

Activity-Based Costing and Higher Education - Can it Work?

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Introduction

Over the years, higher education institutions continue to be challenged to manage shrinking revenues, rising costs for salaries and maintenance of campuses, and increasing undergraduate enrollment while ensuring high quality education. Within the private business sector, activity-based costing methodology has become a very successful tool to combat similar problems (slow economy, rising costs and new international competitors). The activity-based costing approach analyzes costs at an activity level (what is done) rather than at a unit level (the department that does the activity).

Kansas State University (K-State) administrators realized that the same principles of activity-based costing (ABC) could be applied to higher education. Therefore, K-State implemented and adapted the ABC approach whereby the faculty member's time was allocated to different types of activities. Essentially, using this type of an approach provides a reliable method to report, define, and capture the time spent by faculty within specified activities contributing to the overall performance of the university. The key behind K-State's adaptation of ABC was the integration of the assigned faculty member's time and activity with the annual goal setting and review process.

Departments and colleges within a university could use the activity-based costing approach as a tool to accomplish the following:

- (1) match utilization of resources with departmental missions;
- (2) obtain a better sense of the effectiveness of faculty members' time and effort differentiation within departments;
- (3) discuss with department heads and deans the efficient and most effective allocation of resources to meet the needs of the department, college, and university;
- (4) organize the information in a way that makes sense across units; and
- (5) act as an essential public relations tool.

For most public universities, the State allocates most dollars to "instruction." However, we know that these dollars are used to support instruction, research, public service and administration. K-State adapted the activity-based costing approach from one that was traditionally used for budgeting at the unit

level to an approach that was more programmatic in nature and provided a better way to handle how funds are expended to achieve the university's mission. Therefore, if K-State could define the “time and activity” of its faculty (resources) and the "costs" associated with each of the defined activities, the ABC approach would assist in answering programmatic questions raised by its Provost, the governing body, state legislators and other outside constituents.

Building Blocks of ABC

In order for the ABC approach to be successful, three items need to be in place:

- ✓ Departmental Mission Statements/Program Goals, which are consistent with the overall mission statement and goals of the college and university.
- ✓ Activity Code Definitions.
- ✓ Faculty Evaluation System, which will be significantly different for each department because of their mission and goals.

Clearly, the department’s goals and mission dictate the allotment of the faculty’s time. The university provides three main services: instruction (teaching), research, and public service. With administration added as a support function, four major activities were defined. Within each of these activities, sub-activities were defined providing departments and faculty more diversity in their allocation of time. One such example is a faculty member whose primary activity is research. However, his/her research extends to advising graduate students about their thesis and dissertation research. Therefore, this faculty member would allocate some time to instruction (advising) even though the activity is supported totally with research funds.

Table 1 provides a listing and short definition of the activity codes used at K-State. As with most new policies and procedures, acceptance by faculty and staff is critical. One way to minimize problems is to use systems already in place. Also, a process to verify the data needs to be developed.

The data collection process is directly related to the faculty evaluation cycle. During the annual goal-setting period, the faculty member (or staff member) and the department head discuss the activity assignment for the next academic or fiscal year. The faculty member’s time is allotted using the 14 activities described in Table 1 and in accordance with the mission of the department/unit. This approach

Table 1: Listing and Definitions of Activities Assigned to Faculty/Staff Members

Service/Activity	Code	% of Time or FTE
Instruction:		
Undergraduate Instruction	A	
Graduate Instruction	B	
Undergraduate Academic Advising	C	
Graduate Academic Advising	D	
Research:		
<u>Departmentally Funded Research</u> - Research funded through the department and not from an outside source.	E	
<u>Other Funded Research/Creative Work</u> - Research funded from an <i>outside source</i> such as AES, Engineering Experiment Station, grant contracts.	F	
Public Service:		
<u>Public Service</u> - <i>Externally funded</i> public service such as Cooperative Extension Service. Also includes non-credit programs.	G	
<u>University and Departmental Service Activities</u> - <i>Internal</i> activities including committees, task forces, and other public service work in relation to the department and/or university.	H	
<u>Professional Service</u> - <i>External</i> public service to professional organizations, national associations, journal reviewer.	I	
<u>Professional Development</u> - Activities associated with the development or improvement of a faculty member/staff's skills and abilities. This would include sabbaticals, workshops, extended training programs or activities, Harvard Management Workshop.	J	
Administration:		
<u>Academic Support</u> - Activities carried out in <u>direct</u> support of instruction, research, and public service. This would include library, art museum, and academic computing. It includes activities that directly contribute to the way in which instruction is delivered or research is conducted.	K	
<u>Academic Administration</u> - Includes administrative functions associated with instruction, research, and public service. This would include activities of the college deans, department heads, and activities associated with their support staff.	L	
<u>Student Service</u> - Activities associated with counseling, admissions, registration, financial aid, and student activities.	M	
<u>General Administration</u> - Administrative support activities that are in direct service/support to the entire university. It includes executive management, institutional support areas, facilities, and administrative computer support.	N	
Total	=	

attempts to individualize the allocation of effort according to the strengths of each faculty member while fulfilling the goals and missions of the unit or department. This concept is seen as advantageous in providing clarification of the basis upon which the faculty member is evaluated.

Once the evaluation process is complete and the state legislature reaches an agreement on allocation of state funds to the state universities, departments use faculty and staff assignments to allocate these funds within the activities identified (instruction, research, public service, and administration). To allocate staff support and operating expenditures, it is assumed that their time and expenses are used to support the above activities in the same general proportion. Traditionally, staff members are assigned as administrative. However, the focus is not on their administrative duties, but duties associated with the responsibilities of the faculty. Once the funds are balanced with the overall allocation of funds, the funding dollars and percent of time (activity) by faculty and staff are entered into a database.

Types of Reports

Several types of reports are generated from this data depending upon the needs of the department and the Provost. From the database, a department can generate a report that provides the FTE and salary

Table 2: Unclassified Activity Code Report for FY 2000 for Department xxxxx

Job Code	Activity Code	FTE	Salary	Job Code	Activity Code	FTE	Salary
Department Head	A	0.25	14,540	Assistant Professor	A	0.52	23,837
	C	0.05	2,908		C	0.05	2,292
	D	0.05	2,908		D	0.03	1,375
	E	0.10	5,816		E	0.15	6,876
	H	0.10	5,816		H	0.12	5,501
	I	0.05	2,908		I	0.13	5,959
	L	0.40	23,264				
Professor	B	0.65	33,904	Instructor	A	0.65	22,711
	C	0.03	1,565		C	0.10	3,494
	D	0.12	6,259		H	0.20	6,988
	E	0.10	5,216		I	0.05	1,747
	H	0.05	2,608				
	I	0.05	2,608				
Associate Professor	A	0.60	30,624				
	C	0.05	2,552				
	D	0.05	2,552				
	E	0.10	5,104				
	H	0.15	7,656				
	I	0.05	2,552				

amount by each activity code for each member of the department (see Table 2). The database also provides a separate report that shows an aggregate of the data entered by activity code for a department (see Table 3).

Table 3: Aggregated Activity Code Departmental Summary Report

Activity Code Summary			
Activity Code	FTE	Total Budgeted Salary	% of Budget
A	7.05	300,630	41.1%
B	1.65	82,003	11.2%
C	0.67	30,887	4.2%
D	0.53	26,716	3.7%
E	2.20	102,878	14.1%
F	1.00	38,480	5.3%
H	1.66	75,980	10.4%
I	0.94	43,387	5.9%
L	0.50	30,886	4.2%
Total	16.20	731,847	100.0%

On a more university-wide basis, Table 4 shows the budgeted general-use funds reported in the four general activity areas for all academic departments and then for five selected departments. The

Table 4: Allocation of Budgeted Dollars by Activity - FY 2000
All General Use Funding (including outside research and public service funding)

	Instruction	Research	Public Service	Admin.	Total
All Academic Departments	\$54,271,444 40.7%	\$37,556,595 28.2%	\$19,638,906 14.7%	\$21,864,380 16.4%	\$133,331,325
Department A	\$5,861,326 81.4%	\$463,908 6.4%	\$145,055 2.0%	\$727,364 10.1%	\$7,197,653
Department B	\$2,012,161 27.9%	\$3,630,071 50.3%	\$1,523,686 21.1%	\$48,322 0.7%	\$7,214,240
Department C	\$879,162 52.3%	\$411,813 24.5%	\$245,382 14.6%	\$145,886 8.7%	\$1,682,243
Department D	\$1,652,504 41.4%	\$1,615,322 40.5%	\$24,099 0.6%	\$697,963 17.5%	\$3,989,888
Department E	\$526,196 55.0%	\$118,466 12.4%	\$262,270 27.4%	\$50,120 5.2%	\$957,052

dollars represented in this table include faculty salaries, support staff salaries, benefits, and general operating expenditures.

For the 60 academic departments at K-State, 40.7% of the total general use dollars allocated to the academic units supports the instructional effort of the university's mission. On the other hand, 28.2% of the general use funds are attributed to the research function and 14.7% allocated to the public service activity. The balance of the academic units' allocation supports the administrative activity. This distribution of funds matches with the mission and goals of a land-grant institution and would be expected to vary by type of institution.

Five departments from four of the colleges were selected to illustrate the different funding mechanisms used to fulfill the departments' goals and the overall mission of the university. As Table 4 shows, each department has a distinct mission: (1) Department A = strong instructional activity, (2) Department B = strong research orientation, and (3) Department C, D, and E = a combination of all three of the university's main functions with administrative as the support activity. Interestingly, each department supports all three of the general activity areas, but variation in the level of support is quite evident.

The fourth report is more directly related to faculty time and activity. Table 5 shows the

**Table 5: Distribution of Faculty Time
Within the Four General Service Areas - Fall 1999**

Service Range	Service Area							
	Instruction		Research		Public Service		Administration	
	Count	%	Count	%	Count	%	Count	%
0%	136	11.4%	265	22.3%	320	26.9%	1,010	84.9%
1-10%	49	4.1%	125	10.5%	397	33.4%	57	4.8%
11-20%	57	4.8%	159	13.4%	256	21.5%	27	2.3%
21-30%	57	4.8%	161	13.5%	85	7.1%	18	1.5%
31-40%	111	9.3%	186	15.6%	20	1.7%	21	1.8%
41-50%	254	21.3%	133	11.2%	16	1.3%	20	1.7%
51-60%	163	13.7%	48	4.0%	17	1.4%	13	1.1%
61-70%	119	10.0%	24	2.0%	8	0.7%	8	0.7%
71-80%	101	8.5%	27	2.3%	16	1.3%	2	0.2%
81-90%	62	5.2%	27	2.3%	16	1.3%	4	0.3%
91-100%	81	6.8%	35	2.9%	39	3.3%	10	0.8%
Total	1,190	100.0%	1,190	100.0%	1,190	100.0%	1,190	100.0%

distribution of time within the four general activity areas by service ranges. Using a frequency distribution, the number of faculty members and percent within the service range for each activity are provided. Table 5 highlights the diversity of faculty assignments for instruction, research, public service, and administration. Thus, 136 faculty members have no instructional responsibilities. Conversely, 81 faculty members are devoted full-time to teaching.

Conclusion

The initial step of establishing and defining the activities for faculty and support staff during the annual goal setting session was critical in laying the groundwork for the entire process of activity-based costing. The reports derived from this process have allowed K-State to better understand the kinds of activities and associated costs the academic community are engaging in during the year.

Universities should recognize that the talents of their faculty are its greatest and most important resource. Consequently, when faculty talents are utilized appropriately, every aspect of the university gains. The trick is determining in a timely and cost effective manner how faculty members spend their time.

As the faculty member is evaluated each year by the department head, the time spent by the faculty member within the four general activity areas may change depending upon the faculty's achievement of professional goals, and the mission or direction of the department. Institutions need to periodically reassess how the use of faculty time meets the opportunities that sustain their more focused mission. The ABC approach allows for versatility that utilizes the variable resource of faculty time in the most efficient way. Each college and department needs to have in place specified goals and missions to which faculty time will contribute. To support the ABC approach, the evaluation process needs to evaluate each person based on their own expectations and then appropriately reward the faculty member for achieving the goal within their area of expertise (e.g., good teachers should be rewarded on the same scale as good researchers).

Deans and department heads have used the reports summarized from the compiled data to reallocate resources, explain to faculty that there are state funds supporting research activities, and re-

think their goals and missions in relation to the talents of the faculty. The Provost has discussed with the Deans of the Colleges time and cost issues associated with each activity. The data is supplemented with course activity loads, research productivity indices, and faculty and program reviews which provide their own internal checks.

Overall, the ABC approach can be a powerful tool for departments, colleges and universities in helping to assess their budgetary and programmatic issues.

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