

An Academic Program Cost Model, a Tool for Strategic Decision-Making

**Ronald L. Rhames
Midlands Technical College**

**Helen F. Koon
Midlands Technical College**

Abstract

Midlands Technical College's governing board is interested in the cost of programs and challenged the administration to analyze the college's cost of programs for use in strategic decision-making. Understanding and managing cost is critical in today's environment of declining revenues from public sources. The college's credit and noncredit programs were analyzed based on the model used for funding colleges in South Carolina. The model has provided the college a significant tool to better understand its cost of programs and clearly identify programs that subsidize those with higher costs. The model allowed the college to quickly and accurately respond to legislative inquiries regarding the cost of educating nurses. As a result, the college received a substantial new allocation from the state in recurring funds for its nursing program. Additionally, a spin-off model that simulates the affect of section sizes and net financial contributions to the college was developed collaboratively with the college's academic departments. The spin-off model allows the academic departments to make effective faculty loading decisions.

Introduction of the Organization

Midlands Technical College, founded in 1963, is one of 16 colleges in the South Carolina Technical College System (the System). The System is governed by the State Board for Technical and Comprehensive Education, an agency of the State of South Carolina. The college's mission is: *Midlands Technical College is a comprehensive, multi-campus, public, two-year College serving the primary region of Richland, Lexington and Fairfield counties of South Carolina. College programs and services provide accessible, affordable, high quality post-secondary education that prepares a diverse student population to enter the job market, transfer to senior colleges and universities, and achieve their professional and personal goals. Through its programs and services, the college equitably provides higher education opportunities and strengthens the economic and social vitality of the community.*

Midlands Technical College has four campuses, two in Lexington County and two in Richland County with 31 buildings containing 781,257 square feet on 266 acres. Midlands Technical College has a teaching location at Fort Jackson that serves military personnel and civilians. In addition, the college delivers instruction in various businesses, industries and public schools located in Richland, Lexington and Fairfield counties and provides opportunities for students to take classes on the web.

The college's credit enrollment is approximately 11,000 students in more than 90 programs that lead to certificates, diplomas and associate degrees. Additionally, the college enrolls approximately 30,000 students annually in its noncredit programs and has a budget of approximately \$78 million.

Statement of the Problem/Initiative

Understanding and managing cost is critical in today's environment of declining public revenues. Midlands Technical College developed a model for analyzing the college's cost structure. The college's credit and noncredit programs were analyzed using the model. The analysis resulted in a better understanding of the college's cost of programs, programs that subsidized other programs and provided an effective strategic decision-making tool.

Design

The study includes both credit and non-credit instructional programs. Professional judgments are made in distributing revenue and cost by full time equivalent faculty (FTE) or credit hours. The foundation of the model is the audited Formula Computation Worksheet provided by the System and the colleges audited financial statements. The Formula Computation Worksheet uses a three-year average of audited credit hours and annualizes the data, which ultimately determines the number of FTE faculty assigned to each Classification of Instructional Program (CIP) code discipline. The FTE faculty is used to determine the amount of state funding received.

The credits funded by the state for each CIP code is broken down by discipline and in detail by specific programs. Revenues and expenditures are allocated to the various programs using the state funded credits. State funding for credit programs is determined for each discipline and program in dollars and percentages based on FTE faculty. County, student and other revenue for credit programs is distributed by the percentage of credits funded.

Non-Credit state revenue is determined by using the System's formula for determining reimbursement, which is also based on a converted FTE faculty. Non-credit student revenue is the actual amount earned. County and other revenue for non-credit is determined by using the converted percentage of credits funded.

After allocation of college-wide revenues the total amount of funds earned for each credit and non-credit program is determined.

Expenditures follow the NACUBO classification by function. Validations studies are conducted to determine if the expenditures by function are comparable to peer and national institutions.

Credit instructional costs, student and capital costs are distributed using FTE faculty, whereas costs for plant, administration and other costs are allocated by credit FTE.

Instructional costs for non-credit program are based on actual audited cost and are distributed by FTE faculty to individual programs. Student cost for non-credit programs are allocated using the converted credit FTE in relation to overall total institutional student cost.

Administrative, plant, capital and other cost for non-credit programs are distributed using converted credit FTE's.

Total cost for each credit and non-credit program is determined.

After allocation of college-wide revenues and expenditures the net income or loss was determined for each academic program. Additional analysis was conducted to show the net income or loss per credit hour and credits earned per FTE both as a number and percentage.

Implementation

The model was originally developed using 2001 data under the NACUBO financial reporting model and has been updated to use with the GASB reporting data. After testing the various data sources to make sure the model yielded reliable and consistent outcomes it was demonstrated to the college community in multiple phases. First, the model was demonstrated to the college's Executive Council, which includes the president and vice presidents. The Executive Council closely scrutinized the methodology, the data and the outcomes and integrated the model in its planning process. The next step involved the various academic departments led by the divisional vice presidents who were given an opportunity to critique the model. The departments within the divisions implemented the model in their strategic decision making including determination of section sizes, coding of classes and reorganization of units. The final step was to take it to the college's governing board. The board critiqued the model, and determined how to integrate the data outcomes in its strategic planning.

Benefits

- Traditionally the issue with most cost models is they tend to focus on direct cost. The college's model allowed the college to understand both direct and indirect cost of its programs.

- The college was asked by legislators to provide the true cost of educating a nursing student. The model was used to validate the cost and resulted in an ongoing commitment from the state of an additional \$600,000 per year for the college's nursing program.
- In conjunction with the department chairs the model is the basis for an additional tool that was created to allow management to simulate the effect of changes in section sizes.
- The model helped the college to identify programs that provide subsidies versus those that are subsidized.
- The model gave the college the ability to better understand the implications of loading and pricing decisions and programs offered in its continuing education program.

Retrospect

The college's governing board and administrators have been very pleased with the model and its impact on the college's strategic planning. The model has been accepted institution wide as a viable and valid tool for use in strategic decision making. While the administration wishes the model had been created earlier, it is now better positioned to allocate resources, make programmatic decisions and to understand the impact of those decisions.