

## WHAT DOES AN ACADEMIC PROGRAM **REALLY** COST?

Activity-based costing can be used in determining the true cost of higher education programs. Knowing a program's true cost makes it possible to identify the low cost programs or, carrying the analysis one step further, to determine the most profitable programs. Traditionally, colleges and universities have concentrated on the variable costs of programs to determine curriculum. This approach often leads to institutions developing what appear to be low-cost programs but if fixed costs are properly allocated to them, they may not be as profitable as they seem. For example, adult evening programs are established based on the concept the buildings exist, and other components such as the administration are in-place so the only additional expense is the direct cost of additional faculty. Since the costs only include additional faculty, the tuition for these programs can often be less than the full time day student's tuition. It appears these programs are extremely profitable. Over time, many of these programs have expanded to the point where they constitute 30-40 percent of the student body. The additional overhead of business office costs, registrar costs, additional library hour costs, caused by these programs continues to be allocated as overhead to full time day education. In reality, what happens is the day school subsidizes the adult programs.

The same phenomenon may be occurring between other programs as well. Activity-based costing works very well in spotting such cross subsidization of products, i.e., programs. For example, the sciences require expensive labs, small class size, and high-priced faculty. Conversely, the social sciences typically only require a classroom that can accommodate a large number of students and are generally taught with relatively inexpensive faculty. Yet, the chemistry student and political science student pay the same tuition. Granted, the chemistry student probably pays a lab fee that compensates for some of the extra cost.

A major characteristic of higher education costs is high overhead. Overhead costs like buildings, depreciation, administration, maintenance, and support services are not directly

related to the number of students enrolled. Activity-based costing was originated to allocate overhead costs more accurately in high overhead cost business. Colleges and universities fit this description. The direct labor costs are small in comparison to the overhead costs. Higher education also is characterized by a diversity of products, i.e., undergraduate programs, graduate programs, research, and high tech vs. low-tech programs. Activity-based costing is helpful in allocating the proper overhead costs in such an environment.

Consider, for example, three specific programs: primary education, sociology, and physical therapy. A process of determining the true cost of these programs at an institution will be described. Once the true costs are found, the income and the profitability of each program can be determined. This information could then be used to decide which programs are most profitable for the school. One cost-structure effect, the diversity of programs at a school, will have a significant effect on the cost allocation to each of these programs. The process presented should be applied to all of the school's programs to determine the mix of products that can be most profitably offered by the institution. Another factor in the cost structure of an educational institution is the cost of student living. In the process described here, those costs will not be included in the analysis. Essentially, only the academic portion of the institution is considered.

Several things must be done to apply activity-based costing. First, a school must adopt the concept of program budgeting and accounting so that costs can be identified and allocated according to the academic programs. This is not a minor change. Typically, institutions budget and maintain accounts in such categories as salaries, travel, utilities, entertainment, and supplies. Summarizing these costs by academic program is often a difficult task. Once budgeting and accounting is done by academic program, all costs that can be directly associated with a program should be charged to that program. The examples shown below are very broad. In an actual implementation of activity-based costing, there would be more specific

cost pools and activities depending on a great deal of analysis. For all three programs being considered, such costs as the following can be directly associated with a program:

- (1) Faculty costs
- (2) Academic administrative support linked to the program or faculty supporting the program
- (3) Physical plant directly associated with the program, for example a school of education building or physical therapy technology wing of a hospital, and laboratories
- (4) Academic equipment, if dedicated to a department, including items like computers, lab equipment, presentation media devices and supplies
- (5) Academic administration dedicated to a program
- (6) Off-site costs such as coordinating student teaching.

The remaining costs like those shown in cost pool column of Table 1, Cost Pools and Resource Cost Drivers, should be considered overhead and allocated to cost pools. Cost pools are a collection of related costs. For example, all the costs associated with operating student services would be assigned to the student services cost pool. These cost pools would then be allocated to activities using resource cost drivers. A resource cost driver is the measure of how a cost pool is used in the organization. In Table 1, Cost Pools and Resource Cost Drivers, the measure for how financial aid is used is based on the number of applications for financial aid. The number of applications “drives” the amount of financial aid cost consumed. Typical cost pools for a university and a potential resource cost driver for each are listed in Table 1.

TABLE 1	
COST POOLS AND RESOURCE COST DRIVERS	
<u>COST POOL</u>	<u>RESOURCE DRIVER</u>

Physical plant -not directly associated with a program but used by a program	Square feet
Financial aid	Number of applications
Student services	Number of visits
General lab equipment -not directly associated with a program but used by a program	Number of hours of use
Business office	Number of transactions
Registrar	Number of transactions
Library	Number of volumes weighted by cost of volume

Once costs are allocated to activities, they are further allocated to the organization’s product or service. For a university, the services are the academic programs. Possible activities in an educational institution could be among those shown in Table 2 below. Each of the activities is allocated costs from the various cost pools by the resource cost drivers. For example, research would receive a large part of the physical plant, general lab equipment, and library costs while recruiting would only be allocated a small amount of physical plant, assuming their office space is relatively small compared to the library. Another example would be financial aid. It would receive all the costs associated with the financial aid cost pool plus some of the costs associated with the physical plant because of their office space.

TABLE 2	
ACTIVITIES AND ACTIVITY COST DRIVERS	
<u>ACTIVITIES</u>	<u>ACTIVITY DRIVER</u>
Recruiting	Number of contacts

Registration	Number of Students
Financial Aid	Amount of money
Student Services	Number of activities
Research	Average hours used by students
Classroom Sessions	Number of courses taught
Labs	Number of lab sessions
Off Site Sessions	Number of sessions

Programs use activities and a program incurs cost based on how many units of the activity cost driver it uses. For example, recruitment for the primary education program may be intensive so there are a large number of contacts with prospective students. Because of this intensive use of recruiting, primary education absorbs much more of the recruiting overhead than, say, the physical therapy program that requires very little recruiting. Another example is research. Sociology majors spend much more time using the library resources and advisor time preparing research papers than do physical therapy students, so the sociology program uses more of the research activity. Consequently, sociology is allocated more of the costs allocated to the research activity. One other example is the use of off-site sessions. Primary education and physical therapy programs require off-site visits for observation and clinical experience. Sociology students do not, so the overhead assigned to the off-site sessions activity mainly goes to primary education and physical therapy technology. Another consideration is the difference between undergraduate and graduate programs. A program could include both or be separated into two different programs.

With accurate program costs, each program can be assessed according to its profitability compared to other programs. Primary education with its reliance on off-site

sessions, like student teaching, requires far more administration time than does a sociology program. With activity-based costing, sociology would no longer subsidize primary education in the use of administration time.

Once the activity-based cost model is set up, what-if scenarios can be run to determine which mix of programs is the most effective for the institution. Because of the overlapping use of overhead by various programs, the school's programs must be looked at as a whole. Only then can each program be evaluated on an individual basis by removing it or adding it to the mix of programs the school offers. Activity-based costing will clearly show what is driving the costs of the various programs and will show where to most effectively cut costs.

Many of the documents researched for this essay were published before activity-based costing became popular, but they provide information on how schools look at costs. It is interesting to discover that the concept of activity-based costing showed up in some of these references that were published 20-30 years ago, yet very few schools today know the true cost of their programs. Is this true at Wheeling Jesuit University?

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