

# *Activity-Based Budgeting in Higher Education*

*David P. Szatmary*

UNIVERSITY OF WASHINGTON

## CONTINUING EDUCATION AND THE UNIVERSITY FUNDING CRISIS

**A**t times, continuing education (CE) has been relegated to the background in the university management decision framework. Because it does not generally offer core undergraduate and research-oriented graduate programs, it does not have the same clout as mainstream schools and colleges, even if it has been designated as a college itself.

However, most CE operations have had little or no state funding since the 1980s and have been forced to create financial systems of varying sophistication to account for current offerings and plan for new initiatives. Since continuing education units cannot afford to post deficits, they must pay particular attention to the financial performance of individual courses, product lines such as certificate programs and degrees, as well as their aggregate financial statements to ensure that administrators can make informed decisions and that the units operate on a self-sustaining basis.

By any standards, American universities, especially public institutions, have confronted a funding crisis in recent years that will only worsen, given the condition of the economy and the mood of the electorate. Every institution must maximize its existing resources—including budgeting models—so that university leaders can make the most informed decisions.

In 2010-2011, the University of Washington (UW) launched the first stages of activity-based financial and budgeting systems. The systems will allow close analysis of the various activities embedded in the UW overhead, with the intent of allocating at least some of them according to usage to the appropriate university units and perhaps decreasing the general overhead.

---

© 2011 David P. Szatmary, Vice Provost, University of Washington Educational Outreach, Seattle, WA

Throughout the budget development process at the University of Washington, UW Educational Outreach has played an important role in the discussions about the activity-based approach for the university. Its experience with self-sustaining financials and budgeting, its need to understand the net revenue or losses at a course level, its ability to establish pricing levels, the rigorous market analysis it undertakes of its student populations, and its need to annually balance its budget and contribute to the university resource base have been useful to the university as it seeks new fiscal tools in a resource-strapped environment. As other universities across the country struggle with their financial challenges, continuing education units can serve the same pioneering role in the development of new financial and budget systems.

### OVERVIEW OF BUDGETING SYSTEMS

Confronted by serious financial shortfalls during the last three decades, university administrators started to focus on new budget and revenue allocation models. They have at least five budgeting models at their disposal to project future trends and assist in decision making.

*Incremental budgeting:* In this model, central administrators maintain unit base budgets and allocate incremental revenues based upon the specific needs of individual academic and service units. Incremental budgeting relies upon the persuasive skills of the deans, vice presidents and chairs with the provost and the president.

*Proxy-based budgeting:* This model uses a revenue-generating metric such as student credit hours to estimate and allocate revenues to academic and other revenue-generating units. The performance measure(s) may be applied to just incremental revenue or base budgets. This system provides more uniformity, predictability and transparency than the incremental model. In this approach, the central administration continues to attribute direct expenses at the college/school level and captures indirect expenses through a relatively undifferentiated general overhead or tax.

*Traditional budgeting:* In this approach, the comparison of revenue and expenses occurs at the course, research project, or clinical level rather than on the more general college/school basis. This model provides decision makers with information on a more granular level so choices can be made about specific courses, research projects and clinical efforts. However, as with the proxy-based model, revenue and direct/indirect expenses are estimated based upon performance metrics.

*Activity-based budgeting:* This model explicitly tries to disaggregate many of the indirect costs associated with the basic “activities” (e.g. advising, library services, educational technology) that help to create a product or deliver a service such as a course. Rather than levy a uniform overhead or tax on each class, research grant and clinical project, the activity-based approach attempts to more carefully attribute specific indirect expenditures to different services by the use of cost drivers to more accurately identify the costs of those services. However, general activities such as the police, disability services, etc. cannot easily be allocated on a product or service basis and form a “business sustaining” overhead. In activity-based budgeting, revenue and direct costs may still be estimates based upon proxies.

*Expanded activity-based budgeting:* This approach extends the more accurate financial analysis of activity-based budgeting to direct costs and revenues. Rather than estimate revenues based on a formula, it tries to post the actual revenues to a course. Through a workload analysis, it more carefully identifies the direct costs associated with a course. Though time-consuming and expensive, this model can be attempted at least periodically to provide decision makers better information.

ACTIVITY-BASED BUDGETING IN HIGHER EDUCATION

	Proxy-based	Traditional	Activity-based	Expanded activity-based
<b>Budget Basis</b>	College/School	Course/Project/Clinical work	Course/Project/Clinical work	Course/Project/Clinical work
<b>Revenue</b>	Estimate based on performance measure such as student credit hours	Estimate based on performance measure at course, research project, or clinical work level	Estimate based on performance measure at course, research project, or clinical work level	Actual revenue linked to course, research project, or clinical work
<b>Direct costs</b>	Aggregated by college/school	Estimated faculty and materials costs linked to course, project, or clinical work	Estimated faculty and materials costs linked to course, project, or clinical work	Actual faculty and other direct expenses linked to course, research project, or clinical work
<b>Indirect costs</b>	Allocated by general overhead "tax"	Allocated by general overhead "tax"	Linked more directly to course, project, clinical work; "business-sustaining" overhead still exists	Linked more directly to course, project, clinical work; "business-sustaining" overhead still exists

Table 1: Overview of budgeting models

*Proxy-based model*

The proxy-based model, dating back to the 1970s and used by many private nonprofit universities such as Harvard and later large public research universities such as Indiana University and the University of Michigan, allows central administrators to allocate funding among units based on specific performance metrics and uniform standards. The model uses a proxy—an indicator of revenue generation (e.g. student credit hours, the number of majors) or a metric (graduation rates)—to determine how to distribute incremental or base revenue to schools and colleges. In the model, administrators attribute direct costs such as faculty salaries and class materials broadly to a college or school and deal with indirect costs by a general overhead. The proxy-based approach allowed universities to deal with their declining resources by trying to develop more transparent and recognizable reward structures and metrics to allocate funding between units within their institutions without a dramatic change to their financial management and budgeting systems.

In addition, the proxy-based system of allocating revenue allows the universities to keep their traditional college/school/department structure by allocating revenues and costs generally on the basis of the school or college rather than to the course or research project. Though certainly not a perfect system, it provides a better way to justify revenue allocation between the academic units. The proxy-based system also forces deans to pay more attention to certain performance metrics on which their proxy system is based. Bottom line, this system has helped many universities better allocate resources, reward strategic directions and maintain the decentralized management structure of the university.

However, this model has inherent limitations for analyzing a university's core services. By using revenue allocation proxies, unit-based direct costs, and a general overhead for indirect expenses, this system has the following flaws:

- does not accurately calculate the revenue collection for a specific unit;
- never directly links expenses with revenue;
- fails to provide the specific information needed by deans or chairs to analyze financial performance within their units; and
- focuses on revenue generation rather than revenue optimization.

By its nature, the proxy does not calculate the actual revenue generated by specific units and may overestimate or underestimate the revenue to be allocated to them. For example, an academic unit may have more nonresidents than residents, a number of graduate students paying higher fees, few students on financial aid, and no tuition-exempt students. The unit may produce significantly more revenue than another unit with a different student profile but with the same number of students or student credit hours. Such a proxy system fails to distinguish between the actual financial performance of schools and colleges. It allocates revenue based upon general assumptions, which may hide operational differences that would be useful in decision-making.

With its focus on revenue, the proxy model seldom offers much granular information to a unit about its expenses. The central administration usually provides aggregate expense data by college or school without connecting the expenses to a specific course or project. A dean or chair must be content with aggregated direct costs across the entire unit without knowing the source of those expenses.

Likewise, the general overhead approach for indirect expenses, typical of proxy-based budgeting, masks differences among units. Central administrators usually levy a general overhead charge or “tax” based on expenditures or net/gross revenues. Though some units may utilize certain services to a greater extent than others, they all are charged the same overhead for indirect costs such as facilities, educational technology, registrarial and student fiscal services, and library resources. Individual units have little understanding about the basis of the overhead charge and little or no incentive—or tools—to decrease their use of certain services that could save money for the entire institution. In extreme cases, a unit may replicate an indirect service to negotiate a lower overhead.

The lack of linkage between revenue and expenses makes it impossible for an administrator to analyze the financial viability of a particular course or research project. For instance, a dean has no way of analyzing the differences between course sections and the bottom-line implications of those differences without creating an additional college-level fiscal system to obtain expenses specific to the course or project.

Finally, the proxy-based budgeting system encourages deans to maximize revenue, not to optimize it. Competing with other units using broad performance measures such as student credit hours or numbers of majors, a school or college will naturally attempt to attract more students rather than optimizing net revenues. Though useful, the proxy approach tends to focus discussions on the best proxies for revenue allocation and the amount of overhead charged for service units rather than on the actual financial viability of certain activities.

#### *Traditional and activity-based models*

The proxy-based system is a good first step, but the traditional and activity-based models provide useful information for making sound financial decisions at a more granular level. A traditional budgeting system deals with the allocation of revenues as well as the broad attribution of costs by unit; it also focuses on the revenue and costs associated with courses, projects, and services. In a business, a manager compares revenues against the direct and indirect costs of a product. Using the contribution-margin approach, the manager can determine how a product or service contributes to the overhead of the unit and the larger organization.

A university does not produce physical products but delivers services in the form of courses, research projects, and clinical/public services that are at its core. The analysis of revenues compared against the direct and

indirect expenses for at least these three services form the basis of budgeting within a university context. Other services will be unique to institutions and might originate in auxiliary units such as hospitals, athletics, alumni associations, and fundraising.

In a traditional budget model, revenue and direct expenses are often estimated because of the complexity of revenue collection—not all students pay the same price for a class—and of separating faculty teaching and research workloads (especially in the case of faculty performing research not funded externally). As with the proxy model, indirect costs are attributed according to general overhead.

Activity-based costing (ABC) refines this approach, making the analysis of a service or product more granular and accurate. Instead of lumping most indirect costs into general overhead, it uses “cost drivers” or allocation methods (e.g., workload analysis) to distribute indirect costs to specific items based on usage. The activity-based approach reduces general overhead to a relatively small set of “business-sustaining” activities that represents much less of the total indirect cost compared to the proxy-based or traditional models. When a manager projects activity-based costing to future activities and services, ABC becomes activity-based budgeting (ABB).

The ABC approach looks at a basic service such as a class section and determines the indirect-expense activities associated with its planning, development, and delivery. It then assigns a cost driver or allocation method to assess usage for each activity and uses the driver to derive the appropriate indirect costs for each course section.

Indirect expenses associated with registration, library services, a writing center, and advising might be allocated on a per-student basis, assuming that work increases in these areas according to the number of students served. The university can calculate the total cost of each of these activities and divide it by the total number of student enrollments to arrive at the cost-per-enrollment. It can then apply the cost driver to each section by multiplying it by the number of students in each section.

The cost of departmental administrative staff can be based upon a different type of workload analysis coming from the staff or the department head. The department can calculate its total administrative costs and attribute them to courses, projects, clinical work, and other tasks that the department supports.

If usage history exists, educational technology staff support could be allocated on a per-hour basis. The unit would total its staff costs and divide

by its service hours to develop a per-hour charge. Units offering a variety of services could perform calculations for each kind of service.

Other indirect costs—physical space and janitorial services—can be based on square footage, and allocated to the course according to the size of the classroom and usage of office space by the faculty member. Metering the costs of water, electricity, and other types of energy use can provide utility expenses. Once a baseline is established, the costs can be attributed to individual classrooms.

Basic technology infrastructure costs can be based on student enrollments and faculty. It can also be allocated based on the number of full-time employees, considering that full-time staff use university technologies to a greater extent than students. In this case, the cost for this service can be allocated to the academic and administrative units, and then more uniformly by course.

Institutions make different assumptions about the workload associated with its indirect-cost units. Rather than allocate the cost of libraries by student enrollment, a university could decide to include faculty in its calculation. It could even distinguish between levels of usage by charging more for faculty and graduate students than undergraduates. Whatever the cost driver, it should be transparent, relatively simple to derive, and easily understood by the campus.

The careful allocation of indirect expenses should be motivational, with the objective of encouraging a unit to lower its indirect costs when possible. If space were allocated by square footage, units would have an incentive to use a smaller office space. If technology support attributes costs based upon usage of its staff on a per-hour basis, less use of staff should result in lower costs for a course.

Other activities, such as central administrative costs (the president and provost), the police department, disability services, and financial aid administration are so indirectly associated with a course that their costs should be applied to all courses through general overhead. Difficult to measure on a transactional basis, they are “business-sustaining” activities that support the educational process. They are essential for the general operation of courses, although a specific course or project may not use them. Rather than chart their episodic use, it makes sense to assume that all courses will at some time equally use them and should share equally in their funding. It also provides a motivation for units to use these services and a disincentive to replicate them.



The management dictum cautions, “You cannot manage what you can’t or don’t measure.” However, at some point, managers must use common sense about the level of specificity of the expense analysis. Identifying expenses related to courses or services may take an inordinate amount of work and make the analysis itself a growing expense rather than primarily an analytical tool.

*Expanded activity-based model*

In a university setting, the activity-based model should optimally be expanded to identify direct expenses more completely and attribute revenue more accurately on a core level. When the direct expenses of a course (instruction, course materials, audio-visual support, etc.) are examined more closely, their attribution becomes complicated. For example, a university should separate faculty development or revision time devoted to a class from instruction. It should specify the direct costs associated with course development, revision, and delivery, including IT personnel and a learning-management system. A university may even want to include the cost of course approval by a faculty committee.

A university must also identify the time faculty members spend teaching, researching, and performing clinical work and attribute the appropriate proportion of faculty costs to each activity. In an environment where faculty receive externally funded grants and work in clinical settings, the information might be readily available because of reporting requirements. In another unit in which the faculty member does not receive external funding for research, the university must decide about the attribution of expenses. The research could be considered part of course development, funded from a designated pool, etc. Though not funded by an outside agency, this research must be included in the budgeting process.

In addition to more clearly attributing direct expenses, the university should determine the actual amount of incoming funds associated with each course, research project, and clinical effort. Although the activity-based budgeting approach has been used primarily for assessing indirect expenses more accurately compared to general overhead, the model can be expanded to include more precise attribution of revenues. It may be difficult to calculate a course’s student-based revenues because universities usually operate like the airline industry in their pricing and revenue collection. Like passengers on a flight, students in a class pay different fees. In some cases, universities establish tuition caps that allow students to take up to a certain

number of credits (e.g., 18) if they pay a full-time rate pegged at a lower number of credits (e.g., 10). Other universities create a standard semester- or quarter-long program fee for students who take a variable number of credits, so students in a specific course pay different amounts for the class. Most universities allow graduate students to enroll in undergraduate courses for a higher fee. Others have differential tuition for different graduate and undergraduate majors even though students enroll in classes outside their school or college. Many public universities have different tuition rates for residents and nonresidents. Still others provide significant financial aid and tuition exemptions to some students, making student-generated revenue identification on a course basis challenging.

To complicate matters, states provide some level of core education and capital funds for public universities. The core educational funding is usually allocated through a variety of formulas to create a base operating budget, making it difficult to assign specific state funds to a particular class. A general formula for allocating state funds to classes probably provides the best way to deal with attributing the money to a course. Capital funds pay some of the costs for building and renovating classrooms and should be included in the financial analysis of a course. In general, the tuition- and state-based revenues associated with a class will take some time to identify, but this is essential if a university wishes to compare revenues against costs for a class.

The expanded activity-based costing and budgeting model can provide useful information to university leaders by informing them of the financial performance of different courses, different types of courses (e.g., lecture/laboratory courses), and courses at different level (lower division/upper division; undergraduate/graduate). It can also assess the financial health of grant projects, showing clearly whether a grant-funded initiative generating a certain indirect level of funding and having specific requirements (e.g., laboratory facilities) nets or loses money for the institution. Given the variability of the indirect return on grants, the activity-based system is extremely useful in determining whether grants meet the institution's financial goals.

Overall, an activity-based costing, budgeting, and management system provides a multitude of advantages:

- more efficient use of resources when costs per class, research project, and clinical effort become apparent;
- better information for establishing prices;
- a clear understanding of the value of outsourcing different, noncore activities;

- the ability to assess cross-subsidies between courses, programs, and projects through a clearer understanding of the underlying financial principles and past strategic decisions of the organization.

The activity-based model, however, should not dictate action. Like any other budget system, it serves as a tool for making rational and coherent choices; it should not be used for eliminating all courses or programs that do not make money. In a comprehensive university, the concept of cross-subsidization from courses to research or between courses is central to achieving the university's strategic goals. The data gleaned from the budget model should inform decision making rather than command action.

### COMPARISON RESULTS OF DIFFERENT BUDGET MODELS

A simple example can illustrate the greater accuracy and benefits of the expanded activity-based approach. Let us assume that a university has both undergraduate resident (85 of the total undergraduate student credit hours of 75,000) and nonresident students (15 of the total) who pay an annual quarterly fee for 10 credits or more. Residents pay \$2,500 per quarter and nonresidents pay \$7,500. Students take 15 credits.

In the proxy-based, traditional, and activity-based approaches, student tuition would be aggregated, averaged, and allocated to a class. The formula for deriving the average income for undergraduate is as follows:

- Resident per credit charge:  $\$2,500 / 15 = \$166.70 / \text{credit}$
- Nonresident per credit charge:  $\$7,500 / 15 = \$500 / \text{credit}$
- Resident per credit income:  $\$166.70 \times .85 = \$141.70$
- Nonresident per credit income:  $\$500 \times .15 = \$75$
- Average credit income:  $\$141.70 + \$75 = \$216.70$

In a five-credit undergraduate class with 50 students, the total income for the class comes to \$54,175 (50 students  $\times$  5 credits  $\times$  \$216.70).

The expanded activity-based model does not rely on averages but instead calculates actual revenue and arms the administrator with more complete information for decision-making. Using the same set of assumptions as above but identifying the actual residency status of students, if the class consisted of 35 residents and 15 nonresidents, the revenue would total \$66,672.50 ((35 students  $\times$  5 credits  $\times$  \$166.70) + (15 students  $\times$  5 credits  $\times$  \$500)). The course actually generates 23 more revenue than the other budget models estimate.

The expanded activity-based model offers the same advantages on the expense side. Let us assume the following:

- Faculty salary: \$20,000
- Faculty fringe benefits: \$5,000
- Course materials: \$100 per student
- Departmental costs (salary/benefits for administrators, staff; office supplies, etc.): \$8,000

In its proxy-based or traditional budget system, the university has also levied a 30 tax on gross revenues for its indirect costs or activities, which include financial aid administration (1); educational technology (7 percent), audio-visual set-up (2 percent), classroom usage (7 percent), faculty office space (1 percent), the provost and the president (1 percent), library usage (6 percent), student advising (2 percent), the police department (1 percent), disability services (1 percent) and the registrar’s office (1 percent). Using our assumptions above, in the proxy-based and traditional cost models the course expenses would amount to the following: \$20,000 faculty + \$5,000 for faculty benefits + \$8,000 departmental costs + (\$100 class materials x 50 students) + 30 percent tax on gross revenue = \$54,252.50

If we assume that the course uses no educational technology resources, teaches a computer programming language requiring minimal use of the library, and has no audio-visual needs, the activity-based model would reduce the university tax on gross revenues to 15, and the total would be \$48,000.88.

The outcomes of the different models are as follows:

	Proxy-based	Traditional	Activity-based	Expanded activity-based
<b>Revenue</b>	\$54,175.00	\$54,175.00	\$54,175.00	\$66,672.50
<b>Expenses</b>	\$54,252.50	\$54,252.50	\$48,000.88	\$48,000.88
<b>Net revenue</b>	-\$77.50	-\$77.50	\$6,174.12	\$18,671.62

Table 2: Bottom-line results of different models

Obviously, the more granular and accurate information in the activity-based and extended activity-based models allows the administrator to make better and perhaps different judgments about the future of the sample class.

**REQUIREMENTS FOR AN EXPANDED ACTIVITY-BASED MODEL**

The activity-based models are most effective when universities meet certain conditions. They are most useful for a large university with a number of different services and variations on those services. A small liberal-arts institution with a limited number of classes, no clinical programs, and little funded research may find the activity-based approach more trouble than it is worth. With a limited number of core services to which to allocate expenses, it might favor the traditional model. However, a large public or private research institution can gauge the financial health of the different types of courses, research efforts, and clinical work through this approach and illuminate the cross-subsidies between them. In the corporate world, small businesses seldom utilize the activity-based approach effectively, but multi-billion-dollar companies such as Hughes Aircraft, Caterpillar, and Whirlpool have achieved many efficiencies and savings, and have reworked specific activities based upon an activity-based financial analysis.<sup>1</sup>

The university must possess a robust and enterprise-wide financial system to support the activity-based budgeting system. Without consistent data and the ability to chart both revenues and expenses on the course level rapidly and accurately, an activity-based model will be impossible to implement. Otherwise, a university can only use broad, proxy-based metrics to allocate its revenues and cannot accurately post expenses against revenues, or even correctly arrive at revenues associated with a course or project. Though developing a financial system for an activity-based approach can be costly, time-consuming, and sometimes daunting, an enterprise-wide financial management system is a necessity for institutions that have the resources.

Given the high cost for developing and maintaining it, such a system can be established only if university leadership and the appropriate faculty governance group embrace it. To gain traction, the university management team must endorse and approve it with the commitment of adequate funding.

All the leaders in an institution can use an activity-based system. Understanding the revenues as well as the costs of an activity, top-level decision makers can make changes and adjustments between schools and colleges for the most efficient organizational structure. Central administrators can

tie revenues and costs to curriculum planning by linking activity-based costing to such tools as an induced course load matrix (ICLM), first popularized by Sidney Suslow, which identifies students in a course by major and allows a better understanding of the cross subsidies between units for service courses.

University leaders including the president, provost, deans, chairs, and faculty leadership should be given adequate training to understand and use the activity-based budgeting tools so ABB can lead to activity-based management (ABM). They should be able to interpret the results of an activity-based approach in order to drive new initiatives, make changes to the base budget, and move their units in the appropriate direction. A university should also perform full-cost studies of its support units so that expenses from its groups can be accurately allocated to the appropriate users rather than levy an amorphous “tax” or overhead. The analysis requires a unit to break down its functions into component parts and distribute its overall costs among the functions. Using cost drivers or allocation metrics, the unit must then assign the activities and associated expenses to courses and projects. Because most expenses relate to staff, this effort consists of a properly timed workload analysis, which allocates staff time for each activity. The analysis provides a solid basis for developing rates for various activities, and over the long term brings efficiencies to the process by encouraging revenue-producing units to use the support activities appropriately, effectively, and to the least extent possible.<sup>2</sup>

The activity-based model, especially the full-cost analysis component, cannot be implemented quickly and without the proper planning. An organization must create a timeline, including:

- the rationale and need for the budgeting system;
- management approval and support;
- determination of activities and their corresponding cost drivers;
- financial system requirements and funding;
- a list of challenges for implementation;
- and the connection between the model and the strategic goals of the organization.

When used to inform decisions in a strategic context, activity-based budgeting is the basis for activity-based management.

## ACTIVITY-BASED BUDGETING AND THE DECISION-MAKING STRUCTURE

Some academic leaders confuse budgeting models with management structure. According to their logic, a decentralized allocation of revenue to schools and colleges necessarily implies an activity-based budgeting system. They mistakenly contend that the academic unit comprises the activity because its functions generate revenue. They argue that support units are “non-activity” based groups. In fact, the decision to hold each academic unit accountable for its own financial health (“every tub on its own bottom”) is not linked to a specific budget model. Many universities that have adopted this management approach use the proxy-based model rather than an activity-based one.<sup>3</sup>

Universities have been governed through a variety of management systems that often reflect the hierarchical, decentralized roots of higher education. A legacy management system consists of individual deans and sometimes well-positioned department chairs lobbying the provost and president for additional funds to meet their goals. The governing structure within a university also includes faculty. Unlike most corporations, universities have given many of their academic personnel the legal right to govern the university jointly with the administration. Stemming from a need to protect academic freedom during the McCarthy era, joint governance and accompanying faculty codes have given faculty a management role over themselves and the issues confronting the university. This authority waxes and wanes over time but ultimately distinguishes universities from other organizations and results in a process-oriented, time-intensive system that tends to protect existing structures and policies, and in which change occurs deliberately.

Fiscal realities have spurred universities to reconsider their management structures as well as their budget models. The decentralized management model—responsibility-centered or responsibility-based management—positions the authority for most financial decisions at least partially with the deans and chairs who have more current and complete information about their activities than central administrators. In an academic setting, the decentralized model can seem familiar, comfortable, and effective even when the president has final authority to make university-wide decisions. This

approach seems even more necessary in a large, multifaceted university, where the president and provost cannot easily monitor all aspects of the institution and where smaller parts can be managed more effectively.

Whatever management system used, a budget model should not be equated with a decision-making structure. The decision to adopt activity-based budgeting is distinct from choosing a more centralized or more decentralized management approach. Information gleaned from the budget model can be used in a centralized framework where the provost makes most of the decisions or one in which the deans or department chairs take the lead. It can also be beneficial in a hybrid centralized / decentralized setting. The activity-based budget model can support a centralized management model, a decentralized one, or a combination of the two. It simply offers information about financial performance within and between academic units for the people making decisions.

### CONCLUSION

University of Washington Educational Outreach (UWEO) uses an activity-based approach. UWEO budgets and accounts for each class individually, and when appropriate, clusters courses in a certificate, degree, or other type of program. In each course, the UWEO tracks the actual revenue of a class section. It then posts direct expenses to the course, including instructional and material costs. A workload analysis is used to attribute the averaged costs of infrastructure staff and program-management expenses to each course. The budget also includes a risk-opportunity fee as a percentage of gross revenues to pay for program shortfalls and a university overhead that has been calculated by the UW for generic costs such as facilities, the president/provost offices, police, etc. Using this system, an administrator can assess the health of a program on a course level by comparing the actual revenue against expenses. This analysis enables the administrator to make decisions about instructional salaries, pricing, enrollment targets, marketing strategies, and other issues that affect the financial viability of the class or a program. It also allows the manager to make informed decisions about establishing or eliminating a course or program. Developing this model has not been easy or quick but has been extremely valuable.



Expanded to a university-wide level, such an activity-based model can provide administrators at all levels with useful information about the financial performance of their courses, research projects, and clinical efforts. Compared to other approaches, activity-based costing and budgeting, when expanded to revenue and direct costs as well as indirect expenses, enhances decision making by providing information that is accurate and meaningful. Management teams at all levels can assess the cross-subsidies and financial pressure points within their units. A university with a multitude of services, an adequate enterprise-wide fiscal system, the leadership commitment, and a management team with the necessary financial skills will find an activity-based approach extremely beneficial. In these times of financial uncertainty, focused financial analysis through an expanded activity-based budgeting model will help a university achieve its goals and ambitions. 🌐

## ENDNOTES

1. Mark Henricks, "Beneath the Surface," *Entrepreneur*, October 1999; Tim Hindle, *Guide to Management Ideas and Gurus* (Profile Books, 2009); L. F. Jones, "Product Costing at Caterpillar," *Management Accounting*, February 1991, pp. 34-42; C. B. Greerson and M.C. Kocakulah, "Implementing an ABC Pilot at Whirlpool," *Journal of Cost Management*, 1999, pp. 47-63; J. Haedicke and D. Feil, "In a DOD Environment: Hughes Aircraft sets the Standard for ABC," *Management Accounting*, February 1991, pp. 29-33. For a bibliography of activity-based budgeting and its implications, see "Activity-Based Costing Bibliography," Management and Accounting Web, <http://maaw.info/ABCArticles.htm>.
2. For the steps in implementing an activity-based budgeting system in an Australian university, see the excellent report by Ernst & Young, *A Study to Develop a Costing Methodology for the Australian Higher Education System: Final Report*, May 2000. <http://www.dest.gov.au/archive/highered/otherpub/costing/html/contents.htm>. Also see S. C. Hansen, *The Closed Loop: Implementing Activity-Based Planning and Budgeting*, (Austin, TX: CAM-I, 2004); Sidney Suslow, "Induced Course Load Matrix." *New Directions for Institutional Research*, Spring 1976, pp. 35-51.
3. Paul Courant and Marilyn Knepp, "Activity-based Budgeting at the University of Michigan," in *Incentive-based Budgeting Systems in Public Universities*, ed. Douglas Priest et al. (Northampton, MA: Edward Elgar Publishing, 2002), pp. 137-160.