User-Friendly Data-Driven Strategic Planning

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UMass Amherst Profile

- Flagship of the UMass System
- Only public Carnegie highest research university in MA
- Sponsored research expenditures around $220M
- Enrollment: 32,000+ in Fall 2022
- 24,391 undergraduates, 7,838 graduate students
- Entering class of 5,550+
- 9 Schools and colleges + Graduate School and Commonwealth Honors College
- Over 50 academic departments, over 100 undergraduate majors
Introduction to Strategic Planning

- Strategic plans are a fact of life in higher education.
- Board of Trustees expect them.
- Accreditors require them.
Strategic Planning

Strategic planning is hard!

• Requires taking a step back, think about where we are and where we want to be

Why do plans fail?

• Devised by a few individuals, without input from the campus
• Make promises that are really difficult/impossible to deliver
• Big decisions are made without connecting them to the plan

Source: https://www.chronicle.com/article/the-truth-about-strategic-plans
Pre-2018 Accreditation / Strategic Plan

- Planning was led by an appointed committee

Campus Strategic Priorities → Unit Planning → Annual Budget Planning

- Campus priorities: Destination of Choice and Investment of Choice
- Priorities expressed as prompts for units to respond to

3. **Student Engagement.** The campus plan emphasizes active and engaged learning, and strong advising and teaching relationships demonstrated to promote student success. How well is your department incorporating these goals across its undergraduate experience?
  - *How well are you understanding and meeting students’ needs through formal advising?*
  - *How effectively are you engaging students, both in terms of majors and service instruction?*
  - *How is class size promoting or inhibiting effective student engagement, especially in the upper division?*

**What priorities do you see for improvement, and how are they reflected in your departmental plan?**
Pre-2018 Accreditation / Strategic Plan (2)

- Promote a culture of evidence → Mobilize data to support planning
- Find data that would be useful...
Pre-2018 Accreditation / Strategic Plan (3)

... and make sense of it to be able to apply it to both strategic and budget planning

Performance profile

- Reflect key priorities
- Cover a range of dimensions
- Represent multiple sources
- Use familiar metrics
- Tied to the underlying data
- Clear criteria for improvement
2018 Accreditation

• “Performance profile” has evolved, but the underlying data remain the same
• Largely serves the budget process
• Information is disjointed and in multiple locations
Strategic Planning Goals

Propel the campus on the pathway to be among the top public research universities by fulfilling the following strategic goals:

1. Establish UMass Amherst as a destination of choice where academically accomplished, socially responsible seekers of a world-class education succeed in a research-rich, inclusive learning community.

2. Establish UMass Amherst as a partner of choice in advancing and applying knowledge and innovation for the betterment of society.

3. Establish UMass Amherst as a community of choice for students, staff, and faculty that exemplifies the power of diverse perspectives and mutual respect.
Strategic Planning Goals

- Focus on key metrics, with underlying data available

**GOAL 1 METRICS**

- 1-Year Retention: 91%
- 4-Year Graduation: 76%
- 6-Year Graduation: 84%

**GOAL 2 METRICS**

- R&D Total: $219M
- Patent Applications: 25
- Doctoral Degrees: 319

**GOAL 3 METRICS**

- Undergraduate Female: 51.2%
- Undergraduate URM: 17.9%
- Undergraduate Intl: 20.3%
- Graduate Female: 52.1%
- Graduate URM: 17.9%
- Faculty Female: 47.2%
- URM: 53.5%
- Staff Female: 9.6%
- Staff URM: 13.1%
Mobilize resources to achieve a sustainable financial strategy; and

Instill a culture of evidence at all levels that applies the best possible information and analysis to decisions.

- Partnership between OIR (now UAIR) and IT
- Engage with a vendor (HelioCampus)
- Provide university decision makers with an intuitive and interactive analytics solution that centralizes and connects key student data across the institution to provide a homogenized and comprehensive view to facilitate forecasting and enable better decision-making.
- Analytics platform launched in April 2019
Accreditation

Mid-Cycle Review

• Refresh School/College/Unit plans to align with 2018 plan:
  • Focus on leading metrics aligned with lagging metrics for campus aligned with three goals of strategic plan
    (e.g. course success is leading indicator of graduation rate)
  • Integrate with program review process
  • Capitalize on opportunities in our changed landscape
Strategic Planning Timeline

Spring 2021
Inclusive process to identify common data sets and thought prompts for the campus

- Provost and Vice Chancellors
- Deans
- CPARC, ADVANCE
- Secretary of the Faculty Senate
- GSS, SGA, RJC Leadership

1. What data do we have?
   Instead: What questions are we trying to answer?

2. Review of available data, where and how it exists, how it can be shared

3. Create prompts

4. Tying data to prompts
Strategic Planning Process

Strategic Planning Template Developed

Strategic Scan (current state)
- High-level narrative, not Q&A for prompts
- Data provided are consensus set, augmented and substituted with most relevant information

Strategic Action Plan (future goals and supporting activities)
- Realistic number of achievable and measurable goals
- Supporting activities
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July 2021
Dashboards released
Why Dashboards?

Requirement: one place for everything that is needed

- Have infrastructure (analytics platform)
- Have mechanism
  - Training already in place
  - Rules about who has access to what (data governance vetted by data stewards)
  - Ability to permission at a fine grain
- Have content
  - Rich amount of data on student enrollment and student success
  - For anything we did not have:
    - Developed new dashboards (e.g. admissions, teaching load, faculty and staff)
    - Linked to other sources (PDFs, websites, external websites)

Challenge: how do we make the tool we have do what we want it to?
Dashboard – Behind the scenes

- Wanted an image with a hover and a link
- Tableau is not designed to do this!
Dashboard – Behind the scenes (2)

1. Create your custom shapes and icons.
2. Connect to any data source
3. Create a blank calculated field
4. Bring it into your visualization
5. Hide the label
6. Assign it a custom shape
7. Adjust size of row, column and shape
8. Add tooltip
9. Add to dashboard and add actions for links

Caution!
- Custom shape folder must be same for all editors
- Every time new shape is added, the order shifts
- It’s finicky!
Strategic Planning Dashboard

Dashboard available to all faculty and staff

FERPA Certification and Training required to access most data and dashboards

Template for strategic plan

Info on training and how to get help with data.
Strategic Planning Dashboard (2)

Goal 1

Establish UMass Amherst as a destination of choice where academically accomplished education succeed in a research-rich, inclusive learning community.

1. Attract and retain outstanding students of all backgrounds
2. Support student success
3. Expand career development opportunities

Goal 1 Prompts:
How do undergraduate enrollment trends (primary and secondary majors) align with the capacity?

Hover on the thumbnails to get information about them.

Click to go to the Headcount Trends and Secondary Majors.

How to use Headcount Trends:

Click on a department or program to see data about it in the line chart above.
Strategic Planning Dashboard – Goal 1

Are students from different demographic categories succeeding?
Hover on the thumbnails to get information about the data, click to go to the Graduation and Student Movement dashboard.

Where are the barriers to undergraduate student success and timely progression to degree, including entry into and exit from the major, bottleneck courses, access to prerequisites, variation in student success in multi-section courses, section sizes?
Hover on the thumbnails to get information about the data, click to go to the Class Size, Student Movement, Course DFW rates dashboards, various survey results, and the Senior Survey dashboard.

How efficiently is your unit using its teaching capacity? What percentage of faculty have had course releases confirmed by the unit outside of sabbaticals in the past three years, and how releases aligned with goals of your educational mission? Are there chronically under-utilized courses over the past three years, and should these courses be offered at the same frequency? Are tenure opportunities to expand offerings to reflect student needs? Is the allocation of teaching across available faculty aligned with your student success goals?
Hover on the thumbnails to get information about the data, click to go to the Teaching and Class Size dashboards and planning tables about the student class size experience.
Strategic Planning Dashboard – Goal 2

How is the unit proactively promoting an equitable distribution of faculty teaching and scholarly/creative activity to support its mission? (While some metrics are provided centrally, these may not be relevant to all units. Thus, units are encouraged to use metrics/narratives, including those tracked locally, that are most relevant to the discipline.)

Have on the thumbnails to get an overview on the data, click to go to the Teaching and Productivity dashboard.

How is the unit engaging communities beyond our campus? How is the unit ensuring equitable recognition for public engagement contributions?

Goal 2B Prompts: Graduate Education

How do enrollment trends in graduate programs align with scholarly/creative activity? What adjustments should be made?

Have on the thumbnails to get information about the data, click to go to the Headcount dashboard and the Academic Analytics website.

Where are the barriers to graduate student success and timely progression to degree, including timing of milestones achievement (course completion, qualifying examination) and frequency of other activities (teaching assistantship)?

Have on the thumbnails to get information about the data, click to go to the Retention, Graduation, and Completion dashboards, UHR’s departmental profile page, and the Doctoral Student Survey results.
Strategic Planning Dashboard – Goal 3

Goal 3 Prompts
How has the unit proactively advanced diversity goals, recruitment/enrollment and retention, promotion/advancement for faculty, staff, and students? Specifically, what was done to address the above metrics in relation to racially and ethnically underrepresented groups? Women? What were the priorities? What barriers have existed, and how were they addressed?

Hover on the thumbnails to get information about the data, click to go to the Student Headcount Admissions, Retention/Graduation, various Faculty and Staff dashboards, and the results from the COACHE survey.

How has the unit proactively advanced an inclusive workplace and learning climate? What barriers have existed, and how have they been addressed?

Click on the thumbnail to see results of the Campus Climate Survey for each unit.

Campus Climate Unit Reports
Opportunities for Education…

- Reporting vs Decision making:
  - For reporting, suppress numbers (but show group names for inclusion) and/or aggregate to larger groups. This protects personal identity.
  - For decision making, complement quantitative data with qualitative data, look for corroborating evidence, and/or aggregate over short time frames.
- Small Ns:
  - Are small groups getting larger? As a proportion of total?
  - Small N-based rates can be “noisy.” Roll up multiple years for comparison.
- Group comparisons:
  - Have a goal for all groups. Do not center performance on majority group.
  - Group performance not only tells you about the people, but also about the policies, procedures, and systems in which they operate.
Reflection and improvement

- What demographics does the campus collect? What are the limitations? Where do we lack?
  - Sex
  - Race/Ethnicity
  - First generation status
  - Age
  - Socio-economic status

- Equity-Minded Sense-Making & Analysis
  - Aspire to eliminate disparities experienced by excluded, marginalized or minoritized groups
  - Identify and mitigate the impact of practices, policies, processes on excluded, marginalized, or minoritized students, faculty and staff.

DATA  ➔  WHY?

REFLECTION  ➔  ACTION
Results

• The complaints:
  o Data don’t align with prevailing narrative, therefore data are wrong
    o Don’t like the dashboards
  o Data perceived as not relevant to unit
  o Inability to look beyond what is available

• Generally very positive feedback
  ✔ Prompts are attached to data
  ✔ Easy to use/find information (everything in one place)
  ✔ Reflecting on where they are and where they want to be
  ✔ Applying guiding principles as they relate to individual unit data
Take-aways

- Communication at all stages and levels
  - From the beginning
  - Leadership is listening, engaged and responsive
  - Feedback loop
  - Shifting timelines based on requests (more time to ponder, align with budget cycle)
- More trained users means more people asking good questions, more engagement with data
  - Aligning with DEI work on campus
- In-depth validation of data and usability
- Support for those using the data
- Final challenge: providing feedback to units
Questions?

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Thank you