Education Advisory Board

Business Affairs Forum

Exploring Alternative Budget Models

Budget Model Review, Transitions, and Outcomes

Custom Research Brief

Business Affairs Forum

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1) Executive Overview

Context

Many public universities are experiencing increasing pressure on revenues due to cuts to state funding, caps on tuition increases, the declining number of 18-22 year olds, and a decline in federal research funding. After a number of years of across-the-board budget reductions, most universities now recognize that such cuts can be counter-productive—taking too much from strong programs and not enough from weaker programs. And yet adding new revenues or cutting costs more strategically has been a challenge, in part because academic decision makers (deans or department chairs) often lack the information or the incentives to do so. For this reason, an increasing number of large research universities are transitioning to budget models that put responsibility for some or all revenues and costs onto deans. The hope is that the people closest to the decisions will be more likely to increase revenues and reduce costs.

The most common objectives of new budget models are to:

- **Increase budget transparency.** Finance administrators often struggle to communicate the reality of budget constraints and the urgency of change to the campus community. Alternative budget models are typically designed to illuminate financial realities and increase accountability.
- **Incentivize new revenue generation.** Models that return incremental revenue to the units that generate it can stimulate the launch of new revenue-generating programs or the expansion of existing programs.
- **Reduce non-essential costs.** When units are forced to pay for some or all of their costs, they have an incentive to find their own ways to reduce costs or increase efficiency. Every dollar they save can be reinvested in their priorities.
- **Build strategic funds.** Even (perhaps especially) in decentralized budget models, it is important for the central administration to maintain a pool of funds that can be used to support and direct strategic initiatives. Central funds are essential for subsidizing non-revenue generating activities critical to mission and for incentivizing collaborations across units.

Key Observations

There is no single best budget model that works for all institutions. Institutional culture, budget history, and campus circumstances (e.g., state budget cuts, tuition freezes) influence the right budget model for an institution at any given time. Moreover, each model has its own strengths and weaknesses. Any model will need to be supplemented with “patches” to mitigate its natural disadvantages.

Budget models do not make decisions, people do. Each model encourages or discourages specific kinds of behavior, but all resource allocation decisions are made by individuals. The impact of the budget model, therefore, depends more on the quality of decision-making than on the inherent strength of the model. Budget models are not a silver bullet, and measuring their direct impact on finance is challenging if not impossible.

While the benefits of changing budget models are difficult to quantify, the costs are easier to calculate—and high. Budget model changes are often made under duress, or at least under an expectation that growing pressures make the current model unsustainable. Even with the proverbial "burning platform," however, budget model change is difficult—both technically and culturally. A new budget model requires deans, chairs, and even faculty to change the way they make decisions, which requires retraining, technical support, and change management approaches. Budget model transitions also create winners and losers. The losers will not be pleased and will often vocally resist the change.

Budget models fall on a broad spectrum of options. Terms such as responsibility center management ("RCM") or "incremental" refer to a wide array of practices for allocating revenues and costs. Few if any institutions have a "pure" budget model. Most have a range of allocation approaches for different kinds of revenues and costs. Technically, everyone has a hybrid model.

Early adopters of responsibility center management (RCM) report a number of predictable next steps. Allocating costs and revenues back to units leads deans to make a number of new demands. First, they need much more detailed data on costs and revenues (and potentially additional finance support) to better manage their units. Second, they will begin to ask harder questions about why central administrative costs are so high (since they are now paying for them). Administrative functional reviews and pressure for (or at least openness to) shared services are common results. Finally, as they become more market driven, deans will push to set their own tuition levels (even though this may not be possible in many jurisdictions).

2) Budget Models Review

Overview

Incremental Budget Models Centralize Allocations; RCM Decentralizes Budget Authority

Two contact institutions employ incremental budget models, and four employ RCM or RCM-like budget models. Hybrid budget models combine elements of multiple standard models.

Spectrum of Budget Models for Higher Education Institutions

Centralized

Incremental Budget Models

Based on the previous year's budget, only allocates new revenue

- ✓ Stabilizes funding for academic programs
- ✓ Allows high-level strategic input into priority setting
- × Reduces accountability for yearly expenditures, does not reflect changing institutional priorities

Zero-Based Budget Models

Rebuilds budgets each year

- ✓ Solicits input from units, eliminates unnecessary costs
- × Requires significant labor and time from units and administrators

Performance-Based Budget Models

Awards funding based on performance, defined by outcomes standards (e.g., graduation rates)

- ✓ Increases transparency, incentivizes specific behaviors
- × Requires time consuming performance reviews and allocation

Activity-Based Budget Models

Allocates funding based on specific activities and metrics (e.g., revenue generated)

- ✓ Incentivizes desired behaviors
- × Requires tracking and data reporting

Responsibility Center Management (RCM) Budget Models

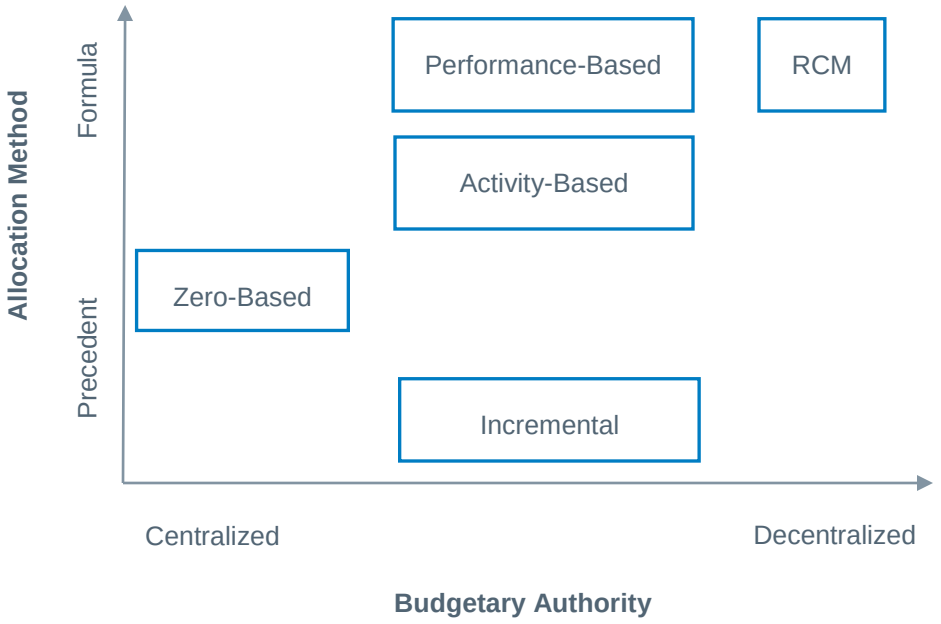
Requires units to manage their own budgets

- ✓ Increases accountability, motivates revenue generation and expense reduction
- ✓ Assigns decision-making authority to academic units
- × Causes competition among departments, difficult to implement

Decentralized

In addition to the spectrum of centralization, budget models vary by funding allocation methods. Institutions with formula-based funding either prioritize allocations by input metrics (e.g., credit hours awarded, tuition revenue) or output metrics (e.g., graduation rates, alignment to strategic plan).

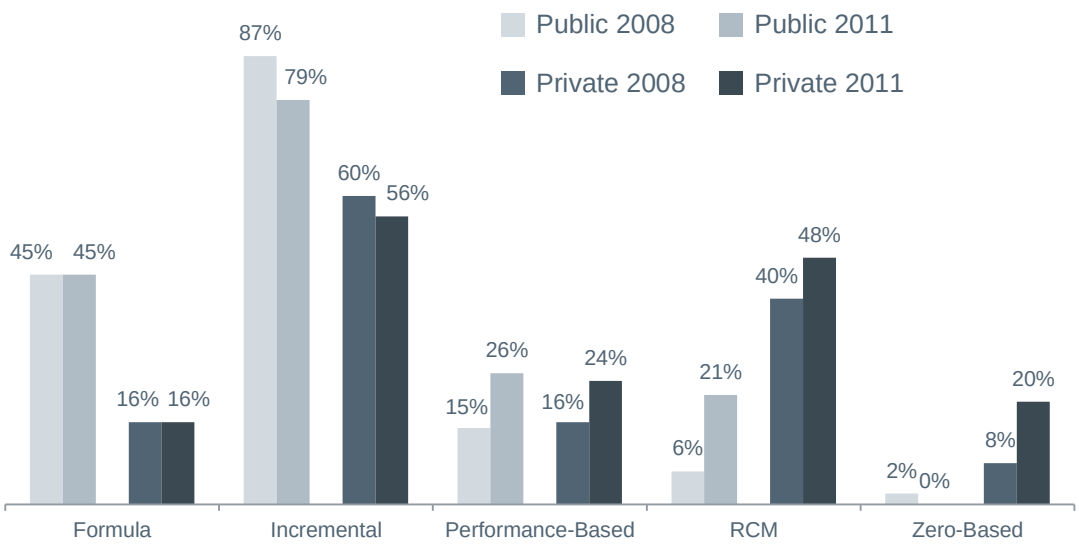
Budget Model Framework of Allocation and Authority



Distribution of Budget Model Types at Public and Private Doctoral Universities

2008 and 2011

The majority of doctoral institutions employ incremental budget models, with a trend away from incremental and toward RCM from 2008-2011 for both public and private universities. More public than private institutions employ formula-based budget models, and more private than public institutions employ zero-based budget models.



Percentages do not sum to 100% because some institutions employ more than one budget model.
Source: The 2011 Inside Higher Ed Survey of College and University Business Officers.

Incremental

Incremental Budgets Maintain Academic Program Stability

Institution A and **Institution E** employ an incremental budget process, in which finance administrators allocate general funds (e.g., state appropriations, tuition, research overhead) to each unit. Unit managers retain full control of funds once allocated to the units. Budget review committees evaluate unit funding proposals and allocate funds during the annual budget hearing process; committee members include the provost, senior finance administrators, and academic administrators.

> **!** Administrators at both **Institution A** and **Institution E** are considering budget model changes to better link financial allocations to strategic plans.

Hybrid Models Combine Elements of Incremental and Alternative Budget Models

While **Institution A** operates under an incremental budget system, contacts describe several elements as similar to activity-based budgeting or responsibility center management:

- **Self-supporting programs:** Several professional master's degree programs operate completely on program tuition and fees, without state funds. These programs primarily serve non-traditional populations (e.g., working adults, international students).
- **Summer session:** Teaching units keep surplus revenue from summer session courses.
- **Differential fees:** The college of instruction establishes and retains a supplemental student fee for professional degrees.

These activities attempt to stimulate entrepreneurial activities for deans to create their own revenues. Conversely, while **Institution F** applies an RCM-like model to academic units, support units undergo an incremental annual budget process. Units request additional funding for the upcoming year, and present to the senate fiscal committee of faculty, staff, and students to inform the chief finance officer and provost's final budget decisions. This method simplifies the budget process.

Responsibility Center Management

RCM Aims to Incentivize Revenue Generating and Cost Reducing Behaviors

Under a responsibility center management model, units receive all income and manage all expenses. The model intends to incentivize entrepreneurial behavior at the unit level. RCM models counter the traditional approach of universal increases without regard to unit activities.

Definition of Responsibility Centers at *Institution B*

Responsibility centers generate revenue (e.g., tuition, state appropriations, sale of products or services) from third parties (e.g., students, governments, corporations). Responsibility centers make all financial decisions, as well as manage revenues, expenditures (e.g., salaries, wages, fringe charges, operating expenses), and fund balances.

Value of RCM

"RCM will quickly point out to you which programs are not financially viable, and then you have to decide if they are academically important enough to justify their continuation."

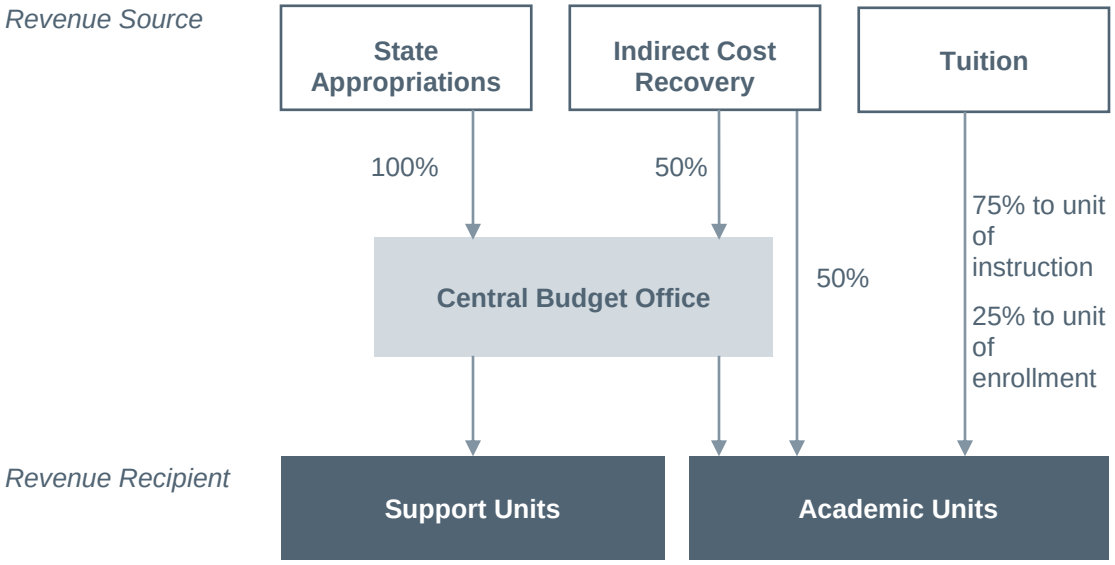
Forum Interview

All RCM Models Distribute Revenue; Full Models Include Costs

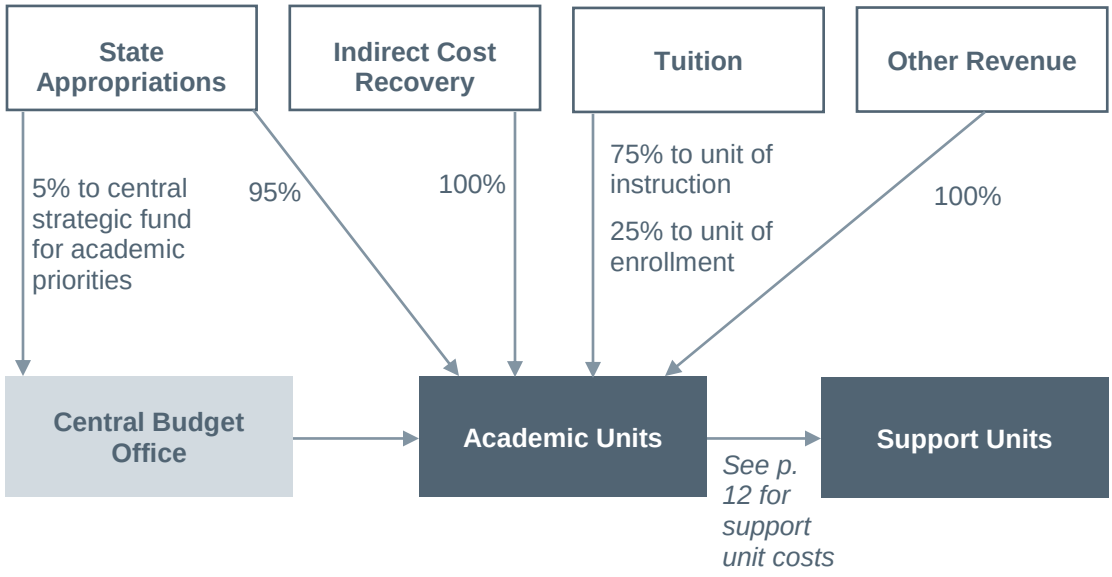
Institution D operated under a revenue-only RCM model for ten years; while this method eased the transition to full RCM, units lacked the motivation to reduce costs without the full revenue and cost model. Unit administrators more easily control costs than revenues; revenue generation typically involves new program development or price changes, which require approval of senior administrators, university boards, or state legislatures. Contacts contend that revenue enhancement offers more value to the institution long-term than cost reduction, as it moves the university forward in the expansion of program offerings and process improvements.

Revenue-Only RCM

Budget administrators at **Institution F** allocate revenue based on a three-year averaging period to avoid dramatic changes from year to year.



Revenue and Cost RCM



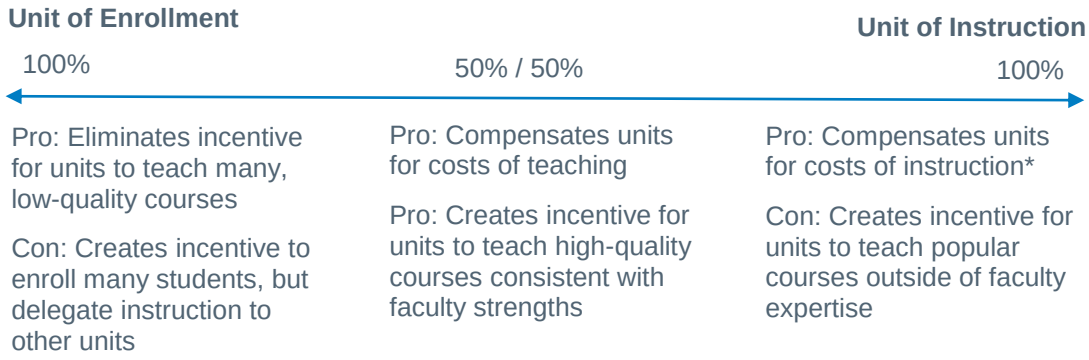
Revenues to Academic Units Include Tuition, Indirect Cost Recovery, and Entrepreneurial Activities

Tuition

Tuition represents the majority of revenues for academic units. Contacts distribute tuition revenue between the:

- Unit of enrollment: the school or college in which the student has declared a major, and
- Unit of instruction: the school or college in which the student is taking courses.

Tuition Attribution Spectrum



*Costs of instruction vary by unit; Institutions B and F employ weighting systems to balance the costs of instruction between units. While contacts warn that weighting systems complicate allocation formulas, they offset differences in academic units in lieu of differentiated tuition structures.

Indirect Cost Recovery

Indirect costs comprise the general infrastructure support costs to the university associated with executing externally funded research. Funding agencies reimburse research units for the costs incurred. Contacts recommend the allocation of 100 percent of indirect cost recovery revenues to the generating college or vice presidential area.

Entrepreneurial Activities

Universities shift to RCM models to incentivize academic units to engage in entrepreneurial activities. Entrepreneurial activities include all activities that generate revenue from a third party and are not paid for or supplemented with state appropriations. Examples of entrepreneurial activities include self-supporting degree programs, development activities, and sales of services.

Costs to Academic Units Include Central Fund Taxes and Support Units

Strategic Fund Tax

5%

Academic units at **Institution F** pay a 5% central tax to fund strategic investments.

Central Funds

RCM models rely upon strategic funds to support new initiatives and fund academic investment priorities. These funds serve as emergency reserves that continue to support innovations despite declines in state and tuition funding. At **Institution F**, the provosts' strategic initiatives are funded by a five percent blanket tax on all instructional fees and subsidies (the tax does not apply to revenues from indirect cost recoveries, differential fees, program fees, or technology fees). The provost deploys this fund to support:

- University-wide or cross-college initiatives,
- Programs experiencing high enrollment growth (a three-year lag prohibits immediate access to tuition revenue), and
- Programs experiencing declining enrollments.

Support Units

Academic units pay for support units (e.g., administrative services, libraries) via a central tax or via cost pools. **Institution F** charges academic units a 19 percent central tax on state allocations, tuition revenues, and instructional fees to fund support units such as the president's office, public safety, and university landscaping; **Institution C** charges academic units a 24 percent general tax to fund these units.

A central tax is easier to administer than cost pools, but provides less transparency.

Alternately, **Institution D** and **Institution B** use cost pool systems for support unit allocations. These institutions assign various support units to either consumption-based, cost driver-based, or common good-based allocation methods based on the academic units' participation in incurring the cost.

Consumption-Based Cost Allocation

Administrators allocate costs such as utilities or debt and leases based on an actual measurement of use, and therefore incentivize units to reduce usage to reduce costs. Academic units directly control these services.

Support units for consumption-based cost allocation include:

- Utilities
- Debt and Leases
- Facilities

Consumption-Based Cost Allocation at *Institution B*

$9.17 (Unweighted cost per square foot)	×	Square Feet of Space	×	Other	1	=	Total Cost
				Office Space	1.25		
				Classroom Space	1.5		
				Lab Space	2.75		

Cost Driver-Based Cost Allocation

Costs in this category rely upon a proxy, rather than specific calculation, of use. Finance administrators use weighted headcount as a proxy for use rather than square footage to simplify the cost calculations for this category.

Support units for cost driver-based cost allocation include:

- Libraries
- Research administration
- Student services
- General purpose classrooms

Budget administrators at **Institution D** assign a universal cost per square foot for facilities to simplify calculations.

Formula for Cost-Driver Based Support Units

General and administrative expenses, information technology infrastructure, and research administration

Responsibility center expenditures in proportion to all responsibility centers' expenditures

+

Student services

Number of students in each category ✖ category weight

- Undergraduate – lower = 2
- Undergraduate – upper = 3
- Graduate I (primarily master's level students) = 4
- Graduate II (primarily doctoral level students) = 4
- Graduate III (primarily clinical students) = 2

+

Library services

Number of students, faculty, and staff in each category ✖ category weight

- Undergraduate – lower = 2
- Undergraduate – upper = 3
- Graduate I (primarily master's level students) = 5
- Graduate II (primarily doctoral level students) = 5
- Professional = 5

Total cost

Common Good-Based Cost Allocation

Costs in this category represent shared costs; there is no direct or primary connection to incentives, as units cannot influence these costs. University budget committees determine an accepted fee that all academic units incur for expenses in this cost pool.

Support units for common good-based cost allocation include:

- Administrative services

Incorporate Zero-Based Budgeting into Any Budget Model to Reduce Support Unit Costs

At **Institution B**, support units undergo zero-based budget reviews every five years:

- The **budget committee** reviews five units each year to reduce the burden on both committee members and support unit staff.
  - The review committee includes representatives from the finance office, each vice presidential unit, each college, and the faculty senate to provide a university-wide perspective.
- **Support unit staff** prepare a strategic plan and justify each budget item, then compare services to support units at peer universities.
- **Budget office staff** provide data on units' historical budgets to inform committee reviews; the committee builds unit budgets in light of institutional priorities and needs for the upcoming period.
- **Units** submit incremental budgets and proposals for changes in non-review years.

3) Budget Model Transitions

Motivation

Unreliable Traditional Revenue Streams Necessitate New Revenues and Reduced Costs

At **Institution B**, the university president and state legislature mandated a budget model change due to state budget reductions. Contacts create new budget models to bring higher levels of transparency and accountability to campuses.

Reasons for Shifting Away From an Incremental Budget Model

The incremental budget process:

- Does not provide incentives to reduce costs or generate additional revenues
- Does not sufficiently support the university's mission
- Does not provide sufficient accountability

Institutions that do not have alternative budget models often cite regulatory constraints; for example, the state board of regents determines statewide tuition thresholds that individual schools at **Institution A** cannot exceed.

Implementation

Allot Minimum of Three Years to Budget Model Transitions

Transitions require large amounts of time and resources to develop new processes and train staff; deans, provosts, and unit financial managers require new skill sets such as budget management. Contacts at **Institution E** resist large-scale budgetary changes due to the drastic cultural shift new models command.

Considerations for Budget Transitions during Hard Times

Activity-based or RCM budget models give deans great flexibility; if revenues decline, deans have the ability to reap the benefits of creative cost reductions (in contrast to traditional models, in which deans have no control over either their costs or their revenues).

Faculty, deans, and other campus community members tend to blame new budget models for financial difficulties experienced during budget constraints.

Recommendation: Start working towards implementation during a downturn, with budget modeling and working groups, to demonstrate the potential for cost savings and increased unit control; hold implementation until a period of increasing state appropriations.

Alternative Budget Model Implementation Timeline

Year One

- **President convenes a task force** to review budgetary goals, existing budget models, and the benefits and drawbacks of various models for the specific campus
- **Chief business officer meets with senior vice presidents** to discuss impact of new budget models on each unit
- **Task force and chief financial officer develop a model**, allocation methodology, and financial algorithms to move forward with implementation process

Year Two

- **President convenes budget model committee** of chief business officer, deans of each college, and representatives from each vice presidential unit
- **Faculty senate forms a sub-committee to review budget matters** as they involve the academic mission of the university; chief business officer serves as liaison between faculty senate sub-committee and university budget model committee

Year Three

- **Central budget office staff collaborate with human resources staff to compile training materials:**
  - Budget manual detailing the motivation for the budget model transition, definitions of relevant terms (e.g., responsibility center, indirect cost recovery), revenue and cost allocations and methodologies
  - Online modules for unit business managers to learn the technical details of the budget model as it relates to their roles and responsibilities
  - In-person trainings and discussions between provosts and deans
- **Integrate new roles in job descriptions and hiring processes**
  - Deans: While some deans will be more business-savvy than others, rely on associate deans and business managers to handle administrative aspects of new models
  - Business Managers: Incorporate technical financial management skills not required under historical budget models into business manager job descriptions

Year Four

- **Units begin with budget allocations from the previous year to reduce the impact of transition**; this practice ensures that no unit benefits or is penalized at the moment of change, but does begin to see the effects of the changes moving forward. As stated in the Institution C budget manual, "All changes can thus be examined in light of future impacts and focus on the appropriate set of incentives without having to worry about immediate windfalls."

Extend a One-Year "Hold Harmless" Period to Help Units Transition

A year long period when academic units receive incentive benefits but are not penalized for failing to meet targets eases transitions and builds familiarity with new budget systems.

Budget Model Transitions Necessitate Staffing Changes

Key staffing considerations for budget model transitions include:

- **Decentralized budget models require additional financial and enrollment expertise.** In decentralized budget models, colleges and departments rely more heavily on tuition revenue to finance their operations; as tuition revenue is often one of the most volatile lines on an institution's income statement, managing volatility in tuition revenue may require a greater level of financial expertise and enrollment management than individual colleges can provide. Deans in decentralized budget models should anticipate increased demand for financial analysis and enrollment management services within the colleges.
- **Increased responsibility and dissatisfaction with budget model transitions motivate staff turnover.** Deans and academic unit budget officers are most affected by incentive-based budget models; contacts recommend standardized training processes to inform new administrators and staff about budget processes.

4) Budget Model Evaluation and Outcomes

Evaluation

Convene Budget Model Committees and Studies to Evaluate Budget Models

Budget model committees created to oversee transitions adapt to evaluate models after transitions complete; in addition to annual support unit reviews, the budget model committee at **Institution B** evaluates the budget model. The budget committee at **Institution F** reviews budget principles, guidelines, and outcomes every five years.

Commission a Budget Model Study to Evaluate Campus Community Perceptions

Contacts at **Institution C** surveyed campus community members six years after budget model implementation to examine the perceptions of the various constituents in the University with regard to the budget system. The special counsel to the provost and a doctoral student conducted the study under the guidance of a budget review oversight group including faculty and staff familiar with the budget system. The review identified several problems with the budget model, reflecting:

a) A fundamental flaw of the budget system,

b) A lack of understanding of the budget system, or

c) An aspect of the budget system disadvantaging certain respondents relative to others.

Contacts suggest that institutions follow reviews with regular conversations between senior budget administrators and unit-level budget staff about the budget model to identify areas for improvement.

Models Achieve Intended Outcomes of Revenue Generation, Cost Reduction, and Quality Improvements

Contacts measure budget model success by metrics in three categories: revenue generation, cost reduction, and quality improvements. Budget administrators monitor the following metrics to assess alternative budget models.

Budget Model Assessment

Metric	*Result*
Increase in revenues from non-traditional sources	Innovative and entrepreneurial departments and schools at **Institution A** have added many new programs in response to market demands. The business school at **Institution B** has continued to develop professional master's degree programs without state support to generate revenue.
Reduction in administrative/support unit expenditures relative to academic unit expenditures	Contacts at **Institution C** report much higher variance in changes in expenditures across units due to the implementation of an activity-based budget model, with academic unit expenditures rising much faster than administrative unit expenditures.
Cost reduction	Finance administrators at **Institution F** have seen greater efficiency in space usage due to unit charges per square foot, as units have released unused space to save money. Contacts at **Institution D** report a direct reduction in utilities consumption as a result of the full revenue and cost RCM model.
Improved curricular management from a revenue perspective (course offerings, times, class sizes)	Contacts at **Institution B** hope to see class size adjustments to better match student demand. Academic administrators at **Institution D** consider student preferences when scheduling courses to maximize revenues. Finance administrators at **Institution F** report the reduction of class waitlists as departments add high demand courses to generate revenue.
Increased enrollments and higher program rankings	Engineering and business at **Institution F** have harnessed the ability to charge more for high-demand programs to hire new faculty and build new facilities.

Alternative Models Produce Unintended Outcomes of Backlash and Confusion

Contacts at **Institution D** describe a “revolt” in reaction to a central tax of eight percent for internal revenue sharing. The following tactics reduce resistance and confusion to alternative budget models:

Tactics to Avoid Resistance or Confusion

Problem	*Solution*
Confusion regarding complex budget models	Develop training and education programs for budget and administrative staff
Concern regarding potential deterioration of academic quality	Assure quality of proposed and current courses through campus-wide curriculum review committee
Resistance to change in budgetary authority	Emphasize the potential for growth in units that capitalize on revenue generation and cost reduction opportunities

5) Research Methodology

Project Challenge

Leadership at a member institution approached the Forum with the following questions:

- What principles guide contact institutions' current budgetary approach? What budget models do contact institutions currently employ? Under which budget models did contact institutions previously operate?
- What motivated decision to shift from previous budget models to the current budget model?
- What strengths and weaknesses exist for contact institutions' current budget models?
- How do contact institutions' relationship to their state government and its budgetary practices inform budget model decisions? If the budgetary relationship with the state changed, how might the model change?
- Under the current model, to what degree do deans, directors, and department heads have budgetary authority or decision-making roles?
- Do contacts focus budget models on state tax support, tuition, or indirect cost reimbursement funding sources?
- Which units do models encompass (e.g., auxiliaries, academic units, affiliated units)?
- During development of the new budget model, what were the major potential unintended consequences identified and how were they addressed prior to implementation?
- What cultural, historical or political barriers impeded contact institutions' development of a new budgeting approach and how were they addressed? What role did shared governance play in the development and implementation of the new model?
- What implementation timeline governed transitions to contact institutions' new budget models?
- When the model was initially adopted, how were the initial variances between the prior allocation and the allocation suggested by the model managed? If the model was principally used to allocate resources in response to subsequent changes in activity levels, how was the baseline allocation determined?
- What were the most significant unintended outcomes or consequences which emerged during implementation (e.g., discourage collaboration, promote "downward spiral" for underperforming units, program redundancy, too high or too low of a unit tax)? How do contacts address these outcomes?
- How do contacts evaluate their budget models?
- To what extent do contacts plan to make any changes and what process will be followed?

Project Sources

The Forum consulted the following sources for this report:

- Advisory Board's internal and online research libraries (eab.com)
- The Chronicle of Higher Education (http://chronicle.com)
- National Center for Education Statistics (NCES) (http://nces.ed.gov/)
- Institutional websites

Research Parameters

The Forum interviewed budget and finance administrators at public research universities.

A Guide to Institutions Profiled in this Brief

Institution	Location	Approximate Institutional Enrollment (Undergraduate/Total)	Classification
Institution A	Pacific West	28,000 / 40,000	Research Universities (very high research activity)
Institution B	South	33,000 / 50,000	Research Universities (very high research activity)
Institution C	Midwest	28,000 / 43,000	Research Universities (very high research activity)
Institution D	Midwest	34,000 / 52,000	Research Universities (very high research activity)
Institution E	South	18,000 / 29,000	Research Universities (very high research activity)
Institution F	Midwest	43,000 / 56,000	Research Universities (very high research activity)