Revitalizing the Program Portfolio

Elevating Academic Program Performance and Strategic Alignment
Road Map for Discussion

1. Measuring Performance Against Priorities
2. Evaluating New Programs for Viability
3. Reallocating Academic Resources
Your Charge to Us
“Help Us Find a Better Approach to Program Review”

A Universal Complaint

“I can tell you what every single one of those program reviews is going to say before I’ve even read it. ‘This program is doing great, it just needs more resources.’ Or, ‘This program is struggling, it just needs more resources.’ The problem is, I don’t have any more resources to give, and so the whole exercise feels pretty pointless.”

An Unscientific Analysis
Interviews with Universities and Colleges
n = 110

- Dissatisfied with APR: 100%
- Currently revising APR: 60%
- Abandoned APR altogether: 15%

Source: Education Advisory Board interviews and analysis.
Our Initial Hypothesis
Find the “Moneyball” Metrics

Replacing Experience with Data

On-Base Percentage = \frac{\text{Hits} + \text{Walks} + \text{Hit by Pitch}}{\text{At Bats} + \text{Walks} + \text{Hit by Pitch} + \text{Sac Flies}}

The Magic Equation That Solves All of Your Problems

- Sophisticated new program performance metrics
- Previously hidden correlations between multiple factors
- Algorithms for optimal resource allocation
- Dramatically improved performance

Source: Education Advisory Board interviews and analysis.
The Real Challenge
Achieving Performance Improvement in a Decentralized Environment

Unprecedented Pressures to Improve Institutional Performance

New Accountability Standards
- Graduation Rates
- Affordability
- Student Learning Outcomes

Ambitious Strategic Goals
- Research Excellence
- Global Reach
- Enhanced Reputation

Increased Competition
- Recruiting
- Research Funding
- Philanthropy

Board-Level Dashboard

College

College

College

Accountability Chasm

Impossible to achieve rising expectations without program-level performance improvement

Program  Program  Program  Program  Program  Program  Program  Program

Source: Education Advisory Board interviews and analysis.
Disciplinary Identity More Important Than Institutional Identity

“Most departments didn’t even know their retention rate. Some faculty even argued that we should pay them more if we wanted them to improve retention.”

Director of Institutional Research, Public Masters University

“The only place I can really use some of the research I have is at the graduate level, and now I don't have someone to impart it to.“

Art History Professor, University of Maryland

“My discipline is not the town of Syracuse. I'm an intellectual, and I have a community of scholarship all over the world.“

Biology Professor, Syracuse University

We Can’t Afford What We’ve Become
The High Cost of Disciplinary Aspirations

The Impact of the Drive for Disciplinary Autonomy

**Disciplinary Silos**
- Duplicate courses
- Obstacles to collaboration

**Subscale Departments**
- Duplicated admin support
- Lack of critical mass for research and teaching

**Underutilized Faculty**
- Underenrolled niche courses
- Low-enrollment programs

**Student Success Challenges**
- Credit creep
- Difficulties changing majors

- Higher administrative costs
- Lower instructional productivity
- Longer time to degree
- Less collaborative research
A Portfolio Approach
Three Ways to Improve Institutional Performance

Significant Variation in Performance across Programs

Research Expenditures by Program
72% of All Research Expenditures in 10 Programs

Bachelor's Degrees Granted by Major
39% of Degrees Granted by 10 Majors

Graduation Rate by Major
68% Difference between Top and Bottom Performers

Three Ways to Improve Overall Performance

1. Improve Individual Programs
   ![Upward Arrow]
   ![Upward Arrow]
   ![Upward Arrow]
   ![Upward Arrow]

2. Differential Investment
   ![Upward Arrow]
   ![Upward Arrow]
   ![Leftward Arrow]

3. Integrate/Collaborate Across Programs
   ![Upward Arrow]
   ![Upward Arrow]
The Wrong Tool for the Job
Program Reviews Reinforce Disciplinary Standards, Not Institutional Priorities

Why Program Reviews Fail to Improve Performance

-reviewed in isolation

Long Cycle Time

Disciplinary Standards

Program-Specific Metrics

Source: Education Advisory Board interviews and analysis.
Who’s Being Reviewed Here?
Program Reviews Designed to Hold Institutions Accountable for Supporting Disciplines

External Review Committee

“We bring in eminent faculty from our peer and aspirant institutions, and not surprisingly they always end up recommending that we need to invest more in their discipline.”

Professional Accreditor

“In theory, these standards... ensure a certain level of quality by requiring every law school to be run like an expensive research university—limiting, for instance, the use of adjuncts and teachers on contract. In practice, however, by imposing a “one-size-fits-all” template, these standards ensure that there is little differentiation.”

Source: http://www.nytimes.com/2012/06/01/opinion/how-to-make-law-school-affordable.html?_r=1; Education Advisory Board interviews and analysis.
Our Contrarian Findings

1. You already have all of the data you need—There are no new “moneyball” metrics.

2. The data won’t tell you much that you don’t already know.

3. Mathematical rigor is important only to the extent that it helps to generate consensus.

4. Data does not make decisions for you, it helps to justify decisions made on the basis of judgment.

5. You don’t want all of your programs to be leaders in their discipline; you want the portfolio of programs to achieve your institutional goals.
# Revitalizing the Program Portfolio

## Elevating Academic Program Performance and Strategic Alignment

<table>
<thead>
<tr>
<th>Securing Faculty Trust in Metrics</th>
<th>Measuring Performance Against Priorities</th>
<th>Setting New Program Viability Hurdles</th>
<th>Improving Signature Programs</th>
<th>Maximizing Resource Flexibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Base resource allocation decisions on program-level metrics</td>
<td>• Link program performance metrics to strategic plan goals</td>
<td>• Provide decision-support tools to help faculty model often-overlooked costs</td>
<td>• Shift resources from five-year reviews to ad hoc opportunity analysis</td>
<td>• Award seed funding and new faculty lines to programs that support institutional priorities</td>
</tr>
<tr>
<td>• Centralize and standardize data and reporting</td>
<td>• Review performance against targets annually</td>
<td>• Match sophistication of demand estimates to type of program</td>
<td>• Concurrently review related programs to surface collaborative opportunities</td>
<td>• Require departments to reallocate 3-5% of operating budget to institutional priorities</td>
</tr>
<tr>
<td>• Invite faculty to critique data and to select metrics within a framework</td>
<td>• Start by encouraging year-over-year improvement</td>
<td>• Adjust program proposals to reach breakeven in 5 years</td>
<td>• Agree upfront on narrowly defined scope for review</td>
<td>• Recapture all open faculty lines and reallocate based on strategic goals</td>
</tr>
<tr>
<td>• Limit self studies to 20 pages and focus reviews on no more than 5 critical metrics</td>
<td>• Compare performance against other programs inside the university</td>
<td>• Create program launch logistics checklist</td>
<td>• Empower university-wide faculty committee to synthesize findings across reviews and launch new studies</td>
<td>• Consolidate departments into divisions to facilitate flexible hiring</td>
</tr>
<tr>
<td>• Build interactive decision support tools for deans and chairs</td>
<td>• Categorize programs by their primary institutional contribution</td>
<td>• Create staged market testing for professional and online programs</td>
<td>• Engage trustees for “real-world” perspective and fundraising advice</td>
<td>• Empower university-wide faculty committee to synthesize findings across reviews and launch new studies</td>
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<td>• Use external benchmarks to identify program strengths and weaknesses</td>
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<td>• Create staged market testing for professional and online programs</td>
<td>• Engage trustees for “real-world” perspective and fundraising advice</td>
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Revitalizing the Program Portfolio
Elevating Academic Program Performance and Strategic Alignment

Roadmap to Our Discussion

1. Securing Faculty Trust in Metrics
   - Base resource allocation decisions on program-level metrics
   - Centralize and standardize data and reporting
   - Invite faculty to critique data and to select metrics within a framework
   - Limit self studies to 20 pages and focus reviews on no more than 5 critical metrics
   - Build interactive decision support tools for deans and chairs

2. Measuring Performance Against Priorities

3. Setting New Program Viability Hurdles

4. Improving Signature Programs

5. Maximizing Resource Flexibility
Faculty Critique of Data

- **Incomplete**
  “You’re only measuring half of my activity.”

- **Inappropriate**
  “You can’t hold me accountable for something I don’t control.”

- **Incommensurable**
  “You can’t compare biology and English lit.”

- **Inaccurate**
  “That’s just plain wrong.”

- **Irrelevant**
  “We’re not making widgets here, we’re educating students.”

The IR Director’s Lament

- “We had a long history of people developing and holding their own data. Whenever there was a dispute over whose data was right, no one wanted to trust IR.”

- “Each program thinks they are unique and that they cannot all be held to the same standards.”

- “We’ve always had data in our annual reports, but no one looked at it until recently.”

Source: Education Advisory Board interviews and analysis.
Third Party Analysis of Texas A&M Faculty Profile

*Percentage of Faculty by Cohort*

- **Dodgers**
  - Students = 88
  - Research = $0
  - Percentage: 35%

- **Coasters**
  - Students = 123
  - Research = $175K
  - Percentage: 33%

- **Sherpas**
  - Students = 286
  - Research = $0
  - Percentage: 30%

- **Pioneers**
  - Students = 97
  - Research = $1.9M
  - Percentage: 1%

- **Stars**
  - Students = 574
  - Research = $278K
  - Percentage: 1%


1 Figures exclude full-time administrators and normalize for part-time faculty.
2 Includes faculty salary and benefits and associated overhead costs.
It’s Complicated
Texas Institutions Fire Back at Overly Simplistic Conclusions

UT Points Out Data’s “Monochromatic” Nature

“The data do not measure the many thousands of hours that faculty work each year to:

• Publish and keep abreast of their fields
• Supervise graduate and undergraduate students and their research
• Serve on committees inside and out of the university that promote its interests.”

Marc Musick
Associate Dean
College of Liberal Arts,
University of Texas at Austin

A&M Releases Own Analysis, Noting Limitations and Avoiding Sweeping Conclusions

Faculty workloads aggregated; individuals not singled out

Note: Does Not Include Research Or Public Service

Source: Marc A. Musick, “An Analysis of Faculty Instructional and Grant-Based Productivity at The University of Texas at Austin (November 2011); https://accountability.tamu.edu/content/university-metrics-faculty-demographics-teaching-workload; Education Advisory Board interviews and analysis.
Nothing New under the Sun
Broad Collection of Program Review Metrics Shows Little Innovation

An extensive analysis...

- 44 institutional dashboards reviewed
- Over 1,100 program-related metrics categorized and analyzed

...with few surprises emerging

- Majority of tracked data are core metrics around enrollment, research, student success, etc., not sophisticated analytics

Metric Frequency

Basic “Size and Scale” Metrics → Advanced Efficiency and Interdependency Metrics

Source: Education Advisory Board interviews and analysis.
### Top Program-Related Metrics from University and College Dashboards, by Category

#### Enrollment
- Headcount (undergrad and grad, FT/PT, first-time/transfer, gender, ethnicity)
- % in-state, by region, out-of-state, international
- Average SAT/ACT/HS Rank
- % receiving financial aid
- Top majors
- Degrees awarded

#### Research
- Publications
- Grants
- Faculty awards
- R&D expenditures
- Patents

#### Instructional Productivity
- # of sections taught
- # of student credit hours taken
- Average class size
- Average teaching load
- Classroom utilization rate
- Sections with less than 30 students
- Student/faculty ratio
- Cost per SCH

#### Revenue/Expenses
- Net tuition
- Operating expenditures
- Expenditures for administration as % of total
- Miscellaneous revenue (licensing, startups)

#### Student Success
- First-year retention rate
- Six-year graduation rate
- % study abroad
- Job placement rate
- Licensure pass rate
- Average debt load at graduation

#### Faculty Demographics
- Headcount (T/TT, FT/PT, gender, ethnicity, age)
- Average salary/benefits, by rank
- % with terminal degree
- Alma mater

#### Facilities
- % teaching/classroom space
- % research/lab space
- Space utilization
- Average room capacity
- Deferred maintenance cost

Source: Education Advisory Board interviews and analysis.
Five Stages of (Data) Grief

Gaining Data Acceptance a Process, Not a One-Time Dictate

Faculty Objections to Data Take Time to Overcome (So Start Now)

“Data-driven decisions? Yeah, I’ve heard that one before. This too shall pass.”

“Let’s not rush into this. We need a committee to do a comprehensive study of academic performance metrics.”

“This data might actually help us make smarter decisions. Besides, it’s the only way to get resources out of the provost.”

“I didn’t become an academic just to become part of the corporatization of higher ed. And the data is all wrong, too!”

“I guess we’ll just give up on all of our traditional ideals of quality and intellectual autonomy.”

Denial  Anger  Bargaining  Depression  Acceptance

Source: Education Advisory Board interviews and analysis.
Data Improves with Use

Require Programs to Use Central Data and Allow Them to Correct It

Numerous Real Problems with Data Integrity

- Central data doesn’t match departmental or program data
- Hard to disaggregate program-level data
- Need to manage conflicting definitions for different stakeholders

Centralization with Flexibility

- **Centralize** management of data
- **Collaboratively resolve problems** of definition and data integrity/consistency with individual units
- **Allow trial period** for corrections and feedback
- **Deploy data in programmatic** decisions to establish ongoing relevance

Light at the End of the Tunnel

“The first two years we did QA reviews, every single meeting got derailed by arguing about the data. We’ve worked hard to get the data totally reliable. Now people talk about what the data means, and the contentiousness is about program issues rather than data quality.”

*Simon Greenwold*
Senior Associate Dean, The Graduate School
Northwestern University

Source: Education Advisory Board interviews and analysis.
Unique Institution, Familiar Challenges
A Changing Landscape Leads Gallaudet to a Crisis Point

Distinctive Mission
- The country’s only liberal arts institution for the deaf and hard of hearing
  - Bilingual education in English and American Sign Language
  - Hearing students less than 5% of undergraduate enrollment
- Federally chartered
  - Majority of budget comes directly from federal government
  - Direct oversight from Department of Education

Changing Landscape
- No longer the only option for deaf students
  - 1990 ADA requires all universities to accommodate deaf students
  - Cochlear implants increasingly common
- Federal oversight more challenging
  - Funding falls from 83% of budget to 69%
  - Stronger accountability metrics (GPRA)

A Crisis Point
2006-2007
- Enrollment down 42% from 1991
- Students shut down campus to protest new choice for president
- Accréditor (MSCHE) puts Gallaudet on probation

Source: Education Advisory Board interviews and analysis.
A Plan for Reform

Holding Everyone Accountable for Meeting Critical Targets

1. Student Learning Outcomes Assessment (2007-)
   Define and assess programmatic learning outcomes

   Identify high priority programs for investment and cancel low priority programs

3. Annual Unit Effectiveness Review (2011-)
   Hold individual academic units accountable for performance against the strategic plan

4. University Planning and Budget Committee (in process)
   Link budgeting process to performance review process

**STRATEGIC PLAN 2010-2015**

- Grow enrollment to 3,000 by 2015
- Improve six year graduation rate to 50%
- Diversify funding and increase efficiency
- Refine core programs to ensure students’ career success
- Increase research and outreach

Creating a Yardstick to Measure All Programs
Operationalizing the Program Prioritization Process

Criteria

- Consistency with university mission, vision, and strategic goals
- Demand for program internally and externally
- Diversity of student enrollment
- Quality of program inputs
- Quality of program outcomes
- Size, scope, and productivity of the program
- Revenue and other resources
- Costs and other expenses
- Opportunity analysis

Template for Assessing Program Demand

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Indicators</th>
<th>Information Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal and external demand for the program</td>
<td>Number of students in program</td>
<td>OIR</td>
</tr>
<tr>
<td></td>
<td>Number of students who applied to or declared for a program</td>
<td>OIR/ Program</td>
</tr>
<tr>
<td></td>
<td>Number of students admitted to the program</td>
<td>OIR</td>
</tr>
<tr>
<td></td>
<td>Number of students in program taking classes</td>
<td>OIR</td>
</tr>
<tr>
<td></td>
<td>Number of credit hours taught</td>
<td>OIR</td>
</tr>
<tr>
<td></td>
<td>FTE taught</td>
<td>OIR</td>
</tr>
<tr>
<td>Future outlook/trends for graduates</td>
<td>Describe future outlook/job trends. Data sources could include US Job Opportunities Outlook, professional organizations, program networks, etc.</td>
<td>Program</td>
</tr>
</tbody>
</table>

Source: Education Advisory Board interviews and analysis.
# Implementing the Prioritization

**Prioritization Process Guides Critical Investment and Organizational Decisions**

## Proposed Program Changes

<table>
<thead>
<tr>
<th>Resource Ranking</th>
<th>Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retain and enhance if feasible</td>
<td>19</td>
</tr>
<tr>
<td>Monitor and address identified issues</td>
<td>29</td>
</tr>
<tr>
<td>Realign, reorganize, or integrate</td>
<td>12</td>
</tr>
<tr>
<td>Close in current form and replace</td>
<td>2</td>
</tr>
<tr>
<td>Eliminate</td>
<td>20</td>
</tr>
</tbody>
</table>

## Results

- Consolidated 5 majors into Art and 5 majors into Phys Ed
- Home Economics transformed into Family and Child Studies
- Ultimately closed 11 degree offerings and 6 minors

The Most Important Result: Building Trust in the Data

Lessons Learned from Program Prioritization at Gallaudet

Benefits of the Prioritization Process

Data Standardization

“The program prioritization process forced us to use standard metrics. And if a program disagreed with our data, we asked them to help us fix it.”

Data Relevance

“People only started caring about the data after we began using it to make decisions.”

Data Trust

“The prioritization did not achieve the cost savings that people wanted (because we chose not to eliminate faculty positions, and the programs that were closed were small), but what it did achieve was an agreement that, going forward, data matters and everyone needs to be on board.”

Source: Education Advisory Board interviews and analysis.
Annual Unit Effectiveness Reviews

Linking Unit Performance to Institutional Goals

1. Metrics Linked to Strategic Plan
   - Institution’s objectives help programs focus on improving on a few key metrics, like enrollment, graduation, and research

2. IR Provides Data
   - IR office prepopulates reports with program-level data

3. Targets Set with Dean
   - Office of Academic Quality works with deans to set metrics, making sure to place targets in larger institutional context

4. Action Plan Developed
   - Plan reviewed to ensure plan is feasible and has sufficient detail

5. Progress Assessed Annually
   - Regular checkups establish continued accountability

Source: Education Advisory Board interviews and analysis.
## A Small Set of Straightforward Metrics

*Annual Review in Action*

<table>
<thead>
<tr>
<th>Gallaudet Strategic Plan Objective</th>
<th>Program Strategic Planning Goal&lt;sup&gt;1&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.5 Increase and broaden accountability for enrollment</td>
<td>• The program will enroll ___ students for matriculation in 2012</td>
</tr>
</tbody>
</table>
| B.4 Increase and broaden accountability for student retention and graduation | • The program will retain ___% of the students who enter its program and do not graduate from Fall 2011 to Fall 2012  
• The program will graduate ___% of the students who entered its program in AY 2011-12 |
| D.3 Strengthen students’ preparation for employment and career success | • ___% of the students in the program will successfully complete an internship during AY 2011-12  
• ___% of the students who graduated from the program will be employed one year after graduation  
• ___% of students who graduated from the program will be in advanced education one year after graduation  
• Fewer than ___% of the students who graduated from the program will be neither employed or in advanced education one year after graduation |
| E.1 Establish Gallaudet’s research agenda and set targets for externally-funded research proposal submission, funding, and completion by 2015 and beyond | • ___% of the faculty in the program will have submitted proposals for externally funded research  
• ___% of the faculty in the program will have received funding for externally funded research |
| E.2 Create the infrastructure needed to support a world-class research enterprise | • ___% of faculty in the program will have submitted manuscripts to peer-reviewed journals and/or creative activities to juried venues  
• ___% of faculty in the program will have had manuscripts published in peer-reviewed journals and/or creative activities shown in juried venues |

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<sup>1</sup> Examples are illustrative.

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Source: Education Advisory Board interviews and analysis.
A Concerted Response Reassures Accréditor and Improves Performance

May 2006
Faculty vote no confidence in provost

Oct 2006
Protesting students shut down the campus

May 2009
New strategic plan approved

Oct 2009
New president appointed

May 2006
MSCHE puts Gallaudet on warning

June 2007
MSCHE puts Gallaudet on probation

April 2008
MSCHE reaffirms accreditation

Total Enrollment

2007: 2175
2010: 2496

Six-Year Graduation Rate

2007: 25%
2010: 41%

Source: Education Advisory Board interviews and analysis.
Securing Faculty Trust in Metrics

Results

• Institution has “a single version of the truth”
• Faculty (grudgingly) accept metrics
• Debates are about performance not metrics
• Time is spent analyzing data, not generating reports
• Metrics inform resource allocation decisions, but do not determine them
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4. Improving Signature Programs

5. Maximizing Resource Flexibility

- Link program performance metrics to strategic plan goals
- Review performance against targets annually
- Start by encouraging year-over-year improvement
- Compare performance against other programs inside the university
- Categorize programs by their primary institutional contribution
- Use external benchmarks to identify program strengths and weaknesses
### Acknowledging Programmatic Diversity

**Programs Contribute to Institutional Success in Different Ways**

#### Measurement Should Follow Mission

*Four Program Types and Key Metrics to Watch for Each*

<table>
<thead>
<tr>
<th>Enrollment Driver</th>
<th>Research Leader</th>
<th>Service Unit</th>
<th>Revenue Generator</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Enrollment</td>
<td>• Publications</td>
<td>• Student Credit Hours/FTEs</td>
<td>• Net Tuition Revenue</td>
</tr>
<tr>
<td>• Application Volume/ Yield</td>
<td>• Citations</td>
<td>• Total SCH</td>
<td>• Instructional Costs per Student</td>
</tr>
<tr>
<td>• Retention Rate</td>
<td>• Awards</td>
<td>• Drop/Fail/Withdraw Rate</td>
<td>• Miscellaneous Revenue (licensing, startups)</td>
</tr>
<tr>
<td>• Six-Year Graduation Rate</td>
<td>• Grants</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Enrollment Driver**
  - **External Market Potential**
    - Reduce/Cut
    - Monitor
    - Grow
  - Enrollment by Major
- **Research Leader**
  - **Growth in Research**
    - Reduce/Cut
    - Monitor
    - Grow
  - Research Expenditures
- **Service Unit**
  - **D/F/W Rate**
    - Monitor
    - Grow
    - Improve
    - Monitor
  - SCH per FTE
- **Revenue Generator**
  - **Gross Revenue**
    - Reduce/Cut
    - Monitor
    - Grow
  - Contribution Margin

Source: Education Advisory Board interviews and analysis.
Setting Appropriate Expectations

Four Basic Approaches to Target-Setting

**Outliers / Annual Improvement**

*Spotlight clearly subpar performance, set improvement targets*

**Internal Benchmarks**

*Compare programs internally*

**Externally Imposed Standards**

*Meet requirements from accreditor, state legislature, union*

**External Benchmarks**

*Compare to peer institutions*

Source: Education Advisory Board interviews and analysis.
Addressing Incommensurability
Finding Usable Benchmarks

Enrollment Driver
IPEDS
Degree completions

Research Leader
National Science Foundation
Reports on research funding

Service Unit
Delaware Cost Study
Instructional costs and productivity

Revenue Generator

SAT/ ACT
Application/admissions data

National Research Council
Doctoral program rankings

NSSE
Student engagement

Source: Education Advisory Board interviews and analysis.
A Regional Competition for National Status

Texas Stimulates Investments in Research

National Research University Fund
(Established 2009)

Designated emerging research universities:
• Texas State University
• Texas Tech University
• University of Houston
• University of North Texas
• University of Texas at Arlington
• University of Texas at Dallas
• University of Texas at El Paso
• University of Texas at San Antonio

Mandatory Criteria
• $45M in restricted research expenditures

Optional Criteria (4 of 6)
• $400M endowment
• 50% of entering freshmen in the top 25% of their HS class
• 75th percentile SAT > 1210
• 5 National Academy members or Nobel Prize recipients
• 50 graduate programs
• 200 Ph.D.s
• 58% Ph.D. graduation rate

Source: Education Advisory Board interviews and analysis;
Profiled Institution: University of North Texas

Location: Denton, TX
Enrollment: 29,518 / 8,057
T/TT Faculty: 542 / 246
Programs: 97 / 82 / 35
Research: $21.3M
The Perfect Person for the Job
A Dean With a Background in Applied Statistics

Michael Monticino

• Dean of the College of Arts & Sciences
• Former Dean of the Graduate School
• Professor in the Department of Mathematics and Institute for Applied Science
• Expert in statistical analysis, probability models, operations research, and environmental modeling

The Need for Data-Driven Decisions

“You can’t really answer the question of where you should invest without the data.”

Michael Monticino
Dean of Arts & Sciences
University of North Texas

Source: Education Advisory Board interviews and analysis.
A Failure to Communicate

Not Getting the Right Data to the Right People at the Right Time

- Conflicting Data Definitions
- Distributed, Out-of-Sync Databases
- Time-Consuming Ad Hoc Reports from IR
- Static Spreadsheet Reports
- Report Does Not Answer Original Question

Collect Data → Store Data → Retrieve Data → Present Data → Make Decision

Source: Education Advisory Board interviews and analysis.
From Reporting to Decision Support

Building Tools to Support Academic Managers

Develop Interactive Tools

“We spend our time constructing tools rather than reports.”

Incorporate Faculty’s Advice

“Any good manager has an intuitive sense of what matters. We incorporate those intuitions into the quantitative analysis and the visualization.”

Lessen IR’s Workload

“This is a tool for decreasing the workload on IR and the college-level analysts, so they don’t have to go back and forth with managers.”

Empower Program-Level Managers

“We put the work into designing the tool and then let managers answer their own questions.”

Source: Education Advisory Board interviews and analysis.
Equations Don’t Make Decisions, People Do
The Limits of Data-Driven Decision-Making

Using Multiple Metrics
“You need to emphasize clearly and repeatedly that this is just one metric. We won’t make any allocation decisions based on a single metric. People are afraid of being judged by a single number. Then they push back on the fairness of the weightings.”

Matt Cooper, Analyst
University of North Texas

Using Data to Inform
“Many managers have a keen intuitive sense of what works and what doesn’t, what’s important and what’s not. Credible resource allocation decisions must incorporate this intuition alongside quantitative evidence to create a holistic picture of a unit and how it supports the institution’s broad goals.”

Matt Cooper, Analyst
University of North Texas

Source: Education Advisory Board interviews and analysis.
# Creating a Comprehensive Set of Benchmarks

**Covering All Major Variables Across 9,000 Doctoral Programs**

<table>
<thead>
<tr>
<th>Broad Coverage of Metrics and Programs</th>
<th>31 Variables in 6 Areas</th>
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<tr>
<td><strong>Disciplines</strong></td>
<td><strong>Journal Articles</strong></td>
</tr>
<tr>
<td>171</td>
<td>• Publications per author</td>
</tr>
<tr>
<td></td>
<td>• Publication weight</td>
</tr>
<tr>
<td><strong>Institutions</strong></td>
<td><strong>Citations</strong></td>
</tr>
<tr>
<td>383</td>
<td>• Total citations</td>
</tr>
<tr>
<td></td>
<td>• Number of faculty cited</td>
</tr>
<tr>
<td><strong>PhD Programs and Departments</strong></td>
<td><strong>Grants</strong></td>
</tr>
<tr>
<td>9,000</td>
<td>• Percentage of faculty with grants</td>
</tr>
<tr>
<td></td>
<td>• Total grant dollars</td>
</tr>
<tr>
<td><strong>Faculty</strong></td>
<td><strong>Books</strong></td>
</tr>
<tr>
<td>280,000</td>
<td>• Number of books per faculty</td>
</tr>
<tr>
<td></td>
<td>• Ranking for number of books</td>
</tr>
</tbody>
</table>

**Limitations**

- Only covers faculty in doctoral programs
- No data on Co-PI’s or subawards
- Data lags by approximately two years
- Currently tracks only scholarly productivity, not graduate education or teaching productivity

Source: Education Advisory Board interviews and analysis.
Overcoming the Unicorn Objection
Customizing Benchmarks to Account for Real Disciplinary Differences

<table>
<thead>
<tr>
<th>Faculty Complaint</th>
<th>Academic Analytics Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>“You’re not counting what’s important.”</td>
<td>Broad range of research productivity metrics</td>
</tr>
<tr>
<td>“Those factors don’t matter in my discipline.”</td>
<td>Programs can set weights for each metric</td>
</tr>
<tr>
<td>“Other programs look better because they’re bigger.”</td>
<td>All metrics are on a per-faculty basis</td>
</tr>
<tr>
<td>“Those aren’t my peers.”</td>
<td>Programs pick peers from over 9,000 Ph.D. programs at 383 institutions—or use peer-picking tool</td>
</tr>
<tr>
<td>“No other program looks like me.”</td>
<td>Data categorized at the individual faculty level—can be cut in different ways</td>
</tr>
<tr>
<td>“Rankings are uni-dimensional.”</td>
<td>Focus on comparisons across multiple factors, not a single ranking</td>
</tr>
<tr>
<td>“It’s not fair to compare me to other disciplines.”</td>
<td>Overall productivity index presented as standard deviations from the national mean in each discipline</td>
</tr>
</tbody>
</table>

Source: Education Advisory Board interviews and analysis.
Identifying Program Strengths and Weaknesses

Faculty Productivity Radar

*Anthropological Sciences—Stony Brook*

- Grants
- Total Number of Grants
- Dollars per Grant
- Books
- Articles
- Awards
- Citations

Source: Academic Analytics; Education Advisory Board interviews and analysis.
Using Data to Diagnose Underperformance

Peer Benchmarks Identify Performance Improvement Opportunities

Biology Department

- Grants and publications lower than peer departments
- Strong success with small NSF grants, but less with larger NIH and NSF Center grants
- Hire faculty who can win NIH grants; increase postdocs to boost publications

Political Science Department

- Strong publication rate, but low citation rate
- Faculty evaluations focus on numbers of publications, not necessarily on publication impact
- Change promotion and tenure criteria to include journal impact factor

Source: Education Advisory Board interviews and analysis.
Measuring Performance Against Priorities

Results

- Each program has metrics that link directly to the strategic plan
- Each program has a defined institutional role with performance metrics appropriate to that goal
- Each program has identified relevant peer programs
Revitalizing the Program Portfolio

Elevating Academic Program Performance and Strategic Alignment

Roadmap to Our Discussion

1. Securing Faculty Trust in Metrics
2. Measuring Performance Against Priorities
3. Setting New Program Viability Hurdles
4. Improving Signature Programs
5. Maximizing Resource Flexibility

- Provide decision-support tools to help faculty model often-overlooked costs
- Match sophistication of demand estimates to type of program
- Adjust program proposals to reach breakeven in 5 years
- Create program launch logistics checklist
- Create staged market testing for professional and online programs
Assessing New Program Viability
The Necessity of Getting New Programs Right

Typical Approach
- Faculty propose new programs
- Check for minimum quality
- Approve most proposals

- Unchecked programs proliferate
- Many programs fail to break even
- Increasing draw on institutional resources

New Approach
- Faculty propose new programs
- Examine income and expenses with specialists
- Improve proposals
- Approve same percentage or more

- New programs at break-even or better
- Higher quality proposals lead to higher quality programs

Source: Education Advisory Board interviews and analysis
Recipe for a Failed Program Launch

*Faculty Are Curricular Experts, Not Program Design Experts*

**Underestimate Costs**
- Ignore library and IT costs
- Exclude support staff costs
- Ignore annual salary and benefits cost increases
- Use inaccurate discount rates
- Fail to understand the importance of the timing of expenses

**Ignore Capacity Constraints**
- Fail to factor in new program’s impact on existing programs, esp. general education courses
- Unaware of capacity step functions—when a new section will be necessary

**Overestimate Demand**
- Lack experience in estimating program demand
- Estimate using headcounts, not student credit hours
- Fail to differentiate the needs of full-time vs. part-time students
- Ignore impact of retention rates

Source: Education Advisory Board interviews and analysis.
Building a Business Plan
Factoring in All Determinants of Profitability

Designated Inputs Provided by Content Experts

Automated Cost/Income Calculator

Objective Determination of Financial Viability

Enrollment Projections
- Enrollment Manager
- Faculty Member
- Librarian & IT Director

Curriculum
- Tuition and fees
- Discount rate
- Tuition increases
- Retention rate

Revenue
- Full-Time CH
- Part-Time CH

Instructional Costs
- Number of Credits
- Cost per CH
  - Instructor Type
  - Department
  - Capacity Breakpoints

Other Costs
- Timing of Expenses
  - Program director
  - Software costs
  - Library resources

Contribution Margin

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Source: Education Advisory Board interviews and analysis.
Getting to Yes
Helping Faculty Design More Viable Programs

Original Proposal
- Reduce the number of program credits

Add software costs

Delay hiring of Program Director

Shift balance between FT and PT students

Break-even

Approved Program

Program Contribution Margin

Source: Education Advisory Board interviews and analysis.
If We Build It, Will They Come?

Estimating Demand for New Academic Programs

“Gut” Doesn’t Cut It

“We need more than an internal hunch. Our people may know the regional market, and their hunches are a good place to start, but we need to validate them.”

Associate VP for Academic Affairs
Private Master’s University

Student Demand
- Number of degrees granted annually (IPEDS)
- Student expressions of interest (ACT/ SAT, custom surveys, focus groups)
- Student demographics (Census, College Board, GMAC)

Employer Demand
- Number of jobs (EMSI, BLS, Monster, NACE)
- Occupational projections (BLS, employer surveys)
- Number of businesses (Nielsen Claritas, Dunn & Bradstreet)
- Job qualifications (industry associations, licensing bodies, employer surveys)

Competition
- Recently launched programs (accreditors)
- Market share by institution (IPEDS)
- Number of programs vs. job openings in region
- Cross-application rates (ETS, GMAC)

Source: Education Advisory Board interviews and analysis.
Wanted: Richer Employer-Side Market Intelligence

Conventional Market Research Ill-Suited to Discover Breakthrough Opportunities

Typical Program Market Research

**Student Surveys**
- ✔ Schedule and delivery preference
- ✗ True labor market demand

**Employer Advisory Boards**
- ✔ Local employer perspectives
- ✗ Thought leadership and national perspectives

**Bureau of Labor Statistics**
- ✔ It’s free?
- ✗ Data too old

Wishing for Better Answers

**Will Employers Hire Our Students?**
“Surveys show what students will take, but not what companies will hire”

**Where Will a Field Be in Five Years?**
“Program advisors know what’s going on in their world, but not across the world”

**What New Professions and Credentials are Coming?**
“Government statistics show where the puck is, not where it’s going”

Source: Education Advisory Board interviews and analysis.
Triangulating Employer Demand
Combining Strategic Industry Research with Real-Time Job Posting Analysis

AI Meets HR

• Leading developer of technology for career-planning, labor market analytics, and workforce development

• Clients include government agencies, private companies, institutions of higher education

• “Spidering” technology aggregates online job postings in the U.S., Canada, and U.K. to build industry’s most complete jobs database
  — Major Job Boards
  — National and Local Employer Websites
  — Craigslist

Unprecedented Granularity, Real-Time Data

What Fields Are in Highest Demand?

What Specialized and General Skills Are the Most Valued?

Which Emerging Fields Are Candidates for Tailored Programs?

What Geographies Have the Hottest Markets?

Source: Education Advisory Board interviews and analysis.
What Fields Are in Highest Demand?

*Health Informatics Listings by Job Type, H1 2011*

**Capturing Data**
- Health Information Clerks: 31%
- Medical Coders: 8%
- Compliance and Review: 5%
- Records Supervisors: 8%

**Improving Clinical Quality**
- Health Information Technicians: 25%
- Health Information Managers: 7%
- Clinical Application Developers: 3%
- Clinical Improvement Analysts: 13%

**Fastest-growing subfields; opportunity for sustainable programs**

Source: Burning Glass
### Top MSAs for Health Informatics Job Postings

<table>
<thead>
<tr>
<th>City</th>
<th>Job Postings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minneapolis, MN</td>
<td></td>
</tr>
<tr>
<td>Cleveland, OH</td>
<td></td>
</tr>
<tr>
<td>Philadelphia, PA</td>
<td></td>
</tr>
<tr>
<td>Atlanta, GA</td>
<td>1,765</td>
</tr>
<tr>
<td>Phoenix, AZ</td>
<td>1,467</td>
</tr>
<tr>
<td>Los Angeles, CA</td>
<td>1,147</td>
</tr>
<tr>
<td>Dallas, TX</td>
<td>1,010</td>
</tr>
<tr>
<td>Chicago, IL</td>
<td>963</td>
</tr>
<tr>
<td>New York, NY</td>
<td>947</td>
</tr>
<tr>
<td>Nashville, TN</td>
<td>944</td>
</tr>
<tr>
<td>Seattle, WA</td>
<td>868</td>
</tr>
<tr>
<td>Sacramento, CA</td>
<td>835</td>
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<tr>
<td>Boston, MA</td>
<td>768</td>
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<tr>
<td>Baltimore, MD</td>
<td>746</td>
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<tr>
<td>San Antonio, TX</td>
<td>721</td>
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<tr>
<td>Saint Louis, MO</td>
<td>699</td>
</tr>
<tr>
<td>Houston, TX</td>
<td>674</td>
</tr>
<tr>
<td>Denver, CO</td>
<td>667</td>
</tr>
<tr>
<td>Indianapolis, IN</td>
<td>619</td>
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<tr>
<td>Charlotte, NC</td>
<td>590</td>
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<tr>
<td>San Francisco, CA</td>
<td>583</td>
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<tr>
<td>Philadelphia, PA</td>
<td>519</td>
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<tr>
<td>Cleveland, OH</td>
<td>498</td>
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<tr>
<td>Minneapolis, MN</td>
<td>492</td>
</tr>
</tbody>
</table>

### Markets Finding Their Own Equilibrium

<table>
<thead>
<tr>
<th>City</th>
<th>Masters +</th>
<th>BSN</th>
<th>Associates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charlotte</td>
<td>13.5%</td>
<td>52.9%</td>
<td>33.6%</td>
</tr>
<tr>
<td>Boston</td>
<td>11.3%</td>
<td>74.6%</td>
<td>14.1%</td>
</tr>
<tr>
<td>Chicago</td>
<td>10.6%</td>
<td>48.7%</td>
<td>40.8%</td>
</tr>
<tr>
<td>Seattle</td>
<td>9.9%</td>
<td>72.2%</td>
<td>17.9%</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>5.7%</td>
<td>71.2%</td>
<td>23.1%</td>
</tr>
<tr>
<td>Atlanta</td>
<td>3.7%</td>
<td>59.4%</td>
<td>36.9%</td>
</tr>
<tr>
<td>Amarillo</td>
<td>3.3%</td>
<td>27.9%</td>
<td>68.9%</td>
</tr>
</tbody>
</table>

Source: Burning Glass; Education Advisory Board interviews and analysis.
Getting New Programs Off the Ground

Reducing the Risk of Roadblocks

Staged Program Launch

Key Ingredients:

- Leverage existing resources as much as possible
- Test demand at each stage before further investment
- Change program features in response to student/employer suggestions
- Stop program development before major investments if problems appear

Revenue and Impact on Institutional Mission

Risk and Cost to Launch

1. New course
2. Cluster of new courses within existing program
3. New certificate
4. New degree program

Source: Education Advisory Board interviews and analysis.
Setting New Program Viability Hurdles

Results

- New program proposals include full projected costs
- More proposals meet breakeven targets
- Demand estimates are evidence based
- All critical parties are aware of implementation needs
- New programs launched with less risk
Revitalizing the Program Portfolio

Elevating Academic Program Performance and Strategic Alignment

Roadmap to Our Discussion

1. Securing Faculty Trust in Metrics

2. Measuring Performance Against Priorities

3. Setting New Program Viability Hurdles

4. Improving Signature Programs

5. Maximizing Resource Flexibility

- Shift resources from five-year reviews to ad hoc opportunity analysis
- Concurrently review related programs to surface collaborative opportunities
- Agree upfront on narrowly defined scope for review
- Empower university-wide faculty committee to synthesize findings across reviews and launch new studies
- Engage trustees for “real-world” perspective and fundraising advice
Differentiating a Liberal Arts College

*Building Programs with National Reputation*

**Dual Imperatives**

- **Grow Enrollment**
  - Hard to do both simultaneously at a regional private liberal arts college
- **Increase Quality**
  - Competition for students is increasingly national, but reputation is largely regional

---

**Strategic Plan**

**Strategy One**: To distinguish the College through academic programs designed to expand our academic reputation.

**Objective One**: Identify and enhance at least one credit-bearing program per year that will improve student enrollment and support the mission of the college.

**Goal 1**: Identify the programs, at least one by May 2011

**Goal 2**: Enhance the academic quality of the selected program(s)

**Goal 3**: Enhance academic and other support for the selected program(s)

**Goal 4**: Expand our reputation for academic quality throughout the curriculum
Profiled Institution: Rockford College

Location: Rockford, IL
Enrollment: 942 / 467
T/TT Faculty: 43 / 17
Programs: 35 / 2 / 0
Looking for Volunteers

Identifying Programs with the Potential (and the Desire) to Become Growth Leaders

Selection Criteria for Growth Leaders

- Support of the college’s mission and vision
- Evidence of potential for enrollment growth/sources of new students.
- Track record of recent program growth in new or retained students.
- Evidence of the program’s success academically or in placement of students
- Potential to involve other parts of the curriculum and faculty in the program
- Evidence of planning for future needs to support growth and quality
- Potential for fund-raising, through either grants or gifts
- Five year plan that indicates interdependencies with other programs
- Most critical (and often overlooked)—program faculty’s desire to grow

Source: Education Advisory Board interviews and analysis.
Investing in Targeted Excellence
Strategic Investments in Niche Areas Yield Desired Enrollment Boosts

Early Results from the First Two Growth Leaders

Performing Arts
- New equipment
- Targeted recruiting at regional and national career fairs
- Significant increase in number of majors

Nursing
- New technology investment
- Additional faculty lines
- Enrollment doubles in two years

• Strategic investments range from $5,000 to $250,000
• Other selected areas include Psychology and Math/Science

Source: Education Advisory Board interviews and analysis.
Identifying Strategic Opportunities
Reviewing Related Programs Together

The Typical Approach
Determined by the Calendar

2012
Nutrition
History
American Studies
Media Studies
Physics
Math

2013
Japanese
Dietetics
Mechanical Engineering
Classics
English
Accounting

2014
Marine Sciences
Landscape Architecture
Nursing
Human Development
Visual Arts
Chinese

2015
Education
Philosophy
Biochemistry
Systems Engineering
Urban Planning
Geography

The Strategic Approach
Cluster Related Programs

Nutrition Science Cluster
- Nutrition
- Dietetics
- Human Development
- Education
- Biochemistry

The Benefits
Identify Joint Opportunities

- Hire joint faculty
- Share equipment
- Share lab space
- Launch new interdisciplinary programs
- Consolidate programs
- Differentiate programs

Note: Hypothetical example
Source: Education Advisory Board interviews and analysis.
Profiled Institution: Rutgers University

Location: New Brunswick, NJ
Enrollment: 30,351 / 8,561
T/TT Faculty: 1,187 / 311
Programs: 121 / 180 (M + Ph.D.)
Research: $319.2M
The Power of Numbers

*Independent Requests Lack the Strength of a Unified Request*¹

---

Applied and Professional Psychology
Request for $1M MRI machine

Educational Psychology
Request for $1M MRI machine

Psychology
Request for $1M MRI machine

Joint Request
Same $1M MRI machine

---

¹ Hypothetical example

Source: Education Advisory Board interviews and analysis.
## Triggered Reviews

*A Shift from Passive to Proactive Program Reviews*

<table>
<thead>
<tr>
<th>Committee on Academic Planning and Review</th>
<th>Provost / President</th>
<th>Dean / Department Chair</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Before</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passively received program reviews and transmitted to provost</td>
<td>Overwhelmed by an endless parade of resource requests from individual programs</td>
<td>Saw reviews as a bureaucratic hassle that rarely led to additional resources</td>
</tr>
<tr>
<td><strong>Now</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proactively request reviews and launch more detailed studies</td>
<td>Works with Committee and Deans to focus review on institutional priorities</td>
<td>See clustered reviews as an opportunity to make the case for strategic investment</td>
</tr>
</tbody>
</table>

**Key Questions**
- Which programs are on track to achieve excellence?
- How can we go after large interdisciplinary opportunities?
- How can I make the most effective use of limited resources?

Source: Education Advisory Board interviews and analysis.
The Benefits of Cluster Reviews

“The five-year cycle of program reviews created an avalanche of reviews, many of which resulted in unfulfilled resource requests. The cluster reviews promote strategic thinking about how a new initiative could fit into the overall mission of the university.”

Rob Heffernan,
Director of Institutional Research and Planning
Rutgers University

Source: Education Advisory Board interviews and analysis.
Choosing to Be Great
Raising Aspirations at Boston University

New President
2005
Bob Brown
(Formerly at MIT)

New Provost
2011
Jean Morrison
(Formerly at USC)

A New Strategic Plan
“Choosing to Be Great”

• 10-year plan, $1.8B cost
• 100 new tenure-track faculty in the College of Arts and Sciences
• “We must make selective investments that will give us the biggest impact and which will do the most to improve the University’s overall standing in the years to come.”

Profiled Institution: Boston University

Location: Boston, MA
Enrollment: 18,568 / 13,897
T/TT Faculty: 664 / 222
Programs: 141 / 43 / 33
Research: $200.8M
Learning from Experience

Adopting Review Strategies from MIT and USC to Fit the Culture and Needs of BU

USC: Program Review MOUs
- All program reviews begin with an explicit agreement (MOU) on the goals and scope between the Dept. Chair, Dean, and Provost
- Focuses the review on key strategic issues
- Self-study addresses MOU questions
- External reviewers receive MOU charge

BU: Agreement on Scope of Review
- Focuses the reviewers’ attention on the critical challenges facing the unit
- Guides the selection of appropriate external reviewers
- Helps to ensure that review provides useful information at the levels of the department, dean, and provost

MIT: Visiting Committee Includes Trustees
- MIT Corporation members participate in program reviews
- Industry leaders valued for their deep knowledge of trends in technology, business, and workforce development

BU: Overseers Join Review Committees
- No disciplinary knowledge—value is in their outsider perspective and commitment to BU
- Industry connection not necessary
- Just finished first round; still in the experimental stage

Source: Education Advisory Board interviews and analysis.
A Balanced Review Committee

Introducing an Institutional Advocate to Program Reviews

External
Disciplinary Experts
(Faculty from Peer/Aspirant Departments)

Internal
Expert
(Faculty Member from Related Discipline)

Non-Disciplinary Member
(Institutional Supporter)

How does this program compare to other leaders in the discipline?

How does this program relate to other initiatives at the university?

Are graduates of this program well-prepared for jobs?

Source: Education Advisory Board interviews and analysis.
The Benefits of Including Outsiders

“We don’t expect the overseers to bring subject-matter expertise. Their distance from the field provides them with an interesting viewpoint and affords them relative freedom to pursue alternate lines of inquiry. They’re not so deeply embedded, so they can ask the obvious but critical questions.

This is a great way to engage the University’s board leadership in the academic mission, but even more importantly, it gives them a real feeling of confidence in the institution’s leadership around accountability and transparency.”

Nicole Hawkes
Associate Provost for Strategic Initiatives
Boston University
Improving Signature Programs

Results

- Program reviews focus on narrowly defined opportunity assessment rather than basic compliance

- Opportunities assessed stretch across multiple related programs

- While disciplinary experts play a crucial role, they do not define the terms of the review

- Reviewers from outside the discipline ensure that the review committee considers the program’s broader implications and opportunities
Revitalizing the Program Portfolio

Elevating Academic Program Performance and Strategic Alignment

Roadmap to Our Discussion

1. Securing Faculty Trust in Metrics
2. Measuring Performance Against Priorities
3. Setting New Program Viability Hurdles
4. Improving Signature Programs
5. Maximizing Resource Flexibility

- Award seed funding and new faculty lines to programs that support institutional priorities
- Require departments to reallocate 3-5% of operating budget to institutional priorities
- Recapture all open faculty lines and reallocate based on strategic goals
- Consolidate departments into divisions to facilitate flexible hiring
An Entitlement Mentality
Few Flexible Funds to Dedicate to Strategic Investments

The Federal Government’s “Entitlement Crisis”

Federal Spending, FY 2011

- Non-Discretionary Spending and Defense (82%)
- Non-Defense Discretionary Spending (18%)

Higher Ed’s Strategic Squeeze

Percentage of Operating Budget Dedicated to Strategic Initiatives

- 38%
- 13%
- 8%
- 7%
- 11%
- Do not track

Half of surveyed institutions dedicate less than 3% of operating budget to strategic initiatives

1 Education Advisory Board survey of university and college chief business officers, conducted in early 2012.

A University’s Most Valuable Resource: Faculty Lines

Hiring for Institutional Rather than Departmental Needs

A Menu of Options, from Simple to “Nuclear”

**Implementation Difficulty/Institutional Disruption**

**Potential Institutional Return**

- **EASIER**
  - Centralize allocation of new faculty lines
  - Encourage joint appointments

- **HARDER**
  - Accelerate opening of lines by early retirement
  - Close units and reassign or lay off faculty
  - Consolidate units to enable reallocation within the broader unit
  - Open lines revert back to provost—by fiat, due to hiring freeze, or in exchange for loan to deans

Source: Education Advisory Board interviews and analysis.
Centrifugal Forces
How Can a Small College Meet Expanding Needs in Teaching and Research?

- New teaching needs
- Increased service demands
- Growing enrollment
- Growing demands, fixed faculty
- Heightened research expectations
- New fields of inquiry
- Growing interdisciplinary opportunities

Faculty capped at 165 FTEs since 1987

Toward Amherst’s Third Century: Report to the Faculty of the Committee on Academic Priorities (January 2006)

- "We must find new ways to innovate without incurring unsustainable costs."
- Historically, innovation has come "largely through academic departments' exclusive attention to their own needs."
- "Amherst can expand our range of ideas by integrating and coordinating, not merely adding new specializations..."

Source: https://www.amherst.edu/media/view/68403/original/CAP_report_Jan06.pdf; Education Advisory Board interviews and analysis.
Profiled Institution: Amherst College

Location: Amherst, MA
Enrollment: 1,795 / 0
T/TT Faculty: 116 / 37
Programs: 36 / 0 / 0
Research: $2.8M
Aligning Interests
Allocating New Faculty Lines to Support Institutional Goals

Amherst Uses Authority over New Faculty Lines to Advance College’s Strategic Plan...

...Fostering Innovative Program-Level Proposals That Align with Institutional Objectives

Selected Institutional Objectives

- New Interdisciplinary Ventures
- Global or Transnational Studies
- Intensive Writing Courses
- Quantitative Literacy

Sample Proposal for a New Faculty Lines

<table>
<thead>
<tr>
<th>Department Receives</th>
<th>Department Allocates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 FTE in Music</td>
<td>.25 for global studies</td>
</tr>
<tr>
<td>(Jazz and Popular Music)</td>
<td>.25 for intensive writing</td>
</tr>
<tr>
<td></td>
<td>.25 for interdisciplinary courses with Black Studies</td>
</tr>
<tr>
<td></td>
<td>.25 to existing needs</td>
</tr>
</tbody>
</table>

Source: Education Advisory Board interviews and analysis; https://www.amherst.edu/media/view/68403/original/CAP_report_Jan06.pdf.

Targeting Our Growth

“The [Committee on Academic Priorities] therefore recommends that growth in the faculty occur primarily, though not exclusively, in response to college-wide needs and that departments receive added staffing in return for the commitment to provide courses that meet these needs.”

Toward Amherst’s Third Century
Committee on Academic Priorities
A New Leader, a New Plan
Rensselaer Sets Bold Goals

Shirley Ann Jackson
Appointed President 1999

THE RENSSLEAER PLAN
APPROVED BY TRUSTEES IN 2000

• Expand research funding from $40M to $100M
• Double the number of doctorates, from 125 to 250
• Grow the endowment to support 20% of the budget (now 10%)
• Build new strengths in biotechnology and information technology

Source: http://www.rpi.edu/president/plan/index.html;
Education Advisory Board interviews and analysis.
Profiled Institution:
Rensselaer Polytechnic Institute

Location: Troy, NY
Enrollment: 5,348 / 1,243
T/TT Faculty: 240 / 88
Programs: 37 / 38 / 27
Research: $105.2M
A Mechanism for Accelerating Change
Reallocating Resources to Support Strategic Goals

The Rensselaer Plan has substantial implications for financial resources...

We will:

• Derive Performance Plans and then annual operating plans (budgets) from The Rensselaer Plan.

• Refine or reinvent the budgetary model to focus resources for maximum strategic impact, while maintaining appropriate institutional flexibility.

• Provide managers at every level with accurate, timely, and relevant performance and management information.

Mandate Unit-Level Reallocation to Strategic Priorities
All units required to reallocate 3% of budget to strategic priorities annually

Centralize Staffing Decisions
All open faculty and staff positions revert to the provost

Leverage Program-Level Data To Determine Resource Needs
Positions allocated based on strategic priorities and data on the resource needs of individual programs

Source: http://www.rpi.edu/president/plan/index.html; Education Advisory Board interviews and analysis.
Growing Strategically

Two Separate Allocation Pathways Guide Faculty-Line Decisions

Open Faculty (and Staff) Lines
Revert to Provost (and CFO)

Provost Reallocation Faculty Lines to Programs That Meet One of Two Criteria

1. Program Meets Key Performance Threshold
   - Metrics examined include student demand, research volume, and advising load
   - Committee of deans define key concepts like faculty workload

2. Program Aligns with Strategic Growth Area
   - Strategic priorities for the coming year, and three- to five-year horizon
   - Deans included in discussion
   - External environment examined to identify relevant trends and opportunities

~$5M of faculty and staff turnover every year (about 5 percent of operating budget)

Source: Education Advisory Board interviews and analysis.
**Faculty Activity Dashboard**

*Schoolwide View of Teaching Loads and Research Expenditures*

**Faculty Activity Dashboard**

*Number of Faculty by Research Expenditures and Number of Courses Taught*

<table>
<thead>
<tr>
<th>Expenditures</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>10</th>
<th>TOTAL</th>
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<tr>
<td>$0</td>
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<td>0</td>
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<td>1</td>
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<tr>
<td>$100-$200K</td>
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<td>20</td>
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<td>0</td>
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<td>0</td>
</tr>
<tr>
<td>$200-$300K</td>
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<td>0</td>
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<td>0</td>
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<td>0</td>
</tr>
<tr>
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<tr>
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<tr>
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<td>246</td>
<td>150</td>
<td>28</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>558</td>
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</table>

Includes administrators with faculty status (such as the president), plus all academic deans, chairs, and faculty on leave and on sabbatical

There are 20 faculty with research expenditures between $100k and $200k who taught 2 courses in Fall 2010

Source: Education Advisory Board interviews and analysis.
**Faculty Activity Dashboard (cont’d)**

*Faculty Data Drill Down to School and Department Level*

**Faculty Activity Dashboard**

*Number of Faculty by Research Expenditures and Number of Courses Taught*

<table>
<thead>
<tr>
<th>Expenditures</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>TOTAL</th>
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</thead>
<tbody>
<tr>
<td>$0</td>
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</tr>
<tr>
<td>$1-$100K</td>
<td>3</td>
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<td>1</td>
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<td>$300-$400K</td>
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<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>&gt; $400K</td>
<td>1</td>
<td>3</td>
<td>0</td>
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<td>4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>5</td>
<td>12</td>
<td>3</td>
<td>1</td>
<td>21</td>
</tr>
</tbody>
</table>

There are 2 tenure & tenure-track faculty in computer science with research expenditures between $100k and $200k who taught 1 course in Fall 2010.

Source: Education Advisory Board interviews and analysis.
Measuring Progress Against Plan

*Significant Progress 12 Years into the Plan*

Process Not without Some Controversy...

- **Faculty Hold No-Confidence Vote Against President**
  - 2006

- **President Suspends Faculty Senate**
  - 2007

- **AAUP Sanctions RPI**
  - 2011

...But an Impressive Record of Accomplishment That’s Hard to Ignore

- Secured a $360 million unrestricted gift to the university and completed the $1.4 billion campaign
- Invested approximately $700 million in new and renovated facilities for research, teaching, and student life
- Curtis R. Priem Experimental Media and Performing Arts Center (2008)
- Computational Center for Nanotechnology Innovations, a $100 million partnership involving Rensselaer, IBM, and New York state
- Center for Biotechnology and Interdisciplinary Studies (2004)

Source: http://rpi.edu/president/accomplishments.html; Education Advisory Board interviews and analysis.
The True Measure of Productivity
Growing Research Output While Holding the Size of the Faculty Level

Number of Faculty vs. Research Expenditures

- **Academic R&D Expenditures**
  - 2002: $45,955
  - 2003: $50,777
  - 2004: $56,907
  - 2005: $65,571
  - 2006: $70,576
  - 2007: $77,238
  - 2008: $77,295
  - 2009: $77,890

- **T/TT Faculty**
  - 2002: 358
  - 2003: 370
  - 2004: 374
  - 2005: 369
  - 2006: 368
  - 2007: 365
  - 2008: 368
  - 2009: 356

Source: NSF WebCASPAR; Education Advisory Board interviews and analysis.
Excellence, Efficiency, and Accountability
Three Reasons to Improve Resource Allocation

Aspiring to Excellence
Goal: Become a Top 10 Land Grant University
Strategic Plan Identifies Three Signature Areas for Research
- Advancing the Science of Sustainable Earth Ecosystems
- Improving Human Health and Wellness
- Promoting Economic Growth and Social Progress

Facing Constrained Resources
Proposed Cuts in State Appropriations up to 30%
Strategic Alignment and Budget Reduction Review
- Explored scenarios from closing programs to reduce administration
- Set university guidelines for unit size, class size, and program graduation expectations at all levels

Responding to State Needs
Oregon Introduces 40/40/20 Completion Goals
Oregon Education Achievement Compact
- Mandated completion goals
- Emphasis on learning outcomes assessment

Strategic Hiring
Program Consolidation
Annual Program Assessment

Source: Education Advisory Board interviews and analysis.
Profiled Institution: Oregon State University

Location: Corvallis, OR

Enrollment: 19,575 / 4,193

T/TT Faculty: 565 / 227

Programs: 86 / 76 / 51

Research: $207.1M
More Than the Sum of Its Parts

The Benefits of Academic Consolidation

Source: Education Advisory Board interviews and analysis.

Advantages

- Aligns with strategic plan: “Promoting economic growth and social progress”
- All three disciplines support the largest master’s program in public policy in Oregon
- Launching a new Ph.D. program in public policy
- Replaces three department chairs with one School Director
- Meets student concerns about siloed courses; advancing interest in interdisciplinary programs
- Individual undergraduate majors remain
- Improved ability to hire top scholars

Sociology
(13 Faculty)

Political Science
(10 Faculty)

Economics
(11 Faculty)

New School of Public Policy
(34 Faculty + 4 New Hires)
Bigger Is Better

“We asked our colleges if they could align the different departments in ways that could help them reach a critical mass that advances something they could not do as small units... When they recruited faculty for the new program ... they found that they were recruiting the top faculty in all three disciplines. The strategy attracted many Ph.D. graduates coming out of elite institutions because they noticed that the university was being innovative in how it developed its programs...You are not joining a department within a university as a sole individual, you're joining as part of a cohort.”

Becky Warner
Senior Vice Provost for Academic Affairs
Oregon State University
Matching Our Mission

Requests for New Faculty Positions Judged by Alignment with Strategic Criteria

Provost’s Rubric for Faculty Investments

- Advances one or more of the three signature areas of excellence: Advancing the Science of Sustainable Earth Ecosystems, Improving Human Health and Wellness, and Promoting Economic Growth and Social Progress

- Is collaborative and integrative involving multiple colleges within a division or across divisions

- Enables the University’s ability to successfully compete for large center-level federal grants and build collaborations with industry and business

- Enables the University to deliver effectively its educational mission, including making substantial progress in its student retention and success goals

- Leverages existing resources demonstrating a high level of commitment from divisions, colleges, and units (e.g. cost share on start-up funds, redirecting existing available lines to complement requests)

- Strengthens and reinforces recent directional and realignment changes and initiatives in colleges and programs

- Advances University’s goal to enhance and promote faculty diversity

Reorganizing for Success
Generating Flexibility by Abandoning Departmental Silos

Old Departmental Structure

- Dept of Biology
- Dept of Plant Biology
- Dept of Microbiology
- Dept of Molecular and Cell Biology

New Faculty Structure

- Cellular and Molecular Biosciences
- Evolution, Ecology, and Environmental Science
- Biomedicine and Biotechnology
- Genomics, Evolution, and Bioinformatics
- Organismal, Integrative, and Systems Biology
- Human Dimensions of Biology
- School of Life Sciences

- All faculty belong to a primary and secondary faculty
- Faculties are evaluated for viability every year
- Headed by a Director with responsibility for faculty hiring, evaluation and work assignment
- Reduced staff duplication

- Separate doctoral programs
- Separate undergraduate programs
- Duplicated courses
- Separate department chairs
- Separate administrative staff

Source: Elizabeth Capaldi, “Intellectual Transformation and Budgetary Savings Through Academic Reorganization,” Change Magazine (July/August 2009)
Profiled Institution: Arizona State University

Location: Tempe, AZ
Enrollment: 56,562 / 13,878
T/TT Faculty: 1,268 / 456
Programs: 310 / 48 / 19
Research: $ 222.8M
The Benefits of Flexibility

Changing the traditional departmental structure to an organizational model focused on individual faculty grouped into easily modified clusters that match academic and intellectual interests will facilitate education and research and, at the same time, save a lot of money.

Elizabeth Capaldi, Provost
Arizona State University

Maximizing Resource Flexibility

Results

- Departments compete for funds by contributing to strategic goals
- Open faculty lines are filled based on institutional priorities
- Up to 5% of institutional resources are reallocated from low priority activities to higher priorities every year
- Larger, multidisciplinary academic units support collaborative teaching and research, reduce administrative support needs, and attract better talent
## Revitalizing the Program Portfolio

### Elevating Academic Program Performance and Strategic Alignment

<table>
<thead>
<tr>
<th>Securing Faculty Trust in Metrics</th>
<th>Measuring Performance Against Priorities</th>
<th>Setting New Program Viability Hurdles</th>
<th>Improving Signature Programs</th>
<th>Maximizing Resource Flexibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base resource allocation decisions on program-level metrics</td>
<td>Link program performance metrics to strategic plan goals</td>
<td>Provide decision-support tools to help faculty model often-overlooked costs</td>
<td>Shift resources from five-year reviews to ad hoc opportunity analysis</td>
<td>Award seed funding and new faculty lines to programs that support institutional priorities</td>
</tr>
<tr>
<td>Centralize and standardize data and reporting</td>
<td>Review performance against targets annually</td>
<td>Match sophistication of demand estimates to type of program</td>
<td>Concurrently review related programs to surface collaborative opportunities</td>
<td>Require departments to reallocate 3-5% of operating budget to institutional priorities</td>
</tr>
<tr>
<td>Invite faculty to critique data and to select metrics within a framework</td>
<td>Start by encouraging year-over-year improvement</td>
<td>Adjust program proposals to reach breakeven in 5 years</td>
<td>Agree upfront on narrowly defined scope for review</td>
<td>Recapture all open faculty lines and reallocate based on strategic goals</td>
</tr>
<tr>
<td>Limit self studies to 20 pages and focus reviews on no more than 5 critical metrics</td>
<td>Compare performance against other programs inside the university</td>
<td>Create program launch logistics checklist</td>
<td>Empower university-wide faculty committee to synthesize findings across reviews and launch new studies</td>
<td>Consolidate departments into divisions to facilitate flexible hiring</td>
</tr>
<tr>
<td>Build interactive decision support tools for deans and chairs</td>
<td>Categorize programs by their primary institutional contribution</td>
<td>Create staged market testing for professional and online programs</td>
<td>Engage trustees for “real-world” perspective and fundraising advice</td>
<td></td>
</tr>
<tr>
<td>Use external benchmarks to identify program strengths and weaknesses</td>
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</tbody>
</table>
Program Review Resource Center
Supporting Members with Practice Implementation (Fall 2012)

Financial Viability Calculator
- Cost/income calculator
- Templates for new and existing undergrad and grad programs

Metrics Compendium
- 100+ metrics
- By category
- More and less commonly used

Program Review Templates
- Examples of different formats
- Rubrics for evaluating programs

Review Process Roadmaps
- Sample timelines
- Stakeholder responsibilities