Adventures in Analytics: Implementation to Roll-Out

Krisztina Filep
University Analytics & Institutional Research

NEAIR 2019 – November 4, 2019
Agenda

- About UMass Amherst and analytics
- The journey to roll-out
- Data and analytics governance and literacy
- Lessons Learned and the Future
UMass Amherst Profile

- Flagship of the UMass System
- Only public Carnegie highest research university in MA
- Sponsored research expenditures $211M
- Enrollment: 31,000+ in Fall 2019
- 24,209 undergraduates, 7,141 graduate students
- Entering class of 5,731
- 9 Schools and colleges + Graduate School and Commonwealth Honors College
- Over 50 academic department, over 100 undergraduate majors
Instill a culture of evidence at all levels that applies the best possible information and analysis to decisions.
• Contract signed May 2018, promise of delivery of Student Core Analytics platform in 9-12 months

Campus kick-off meeting
Project Structure

Executive Committee

Steering Committee

Project Leads (IT + IR)

Project Team

Project Manager

Subject Matter Experts

DBA/Network Team

Client Relationship Manager

Implementation Consultant

Data Scientist/Analyst

BI Engineer

Architect/Data Engineer(s)

Cloud Engineer
Project Objectives

• Provide university leadership with an intuitive, 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. These data sets include Admissions, Financial Aid, Course Enrollments, Persistence, Retention, Degrees Awarded, and Course Faculty.

• Deploy priority analysis areas and dashboards (Enrollment and Student Success) to campus leadership by Spring 2019.

• Provide ability to conduct ‘deep dive’ analyses based on strategic priorities and create and display Predictive and Statistical Models using HelioCampus data science resources and capabilities.

• Provide OIR and other analysts with a flexible, extensible analytical data platform with the ability to create new data and reporting models to answer business questions that haven't been addressed before or via standard HelioCampus models.
Technical Build, Data and Dashboard Validation

- Technical: network, replication/ETL, data model build
- Validation (data and dashboard) – cannot do one without the other
  - Most time-intensive part of project – took much longer than expected
  - Bulk of time scheduled over IR’s busiest period
Data and Dashboard Validation

- Process starting to bog down
- No real timelines

Steering Comm demo
Onsite Exec demo

Persistence/Retention/Graduation Data Validation

Student Movement Financial Aid
Class Faculty Admissions

Student Success
In person working session

Enrollment Data Validation (including Census)

Sept Oct Nov Dec Jan Mar

Exec demo
 
Validation to Roll-Out

• Vision:
  – Launch all dashboards and content to everyone on campus!

• Key tasks:
  – Final data/dashboard clean-up
  – Final roll-out plan
  – User provisioning
  – Data governance
Roll-out and Launch

- Messaging about expectations
- Decision to launch to ~150 users, with demo/training required
- Tableau permissions were automated via user roles
- Meetings scheduled with Chancellor, leadership cabinet, campus planning, steering committee and other campus leaders
- Content was perfect:
  - Dashboards with high familiarity data
  - Something new in high demand

More ≠ better
Launch Day(s)

- 8 demo/training sessions given over a week
  - Attended by over 100 people
  - No attendance = no access
- Team-building/reward
- Immediate feedback overwhelmingly positive, people were logging in and using data (~70% had logged in within first month)
- Receiving requests to be added as a user
Roll-Out – Round 2

Why?
• Increased demand for data
• Campus priority is around student success

What?
• Same content as initial launch with improvements + new dashboards: retention/graduation, course success, financial aid

Who?
• Expansion of users to include all with provost/dean/director in title + department chairs (~200 people)
• New users need mandatory training/existing users offered optional training on new content

When?
• August 2019
Roll-Out – Round 3

**Why?**
- Instill a culture of evidence at all levels that applies the best possible information and analysis to decisions.
- Broad data access to campus community
- All faculty and staff (~6,500 individuals)
- Limited set of dashboards with limited filters
  - Inability to cross-filter (e.g. female URM students)
  - Remove sensitive content like GPA
- No training required
- September 2019
Action-Oriented Data Use Infrastructure

Taking action based on data requires access, contextual intelligence, and a shared code of conduct

Get the data: data access & use
- Data extract & dashboard development
- Validate, define, and incorporate data sources

Understand & communicate the data: data literacy
- Position-specific data fluency

Take care of the data: data & analytics governance
- Ensure data availability, quality, and privacy
- Prioritize and assure unbiased analyses
Lessons Learned

- Someone has to own the project and drive it ➔ needs a champion
  - Other areas need to buy-in: executive and functional areas (importance of keeping everyone informed – whether formally or informally)
  - Clear objectives and priorities
  - Timely decision making
  - Importance of IR/IT partnership, using strengths of each area

- Data governance and access strategy
  - Acknowledge myriad of data sources and shadow systems
  - Communication is key: iterative process

- Requires institutional bandwidth…
Lessons Learned (2)

... and a committed team!
**Next Steps**

We are live but there is so much more:

- Validating remaining data and dashboards to finish core implementation
- Deep dive into data!
  - Leveraging the data models for custom analyses and dashboards
  - Using new platform to replace existing platform (OBIEE)
- Leveraging the data platform (Redshift) and Tableau for other campus data
- Data governance and literacy
Questions?

Krisztina Filep
Director of Operational Analytics
kfilep@umass.edu