Tandem Surfing the Data Tsunami: An IR-IT Analytics Collaboration

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UMass Amherst Profile
Flagship of the UMass System
Only public Carnegie highest research university in MA
Sponsored research expenditures $220M
Fall 2020 Enrollment: 31,000+
24,000+ undergraduates, 7,000+ graduate students
Entering class of ~5,000
9 Schools and colleges
  + Graduate School and Commonwealth Honors College
Over 50 academic departments, over 100 undergraduate majors

UAIR-IT ANALYTICS JOURNEY

2008-2011 Data Rich Info Poor
  + individual data requests
2015-2016 IT Strategic Plan
  + broader data access but no specifics
2017-2018 Tableau Desktop & Server Sided efforts
2019-2020 Strategic Plan
  + instill a culture of evidence at all levels that applies the best possible information and analysis to decisions.
2020-2021 Campus Wide Dashboards Deployed
2021-2022 Data Integration & Governance
  + And then the Pandemic...
STRATEGIC PLAN

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

IR – IT COLLABORATION

- Diverse perspectives for problem solving
- Complementary strengths:
  - systems building, data functionality, campus goals to address and issues to solve
  - Shared communication
  - Coordination of efforts
  - Amplify both teams’ connections campus-wide
  - Together able to make institutional change

TECHNICAL BUILD

- Network build:
  - Virtual Private Cloud (VPC), Amazon Web Services (AWS)
  - Single Sign-On (SSO)
- Data replication and ETL (Edit-Transform-Load)
  - Nightly copy of Student Information System (SIS)
- Data model build
  - Transform SIS tables into usable data extracts for Tableau

DASHBOARDS
**ANALYTICS - CURRENT STATUS**

Extracts developed and vetted for official and live student data.

- 6500+ faculty and staff with access to basic dashboards with enrollment and completions data.
- 300+ trained users with access to more complex enrollment and completion dashboards as well as student success, financial aid, and admissions data dashboards. Faculty information forthcoming.
- Several ad hoc dashboards built on platform to address pandemic-related issues: Spring course withdrawals, Pass/Fail grading option adoption, summer melt, Fall face-to-face/remote students and courses.

**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

**DATA INTEGRATION**

- Tableau Server: hosts Amherst Data Pond and Flagship Analytics
- Amherst Data Pond: internal
- Student information
- Course information
- Data integration

**DATA LITERACY**

Develop fluency for data-driven action

- **Frames & Questions:**
  - Acquisition: identify/collect relevant data
  - Interpretation: analyze data

- Communication:
  - Discuss and strategize to address issues

- Use-focused trainings on Flagship Analytics
- Reporting & Analytics School/College group
- Reporting & Analytics Administrative group
- Campus-wide Tableau User Group (users & developers) – UAIR & IT
- Data literacy programming – UAIR & Library
DATA & ANALYTICS GOVERNANCE

- Data governance working group; joint UA/IRIT initiative
- Participants will have different priorities for data use, balanced group-wide: availability, usability, consistency, integrity, security, privacy

Where did the data come from?
- Data Flow Diagrams, Lineage

What can you do with it?
- Data Use & Prioritization Policies/Procedures
- Data Use Code of Conduct

Can you trust it?
- Data Integrity/Quality
- Business Process Review

What does it mean?
- Data Dictionaries

DASHBOARDS SINCE PANDEMIC

CHAT QUESTIONS:
Are you part of the IR team? The IT team? Or from one of the departments that works with these groups?

CHAT QUESTIONS:
Who leads your analytics platform work? What is the status of the platform?
CHAT QUESTIONS:

Do your IR and IT teams collaborate? If not, can you imagine starting to do so? How might it enhance or accelerate your analytics platform development or adoption?