benefits, was part of their decision process. For example, this situation might lead a department to hire a full-time salaried employee with full benefits costs rather than a casual wage employee with lower benefits costs, even if both could appropriately do the work required.

One option between the two extremes (charging for no benefits or charging for all) is to consider charging some fully-costed units for benefits. For example, an institution may elect to charge auxiliaries for benefits costs. This recovers some of the benefits expense from units (and external funds) without the effort required to charge every single internal unit.
Whatever option is chosen, the institution will be required to calculate benefits costs across broad functional categories at year-end to be sure that it has achieved the proper programmatic (instruction, research, academic support, etc.) booking of benefits costs. Such booking of benefits costs has ramifications on the calculation of the indirect cost rate charged to federal grants.

**Impact on hiring decisions.** As mentioned above, if units are responsible for managing their benefits costs locally, then unit heads may make different hiring decisions than if benefits costs were handled centrally. It is important that these decisions be monitored at a central level to ensure that the quality of instruction and services is not undermined by less-expensive hires. For example, if a department chair chooses to hire temporary faculty with lower benefit/salary costs rather than higher-cost tenure/tenure-track faculty with full benefits, then the real (or perceived) quality of instruction may be lower.

**Small Unit Issues**

It is important to be aware of issues that can arise with small units. For example, if vacancy salary dollars are not released to the units, then small units with fewer faculty and staff can experience serious work problems (e.g., lost functions, reduced sections, bad morale, negative impact on institutional performance). Similarly, small units responsible for actual benefits costs might be tempted to be influenced by those costs in hiring and termination decisions.

**Conclusion**

As this chapter shows, the mechanisms and policies that result from decisions to expand or shrink an institution’s workforce can have an effect on its fiscal health, operational efficiency, and academic quality. The method used by an institution when budgeting for and controlling important elements of cost such as salary and benefits can have an influence on the ease with which it can increase its workforce and its costs—or decrease them, if forced to do so. Most institutions want to “manage” the size of their workforce in some way, and the policies and procedures surrounding position control influence their ability to do so.

Each institution should establish policies and procedures for the requesting and approving of additional positions, including the cost of benefits. Such policies should include information regarding who funds new positions and under what circumstances, as well as what the mechanism for identifying funding responsibility should be.

There is no single right solution for all institutions. Each institution must make a choice that suits the philosophy of its leaders. Location of desired responsibility and authority for salary and benefits funding, as well as alignment of policies to support such philosophy, are paramount for an institution to successfully establish and maintain the proper amount of control over salary and benefits expenses.
Author Biographies

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Carol Rylee is the former director of budget at the University of Delaware, retiring in 2009. She served as the chair of the Society for College and University Planning’s Budget and Resource Planning Advisory Group. She has also been active in the Oracle/PeopleSoft Higher Education Users Group, serving as chair of the Product Advisory Council, Budget Product Advisory Group, and the Combined Financials Product Advisory. She is currently working as a consultant and is enrolled in a joint MBA/master of science degree program in information systems.
Chapter 14:
Implementation of Enterprise Financial Systems

by Carol Rylee, University of Delaware

From making the decision to hiring a consultant to post-implementation: This is a practical guide.
Introduction

Many institutions are abandoning their “homegrown” or aging financial systems for enterprise financial systems written and maintained by an outside vendor and offering interfaces between human resources, financial, and student modules. The decision to move to an enterprise system requires careful consideration and deliberation. While it is certainly seductive to not have to maintain coding for a homegrown system, there are many other factors that must be considered.

Making the Decision

Several obvious positive reasons for moving from a small or homegrown nonintegrated system to an enterprise financial system include the efficiency of integrated processing, the need to replace old technology, and the convenience of having updates to deal with changes in tax codes and rates. As previously noted, it is also attractive to no longer have the maintenance of coding as your responsibility. In addition, most enterprise systems have active user groups and support staff available to assist software owners.

However, it is important to recognize that with an enterprise system you will no longer be able to make immediate changes to the code when they are needed, but will instead have to submit a request for changes to the software vendor. Additionally, your business processes may have to be substantially altered to fit the new product. This in itself is not necessarily bad, as the software is generally written to accommodate industry best practices. However, these may be difficult adjustments for some institutions to make, and the decisions to make these changes may be fraught with angst and bitter debate.

Also, while programming costs may be saved by eliminating homegrown software maintenance, there will be added programming costs involved in applying fixes and upgrades to the enterprise software. These changes add enhancements, regulatory updates, and system updates, which then require rigorous and time-consuming user and technical testing. It is important not to overlook these costs when making the decision to install an enterprise system.

In addition, the institution’s chart of accounts will probably need to be modified, perhaps rather dramatically, to accommodate the chartfields in the enterprise software. This in itself is a major change, and careful planning is required to successfully make the transition from the old to the new chart of accounts.

The initial implementation (as well as subsequent upgrades) of the enterprise software will be time-consuming, stressful, and expensive. However, the short-term pain can lead to long-term gain.

“The short-term pain of implementation can lead to long-term gain.”

Preliminary Design of Chart of Accounts

The chart of accounts is the heart of any financial system. Prior to selecting a software vendor for your enterprise financial system, you would be wise to investigate your institution’s chart of accounts requirements and their fit with your potential new system. A preliminary discussion of chart of accounts requirements allows for a thorough evaluation of the software under consideration. Some software packages prescribe the chart of accounts structure rather rigidly, not only in the numbers of fields, but also in the construction and size of those fields. Thinking outside the box in regard to the current chart of accounts is mandatory, and you may wish to hire a consultant who is skilled in chart of accounts implications to lead the discussions.
The reporting needs of the institution both centrally and at the unit level will significantly drive the chart of accounts requirements. Both the management needs of the institution and the reporting needs of external agencies, such as federal and state governments, should be considered. Input from campus constituents is vital.

The chart’s ease of use is also an important consideration that should not be taken lightly. For example, the random assignment of chartfield values as opposed to the assignment of values with visual “cues” is an important decision related to ease of use.

Knowledge of what data are required for reporting and how the chartfields are constructed are both important when selecting a software vendor.

Selecting the Software Vendor

The first step in selecting a software vendor is to determine your institution’s software requirements. Enlisting a group of future users from both central and user departments will be helpful in crafting the requirements. The list of requirements will include what components of the software (modules) the institution wishes to purchase, such as procurement, general ledger, grants, etc. Many software vendors will allow you to purchase pieces of their total financial package. In addition, it is necessary to list the key operational requirements of the software, which may include integration between modules and specifications regarding the chart of accounts, electronic processing, document workflow, transaction storage, reporting capabilities, etc.

You should also evaluate the flexibility of the software to meet your institution’s particular needs, both now and in the future. Flexibility in software means that it can meet many different needs, usually through the initial setup; however, if there are many options, then there are also many decisions to be made. Greater flexibility helps an institution meet its needs, but also dramatically increases the complexity of decision making and implementation. While flexibility is a strength, its weakness in terms of adding complexity must also be recognized.

Once the requirements are articulated and understood, you should talk with other institutions to determine which vendors might be considered a good “fit,” both in terms of requirements and price. Talking to current users of various software systems helps to shape the list of potential vendors and gathers information about user satisfaction. Many software vendors list their current customers on their website. There are generally several major software vendors active in higher education, and the best “fit” may be determined by the size of your institution.

Once all of the requirements have been agreed upon, they must be distilled into a single set of requirements to be submitted to selected vendors in a request for proposal (RFP). The RFP not only lays out the institution’s requirements, but also requests information from each vendor regarding estimated cost, manpower requirements to implement and maintain the system, and hardware requirements. A deadline for vendor responses should also be included. Typically, the institution’s procurement department is responsible for the final preparation of the RFP with review by the requirements group.

As the vendor responses are received, they must be reviewed for their ability to meet both the defined requirements and the estimated cost. Based on their RFP responses and the results of interviews with their customers, several vendors from the full list of respondents will be invited to make presentations to a group on campus. Prior to their on-campus visits, these vendors should receive a list of questions based on the RFP that will be asked of them. Many of the questions will be asked of all visiting vendors, but some may be specifically directed at a particular vendor based on information in the RFP response. It is important to realize that vendors will generally respond affirmatively to all requirements. It is the
institution’s responsibility to dig “under the covers” to determine as much as possible how the requirements will be met. Each involved unit should make every effort to understand how the software package will assist it in doing its business. This is a large purchase and change for the institution, and it is important to thoroughly understand the vendor responses regarding requirements and pricing.

After all of the vendor visits have been completed, the parties involved should discuss their reactions to the presentations as a group. If there is a deadlock as to which vendor is the best fit, then the group may wish to have a smaller list of vendors make a return visit.

Once a finalist has been selected, references from current customers should be checked, and perhaps a visit could be arranged for a software demonstration. Additionally, the identified institutional leader for each module should contact current customers for an in-depth discussion of the software and its pros and cons in regard to his or her specific business. The technical information technology (IT) staff should contact IT departments at customer institutions to discuss the hardware and manpower required to maintain the technical side of the software.

Implementation Partners

Once your software vendor has been selected, it is time to determine if you want to hire a consultant or a consulting firm to assist in the implementation (an implementation partner).

Most enterprise financial systems are sufficiently complex that choosing a partner to help with the initial implementation is a wise investment. The implementation partner will help with project planning and scheduling, keep the project on track and on schedule, and provide software expertise and knowledge transfer.

“Choosing a partner to help with implementation is a wise investment.”

The process for selecting an implementation partner is similar to that for selecting a software vendor. Research into available implementation partners and some preliminary contacts with their customers are important in creating a small list of partners to consider.

As in choosing a software vendor, you should compile a list of requirements for potential partners along with questions about their implementation strategy, methodology, and consultants’ expertise. An RFP that requests information, answers to questions, and estimated costs is then submitted to each company. Potential partners should also be asked to submit resumes for each of the individuals that they intend to assign to your project if they are chosen. And, it is critical that the partner understands that if it is chosen, then it must actually assign the individuals noted in the RFP to your project, barring unforeseeable circumstances such as a resignation. Interviews with the selected individuals are crucial—you are really hiring these individuals (who just happen to work for the potential partner) to work with your team, and it is critical to assess their philosophies. For example, is it important to your institution for knowledge transfer to occur during implementation so that your team is equipped to operate the software after the consultants leave? If so, then you would not want to select a partner whose philosophy is to get it done on time even if the implementation partners have to do all of the work. That philosophy shortchanges the knowledge transfer process. On the other hand, if getting the system up on time is what is most important to your institution, then you might want a vendor who will do all it can to be done on time, including doing the work itself. Of course, the ideal situation is to implement on time with the maximum knowledge transfer!

If your institution values knowledge transfer, then it is important to recognize that this may take additional time and certainly will require more employee resources than an implementation in which the partner does all the setup. You will also want to ask about the partner’s philosophy regarding employee
orientation to the system. Does the partner encourage (require, even) your employees to operate the keyboard themselves during the orientation phase, which allows not only for orientation but also for hands-on experience?

Another important consideration is the partner’s philosophy and method of project management. You will want to know how the partner intends to keep your project on track, both from a deadline and a financial perspective. You will also want to ask past customers about how successful the partner was at bringing the project in on time and on budget.

Review and discussion of the cost estimates are necessary. You will want to consider how much post-implementation support is included in the estimate and determine whether that is sufficient for your institution. Retaining some access to the partner for the first month or two after initial implementation is a wise move. The best plans and implementations have unexpected glitches at the moment of “go live.” You will need to determine whether the cost will increase if the project go-live date is delayed. Also, you will need to know whether this is a fixed-price contract, with all expenses included, or if you are additionally responsible for travel, lodging, and other expenses of the consultants. If so, then how much are those estimated to cost?

**Detailed Chart of Accounts Design**

Much of the information gathering and communications regarding chart of accounts design can occur well before the actual software implementation begins. Decisions must be made about who should be involved in chart design and at what level. Erring on the side of more inclusion rather than less is a good rule of thumb. While some institutions keep all reporting at a central level, others distribute reporting capability across the campus. Regardless of which model your institution uses, it is important to involve not only central administrators in chart design, but also noncentral units as well. Even if your reports are crafted and written centrally, data needs emanate from all units across (and outside) the campus. The chart of accounts is the “key” to flexible reporting; to design it well, you must understand reporting and data needs across the institution.

You should consider convening formal data gathering sessions involving individuals from many units across campus in which you can learn about current chart of accounts challenges and hopes for the future chart. Listening to chart users (both central and noncentral) is key to the future success of your software implementation. There will be anxiety about how the transition will occur—you must assure users that you are interested in their input and communicate plans (as you have them) for how you will help during the transition. Most individuals across the campus are comfortable that they at least know the important values in the current chart and may resist having to adjust to a new structure. The institution must make this as anxiety-free as possible by providing needed tools and constant communication as chart of accounts design and implementation move forward.

It is important not to embed too much logic within your chartfields, as institutions never sit still and logic that works today might not work tomorrow. However, experience has shown that it is important to provide users with some visual cues in key chartfields. You may be able to provide a “win” for units when converting to the new chart design, which may serve to diminish their resistance to the conversion. One example of such a win is in the case of a unit that currently uses a long string for the key values of its chart that is difficult to use and remember. In the new design, you might be able to provide the unit with an easy-to-remember chart with a visual cue. For example, an old key chartfield representing the Budget Office’s operations might be 01174017500, while a new chartfield might be BUDG110000. The new chartfield value not only provides information as to the major unit involved (Budget), but also the type of accounting segment (11 = Basic Operating Budget). Another example of a win is in the case of an old chart that included information regarding program, fund, etc. These fields may also be part of the new chart,
but units may not be required to remember them if a pre-populating function (e.g., speedtypes) is set up to populate additional fields when one key value is provided by the user.

There are many considerations when designing your chart of accounts, including:

- What are the data and reporting needs across the institution, including detailed and summary reports?
- How many chartfields are needed to efficiently capture the data I need?
- What options are available to assist with reporting other than the use of chartfields? The answer may include “trees,” attributes, or speedtypes.
- How will I make the transition from the old chart structure to the new? Are there common elements that can be automated for the conversion?
- How user-friendly is the new chart? Are there sufficient visual cues to help the campus use the chart both during the transition and in the future without compromising the ability to respond to future campus changes?
- How will we assist the campus in the transition? Will we have a “crosswalk” tool that translates the old chartfields to the new?
- What are the issues with the current chart of accounts, and can I solve those issues in the new chart?

Once you have completed your chart design, then the process of loading your new values can begin. If you have the ability to leverage existing information from your old system as part of your new system (descriptions, for example), then you should investigate the use of Microsoft Access (or some other database/table tool) to assist in creating the values that need to be populated. A tool like Access will allow for a marriage of old and new. Once the old and new values have been created from existing values using logic built in Access, the resulting spreadsheet of new values can then be used to upload the new values into the financial system.

**Organizational Implementation Structure**

Now that you have chosen your implementation partner and designed your preliminary chart of accounts, it is time to consider how you will organize internal resources to maximize knowledge transfer and make implementation as efficient and smooth as possible.

Consideration of the key players in this effort is important. During the implementation, as much as 80 percent of the workweek of key individuals will be consumed by the project. Many consulting partners work from Monday to Thursday and require the assistance of employees during that time. Additionally, there may be “off-line” meetings or assignments that do not involve the consultants on Fridays. You should consider the model you want to use to provide such a high level of resources to the project. There are at least three possible models:

- **Identify existing employees who will be key players and assign them full time to the project.** The obvious disadvantage of this is that the key players are not available to perform their current tasks and supervisory responsibilities. You will need to consider how you will accomplish their existing tasks. The advantage is that key personnel are not distracted from the project by their current work.
Identify existing employees who will be key players and backfill for some portion of the tasks in their units. Backfilling (which requires additional dollars) for tasks at the lowest level of the organization will permit you to shift other tasks to existing employees in order to “free up” the key players a bit. The difference between this option and the first is that key employees stay involved in the supervision and organization of their units, but do not handle as many day-to-day tasks.

Identify existing employees who will be key players and expect them to accomplish both the implementation and their current tasks. While this sounds next to impossible, it has an upside in that efficiencies in current operations are quickly discovered. For example, if a report that has been generated for years is found to be little used and of little value, then that report will now be eliminated. It is true that the key players in such a model will have to do most of their regular work after the workday and on weekends. A high level of individual dedication and commitment is required in this model, and an understanding administration regarding deadlines and efficiencies is necessary. The good news is that when the system is implemented, you not only have key staff who know the new product inside and out, but you also have key staff who have not been distanced from the day-to-day work. These staff members are able to hit the ground running regarding the merging of existing tasks with the new system.

Once the key players and a work model have been selected, the need for additional resources should be assessed. Creating teams is one approach that has been used successfully; following is a list of teams that should be considered.

Steering committee. This team includes the highest level of implementation management. It will approve scope changes, customizations, and budget changes and review progress toward timelines.

Executive committee. This team includes such key individuals as the leads for major modules. It will recommend changes to the steering committee, hammer out the details of the timeline, and identify potential stumbling blocks. This team will attempt to resolve issues before they reach the steering committee and will work to keep all players and modules on track. Additionally, it is responsible for monitoring the consultant team’s implementation plan and expenses.

Module teams. These teams include key employees from both the technical and functional sides with responsibility for specific parts of the implementation. They will be critical in achieving knowledge transfer from the implementation partner. These teams will be responsible for learning how the product works, populating set-up tables, and understanding the product’s effect on their operations. It is critical for module leads to be empowered to make decisions at the table during setup. If no one can make a decision at the table, then the implementation will experience delays.

Technical teams. The technical side of the institution should have its own implementation teams that involve both the software group and the hardware and networking group. Database administrators should also be involved.

Training team. This team provides an opportunity to involve individuals from across the campus in the implementation. Determining how campus training will occur and designing effective training are key to implementation success. This team will work closely with other teams, such as the communications team and the reporting team.

Communications team. There cannot be too much communication with the campus regarding the implementation; in fact, the approach should be to communicate early and often. Chances are that even if you think you are doing a stellar job at communicating, you will need to do more. An effective communications team can be a huge asset in this effort. This is another opportunity to
involve individuals from noncentral units. Not only will the project benefit from their insights, but those involved will also learn about the software in the process. Individuals who can play a key role in campus acceptance of the new software should be considered for inclusion on this team.

- **Reporting team.** The reporting team is extremely important and should not be overlooked. It should be created at the beginning of the project, so that team members can be familiar with all facets of the system before report writing actually begins. If your reporting is to be decentralized, then proper representation from many segments of the campus is essential. Even if the actual report writing is to be centralized, campuswide reporting needs must be considered.

  One task of this team will be to gather existing reports and assess whether they need to be converted and how that will be accomplished. Another task will be to review the reports delivered with the new software to determine if they are of any use. Quite often, “vanilla” reports delivered standard with a system are of limited use since they may not contain the parameters that are important to your particular institution.

### Working With Your IT Staff

A close working relationship between functional and technical staff is important for a high-quality implementation. It is critical for IT staff to understand some of the functional users’ needs, and it is also critical for functional users to understand the constraints and tools that the IT staff lives with. Frequent meetings to further communication and understanding between these two groups are vital, and their importance cannot be stressed enough.

### Major Decision Points

There are several major decision points that will determine whether an implementation stalls or moves forward. A few of these are highlighted below.

- **Security.** Do not underestimate the amount of time and effort it will take to make decisions regarding security access (for both reporting and use of the software). The process to determine proper access and how it will be implemented in an unfamiliar system can be difficult and laborious. Depending on the system, it can also be quite time-consuming to set up and load all of the proper security features once decisions have been made. Your particular security requirements may even necessitate a customized solution.

  You will need to determine separate security parameters for access to the application itself, access to change or edit information in the application, and access to tables and rows within tables for reporting. Security is a complex and critical piece of every implementation and should not be left until the end.

- **Customizations.** Almost every enterprise system implementation will have areas of customization. As a general rule, customizations should be kept to a minimum because they complicate future upgrades. Your first response to a request for a customization should be to consider whether the business practice involved can be changed so that the customization will not be required. This is the best solution possible.

  If it is not possible to proceed without a customization, then you should consider how best to implement that particular customization. There are different types of customizations, and you should keep them in mind as you move through the implementation.

  The first type of customization (and the one to be avoided at all costs) is a change to the internal code that drives the system. This will potentially nullify any maintenance agreements you have with the software vendor, and such customizations are particularly troublesome when upgrading.
The second type of customization is a modification, for example, changing a field name or length. A customization can be considered a modification if it can be made using the tools provided by the software (and not through entering the “guts” of the code). While modifications are not as significant as customizations requiring code changes, they should not be entered into lightly. They will need to be considered and re-entered when upgrading the software.

The third type of customization is a “bolt on.” The tables, code, etc., for such customizations live “outside” of the product and are “bolted on.” This is a good option for a large customization, because in an upgrade it can generally be “unbolted” prior to the upgrade and then “rebolted” after the upgrade is complete.

Consider every customization carefully, decide whether it is really needed, and determine what type of customization best suits your needs. The steering and executive committees should be charged with approving each and every customization, with proper justification and vetting.

**User use of the system.** You will need to put yourself in the place of a user trying to use the system—a bit of role playing. Some systems can be rather cumbersome in terms of input and use. If you determine that the delivered screens are not manageable, then you may consider an alternative such as web screens that gather the data to then be imported into the system. While such screens can be challenging to create, they may be beneficial in the long run since they allow you to adopt a common look and feel for gathering all financial information, from purchase requisitions to journal vouchers to personnel data.

**Reporting.** Do not leave reporting until the last minute of your implementation. This is a large matter that must be addressed from the moment that implementation starts. An implementation could be considered a failure if all systems are working as designed by the go-live date, but no one can retrieve the information needed to do their jobs. In that case, the institution grinds to a halt.

Discussions are needed regarding where reporting will occur on campus. Will reporting occur in IT? Will it occur in the central functional offices? Will it occur in all units across campus? The answer will determine how much training is needed throughout the institution.

**Testing.** Testing of the system at all levels is crucial. Each process, upload, data input, report, setup, etc., must be tested thoroughly. Several rounds of testing should occur during implementation, and the ultimate test will be a final test of the go-live plan. Do not be tempted to scrimp on testing. The executive committee should ensure that all module leads are as concerned about testing as it is. Each module lead should submit testing scripts to the executive committee for review so that it can be assured that all important parts of the system are being thoroughly tested.

**Data conversion.** A decision must be made regarding how much of the existing data will be converted and imported to the new system. How much historical data will be required? Historical data must be converted to the new chartfields and data structure, which can be a daunting task. It is quite likely that you will need to convert a year or two of data and that you may wish to “mirror” one year in both systems.

An alternative is to create a “bridge” between the two systems for data older than one or two years for reporting purposes. This is more manageable in some systems than in others. For financials, as long as there is a link between the old and new systems, historical data can remain in the old format—perhaps in database tables. For student systems, however, the problem of historical data can be quite vexing, as you must produce transcripts for all students, no matter when they attended. The approach to managing historical data can vary quite widely by institution and by module.
Roll out/go live. It is important for all involved parties and module leads to agree that the system is ready for go live. It is possible that there will be some slippage in the go-live date as the project proceeds. However, it is the job of the consultants and the executive committee to meet the deadline by keeping all modules on track.

When you go live, you need to expect some downtime when all work in the system throughout the campus will cease. Data must be “frozen” for the importing process to occur. Once all data are imported, chartfields are loaded, etc., then user acceptance testing can begin. Even though there will have been previous testing and data loading, it is still possible that the final testing phase will not go as smoothly as you might hope. It is difficult for the institution to be out of commission for a week or more, so prior planning and testing is crucial.

Post Implementation

Once you have successfully completed your go live, you are back in business! However, your work is not yet done. As the campus begins to use the system in its daily work, issues are bound to arise. You should consider retaining your consultants for a period of time—perhaps as long as a month or two—after your go live to assist with problems that arise. The best of implementations cannot predict all methods of system use on campus or the problems that multiple users may have once the system is live. Solving these problems in a timely manner is important to campus users trying to accomplish their daily tasks.

“The best of implementations cannot predict all methods of system use.”

Summary

While a change to a new software system is a complex, time-consuming task, if sufficient groundwork and research are part of the process, then a successful go live should be the outcome. Communication, reporting, communication, chartfield conversion, and communication (again!) are important factors in a successful implementation.

Author Biography

Carol Rylee is the former director of budget at the University of Delaware, retiring in 2009. She served as the chair of the Society for College and University Planning’s Budget and Resource Planning Advisory Group. She has also been active in the Oracle/PeopleSoft Higher Education Users Group, serving as chair of the Product Advisory Council, Budget Product Advisory Group, and the Combined Financials Product Advisory. She is currently working as a consultant and is enrolled in a joint MBA/master of science degree program in information systems.
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