



UNIVERSITY  
*of* ALASKA

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*Many Traditions One Alaska*

# **Institutional Research Report**

**UA Strategic Pathways**

**January 18, 2017**



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## Charge

Develop and review options for organizational restructuring including but not limited to further decentralization, consolidation at one campus, or consolidation at SW of functions that support improvements in service and cost effectiveness through outsourcing, automation, intercampus collaboration, data and process standardization, and other means TBD by the team.

## Scope

All of IR across the UA System.

## Goal

Reduce operating costs. Align with UA priorities.

## Team Members

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## Process Overview

The Institutional Research (IR) Team is one of eight teams in Phase 2 of Strategic Pathways. Phase 2 began in early October when the teams met for the first time. During that first meeting, Session 1, there was a thorough orientation to the overall effort, and the charge, scope, and goal were refined. Most teams also identified the first iteration of potential Options. In the weeks between Session 1 and the second meeting, Session 2, the IR Team continued to define the options with weekly teleconferences and virtual collaboration. The Pros and Cons for each Option were developed in Session 2 in the first week in November. Since then the IR Team has been continually refining the Options, Opportunities, Pros and Cons and writing them into the following document. These Reports served as the main source of information for the Presentations that will be presented to the Summit Team on January 18<sup>th</sup>.

## Option 1 – Further Decentralization

### Narrative Description

Further decentralization of institutional research (IR) would distribute the institutional reporting function across locations throughout UA based on need and budgets. Various university offices would establish IR positions, potentially create IR roles via a shared service motif, or assign IR duties to staff as a portion of their defined workload. The current IR offices at UAA, UAF, UAS, and UA Statewide may remain but they would have a narrower charge to focus on compliance functions, such as accreditation or federal IPEDS reporting. However, reporting services beyond the compliance function would be left to the units (e.g. schools, colleges, institutes, offices, departments).

Further decentralization of IR would naturally lead to many challenges that do not exist today related quality control and consistency across the system as well as strategic, operational, and managerial challenges. Data quality, reporting method, and data technologies would vary along with knowledge, skills, and abilities of each IR service center. Reporting would be mosaicked and difficult to gather in a consistent manner, leading to reporting conflicts between IR service centers that would need to be resolved. Data access would be limited to those units which could afford to support IR services; this may have the effect of reinforcing organizational silos. Development of organizational strategy would be similarly impacted.

### Key Change Elements

- ▶ **Offering Changes:** Reduced support for institutional reporting and support related to strategic efforts (e.g. strategic enrollment management plan).
- ▶ **Staffing Changes:** More staff for larger departments, no additional staff for smaller departments. Fractional FTE would likely be assigned to focus on IR in addition to other administrative functions (lack of specialization).
- ▶ **Use of Facilities/Technology:** Increased reliance on IT support to troubleshoot issues. Office space requirements could increase in some areas and decrease in others.
- ▶ **Access for Students and Other Clients:** Significant variation in quality and access depending on the department.
- ▶ **Administration:** Creates more silos, more disagreements on data quality, training could be problematic. Requires more time and effort by administrators, uninformed decisions could result, sequestering data might happen, could reduce best practices.
- ▶ **Front-End Investment:** Significant training and increased application licenses.
- ▶ **Community (External) Engagement:** Potential loss of credibility, mixed messages, confusing to know where to go for information.
- ▶ **Product Quality:** Decreased consistency and quality of reports. However, they may be more catered for that specific department that can afford to increase FTE for IR.

## *Option 1 continued – Further Decentralization*

### **Pros and Cons**

#### **Pros**

- ▶ Close access to the data for units that can afford it
- ▶ Increased engagement with data, leading many to discover value of data
- ▶ Could be implemented quickly
- ▶ Compels more collaboration at a lower level
- ▶ Could help student recruitment and retention efforts for units that can afford it
- ▶ Reporting could be more customized to the point of need

#### **Cons**

- ▶ Significant increase in FTEs
- ▶ Would take more energy and resources to support a decentralized system
- ▶ Inconsistency in knowledge base
- ▶ Conflicting reporting
- ▶ Insufficient labor pool
- ▶ Negative impact on political and legislative support due to inconsistent answers and delayed response time
- ▶ Encourages unhealthy competition
- ▶ Reinforces silo mentality
- ▶ Definite winners and losers
- ▶ Forces trade-off of mission critical functions at the units (IR vs faculty positions)
- ▶ Reduced attention on institutional student recruitment and retention efforts
- ▶ Would make it more difficult for community to access data

### **Further Analysis Needed**

- ▶ Governance structure.
- ▶ Resource analysis (e.g., space, software licenses, etc.) at each campus.

## Option 2 – Consolidation at One Campus

### Narrative Description

A consolidated IR office at one campus would provide a broad range of IR work for internal and external stakeholders throughout the University of Alaska. This would require a change in reporting structure to centrally manage IR resources and personnel across the system through a single entity, versus four today. A historical example of an attempt at consolidation is the closing of UAF IR—with UAF’s needs being met by Statewide IR—only to have UAF IR reinstated to improve the quality and timeliness of reporting.

Consolidating the IR function for the entire UA System to one campus would naturally lead to many challenges that do not exist today related innovation and collaboration as well as strategic, operational, and managerial challenges. Additionally, accreditation and assessment support and leadership are core services that each IR office currently provides to their separately accredited institutions on topics such as defining and assessing mission fulfillment, assessing adequacy of resources, institutional and core theme planning, and institutional effectiveness and improvement. Project management and prioritization would become more complex than the status quo; especially when the projects are strategically important to a department or university. Imagine, for example, the conflict that could result from the President, the Chancellor from UAA, the Provost from UAF, and a Dean from UAS all making IR requests that require a quick turnaround. As a result, the natural tendency might be for departments that have control and authority over their budget would over time create a ‘shadow IR’ to meet the need for timely and operational data. This ‘shadow IR’ would create a degradation in knowledge and data due to the lack of expertise and oversight.

### Key Change Elements

- ▶ **Offering Changes:** Increased consistency in reporting across the system; potentially less innovation as a result. Decreased reporting for some departments. Campus centric changes could happen that may reduce trust from the other campuses.
- ▶ **Staffing Changes:** Initially might reduce a few FTEs, additional FTE might be added to various departments over time if their needs are not met by central IR.
- ▶ **Use of Facilities/Technology:** Increased reliance on IT support to troubleshoot issues at the campus where IR is consolidated. Office space requirements could increase in some areas and decrease in others.
- ▶ **Access for Students and Other Clients:** Streamlined across the UA System. Access may increase or decrease depending on the department and university.
- ▶ **Administration:** Increased complexity of project management; not all clients getting what they need. Trust from users at other universities could become an issue. Knowledge transfer would be more efficient. Hiring qualified staff may be more difficult with less growth potential for most and perhaps fewer location options.

## *Option 2 continued – Consolidation at One Campus*

- ▶ **Front-End Investment:** Cost for conversion to one system. Implementation planning to do this well would be costly.
- ▶ **Community (External) Engagement:** Would need an effective redirect from university to system level.
- ▶ **Product Quality:** Increased consistency across the UA System. Fewer department-specific reports catered to their needs. Product quality may or may not be an improvement over status quo.

### **Pros and Cons**

#### **Pros**

- ▶ Might gain political support
- ▶ Forces increased collaboration across campuses
- ▶ Increased consistency in data management practices and reporting across the UA System
- ▶ Single generic client data tool
- ▶ Increased opportunity to document institutional knowledge and streamline training

#### **Cons**

- ▶ Adequacy of accreditation support could be challenging; could raise concerns from accrediting agencies
- ▶ Shadow IR FTE growth in departments
- ▶ Reduced perception of transparency and trust
- ▶ Program specific compliance reporting may be compromised
- ▶ Decreased familiarity with unique data management practices and data needs at each location
- ▶ Decreased access at the unit level for most campuses
- ▶ Could drive some departments to make decisions without data
- ▶ Reduced capacity to make good programmatic decisions, recruit, and retain at the unit level
- ▶ Difficult to implement
- ▶ Need for data at SW is different and would be challenging to service SW data needs
- ▶ Requires campus of primary location to have non-partisan role and adequate support from IT and other departments



*Option 2 continued – Consolidation at One Campus*

**Further Analysis Needed**

- ▶ Governance structure
- ▶ Resource analysis (e.g., space, software licenses, etc.) at each campus

## Option 3 – Consolidation at UA Statewide

### Narrative Description

A consolidated IR office at UA Statewide would provide a broad range of IR work for internal and external stakeholders throughout the University of Alaska. This would require a change in reporting structure to centrally manage IR resources and personnel across the system through a single entity, versus four today. A historical example of an attempt at consolidation is the closing of UAF IR-with UAF's needs being met by Statewide IR-only to have UAF IR reinstated to improve the quality and timeliness of reporting.

Consolidation at UA Statewide has many of the same challenges as consolidation at a campus (option 2) with a few notable exceptions. Consolidation at UA Statewide would lead to fewer perceived biases in terms of strategic planning and decision support. However, consolidating the IR function outside of one of the campuses would also lead to concerns that IR was out of touch with the needs of the campuses (e.g. assessing mission fulfillment of each unique university). For this reason, the potential for developing a 'shadow IR' presence at each university is probably higher with option 3 than option 2.

### Key Change Elements

- ▶ **Offering Changes:** Increased consistency in reporting across the system; potentially less innovation as a result. Decreased reporting for some departments. Statewide centric changes could happen that may reduce trust from the other campuses.
- ▶ **Staffing Changes:** Initially might lose a few FTEs, additional FTE might be added to various departments over time if their needs are not met by central IR.
- ▶ **Use of Facilities/Technology:** Increased reliance on IT support to troubleshoot issues at the campus where IR is consolidated. Office space requirements could increase in some areas and decrease in others.
- ▶ **Access for Students and Other Clients:** Farther away from the students. Less access to the data if physically consolidating at SW.
- ▶ **Administration:** Increased complexity of project management; not all clients getting what they need. Trust from users at other universities could become an issue. Knowledge transfer would be more efficient. Hiring qualified staff may be more difficult with less growth potential for most and perhaps fewer location options.
- ▶ **Front-End Investment:** Cost for conversion to one system. Implementation planning to do this well would be costly.
- ▶ **Community (External) Engagement:** Effective redirect needed to campuses.
- ▶ **Product Quality:** Increased consistency across the UA System. Fewer department-specific reports catered to their needs. Product quality may or may not be an improvement over status quo.

## *Option 3 continued – Consolidation at UA Statewide*

### **Pros and Cons**

#### **Pros**

- ▶ Might gain political support
- ▶ Forces increased collaboration across campuses
- ▶ Increased consistency in data management practices and reporting across the UA System
- ▶ Single generic client data tool
- ▶ Increased opportunity to document institutional knowledge and streamline training

#### **Cons**

- ▶ Adequacy of accreditation support could be challenging; could raise concerns from accrediting agencies
- ▶ Erodes trust; campuses may see SW as more removed from the academic activity
- ▶ Negative perception of growing SW
- ▶ Shadow IR FTE growth in departments
- ▶ Reduced perception of transparency and trust
- ▶ Program specific compliance reporting may be compromised
- ▶ Decreased familiarity with unique data management practices and data needs at each location
- ▶ Decreased access at the unit level for most campuses
- ▶ Could drive some departments to make decisions without data
- ▶ Reduced capacity to make good programmatic decisions, recruit, and retain at the unit level
- ▶ Difficult to implement
- ▶ Need for data at SW is different and would be challenging to service campus data needs
- ▶ Requires adequate support from OIT and other SW departments

### **Further Analysis Needed**

- ▶ Governance structure.
- ▶ Resource analysis (e.g., space, software licenses, etc.) at each campus.

## Option 4 – Collaborative Knowledge Network

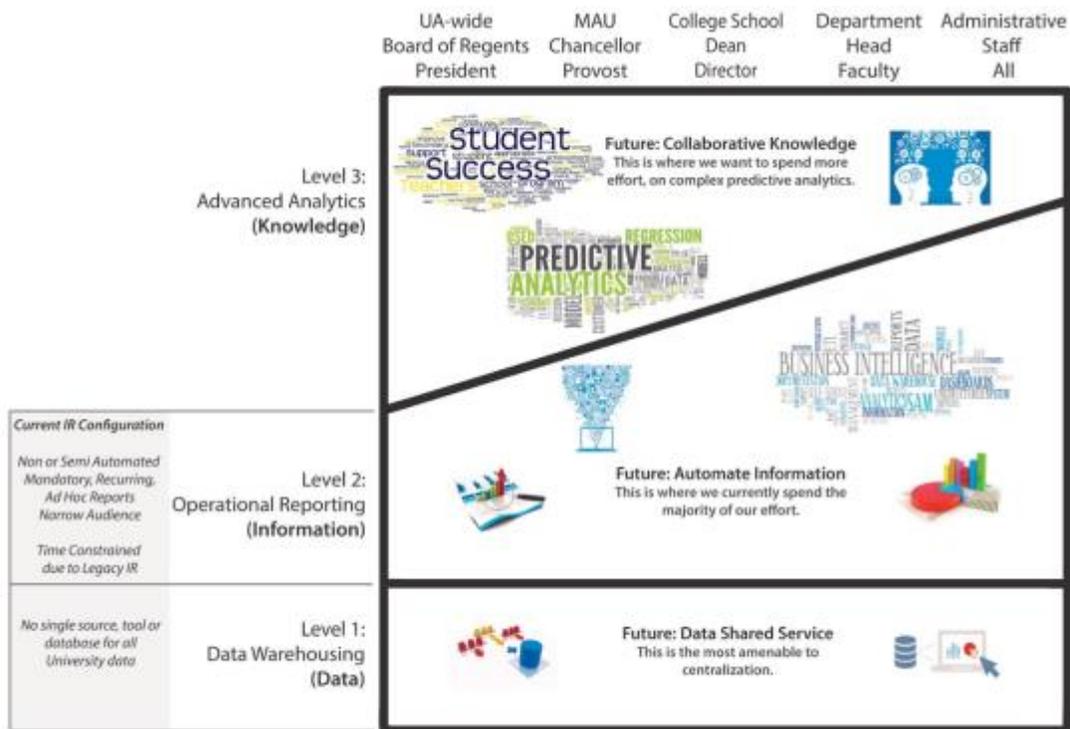
### Narrative Description

The Collaborative Knowledge Network option was developed by the IR Strategic Pathways team to identify the optimal mix of decentralization and consolidation that will support improvements in service and cost effectiveness through the division of labor, and the systematic use of automation, data and process standardization, and intercampus collaboration. This option recognizes the importance of streamlining processes and technologies across the four IR offices while also maintaining IR expertise and leadership at each institution. Broad changes have been proposed for the implementation team's consideration that will (1) significantly increase IR's contributions to standardized data warehousing and automated reporting, (2) decrease IR's efforts focused on manually developing static reports, and (3) increase IR's capabilities focused on advanced analytics and complex research projects. These changes are expected to result in reduced institutional operating costs over time and increased access to accurate, current, and consistently collected information that is meaningful, insightful, and action-oriented.

Implementing the Collaborative Knowledge Network option would naturally lead to a few challenges related to streamlining processes and technologies. Additionally, this option would be the most complex to implement due to the highly collaborative nature of this model. Broad leadership buy-in and a sustained multi-year commitment from the executive level would be central to the successful implementation of this option.

### Diagram Overview

The IR Strategic Pathways team has developed a diagram to clarify the broad changes that have been proposed as part of the Collaborative Knowledge Network option. The vertical axis has been disaggregated by three of the main functions that the four IR offices provide to their institutions: (1) data warehousing, (2) operational reporting, and (3) advanced analytics. Current workloads at each IR office result in most of the FTE focused on level 2. However, the IR Strategic Pathways team sees value in increasing the FTE focused on level 1, reducing FTE focused on level 2, and increasing the FTE focused on level 3-resulting in a shift from a fishbowl-shaped organizational structure to an hour-glass shaped organizational structure.



- ▶ **Level 1:** Streamline queries and applications for database extraction, business intelligence reporting, and advanced analytics. Centralize most database queries and views in a new database schema that links directly with automated reports. A new operational database analyst--complementing the existing DSDMGR database analyst--manages this schema and co-develops queries, views, and tables with each IR office to ensure that they are accurate and meaningful. All IR offices will work from the same applications, server, and database. Significant improvements in documentation related to IR-produced tables, queries, functions, procedures, etc.
- ▶ **Level 2:** Identify a core set of reports developed by each IR office. Share report designs, benchmarks, best practices, etc. so that each IR office can focus on improving the quality of reporting for their institution instead of completing from scratch a report that already exists elsewhere in the system. Well-designed database-linked automated reports can--over time--replace some of the efforts that currently consume a significant amount of time for daily reporting and open/close freeze reporting. This will allow IR offices to develop new and higher quality reports, increase data literacy at each institution, and focus on complex research projects and advanced analytics.
- ▶ **Level 3:** Determine the appropriate applications that should be used at each IR office to conduct advanced analytics. Identify examples of past advanced analytics projects conducted in IR offices. Share the models, methodologies, final reports, etc. with the other IR offices so that each office can focus on improving the quality of reporting for their institution instead of completing from scratch a model, methodology, final report, etc. that already exists elsewhere in the system.

## Option 4 continued – Collaborative Knowledge Network

### Key Change Elements

- ▶ **Offering Changes:** Increased capacity for managing the data warehouse will increase the time available to develop well-designed reports that follow best practices and conduct deeper research and advanced analytics that follow best practices. Potential to provide higher level of service. Promotes a more open sharing environment for database queries and report designs. Day-to-day IR tasks would be more efficient. Increased capacity to answer ‘big questions’.

- ▶ **Staffing Changes**

Staffing Changes	Status Quo	Option 4a	Option 4b
Level 1: Data Warehousing	1 FTE	3 FTE	4 FTE
Level 2: Operational Reporting	16 FTE	10 FTE	10 FTE
Level 3: Advanced Analytics	2 FTE	6 FTE	7 FTE
<b>Total</b>	19 FTE	19 FTE	21 FTE

4a = Current FTE levels applied to Collaborative Knowledge Network option

4b = Added investment in IR applied to Collaborative Knowledge Network option

Note: This table provides approximations for illustrative purposes and ultimately may vary depending on the decisions by the implementation team and executive leadership

- ▶ **Use of Facilities/Technology:** Similar to current levels. Small increase in license fees for advanced analytics software. Automation would not require much investment if the UA System follows the process currently used by UAA IR and UAS IE (e.g. SSMS, Reporting Services, SharePoint, Excel). However, if a different application is purchased (e.g. EAB APS, Tableau, Domo, etc.) this could require significant upfront investment and recurring costs.
- ▶ **Access for Students and Other Clients:** Access should increase significantly due to increased collaboration across the four IR offices, improved data warehousing, automated reports (data portals and dashboards).
- ▶ **Administration:** Current services to the universities and system offices would be maintained.
- ▶ **Front-End Investment:** Dependent on details from implementation team. Any new costs are seen by the group as investments with real potential to improve efficiencies and increase revenue throughout the system.
- ▶ **Community (External) Engagement:** Public-facing self-service data interface would increase access to accurate, current, and consistently collected data.
- ▶ **Product Quality:** Increased availability of accurate, current, and consistently collected data that can be linked with automated reports. Automated reports and advanced analytics projects would be developed and designed by each IR office for executives, staff, faculty, students, etc. at their institution. Increased quality of the design of reports and the increased use of national standard benchmarks and best practices.

## *Option 4 continued – Collaborative Knowledge Network*

### **Pros and Cons**

#### **Pros**

- ▶ This is a transformative option, that if executed well, will make IR a more strategic asset
- ▶ Provides actionable knowledge
- ▶ Supports increasing revenue
- ▶ Achieves automation and customization
- ▶ Favors shared services where appropriate
- ▶ Gains efficiency through division of labor and focus on specialization
- ▶ Promotes skill pathway, flattens the learning curve, reduces turnover costs
- ▶ Codifies and increases collaboration
- ▶ Promotes a collaborative culture and diversity of thought
- ▶ Supports knowledge transfer
- ▶ Supports wider access to information
- ▶ Most responsive to a variety of customers across Alaska
- ▶ Helps answer the really big questions and supports strategic thinking
- ▶ Prevents need for shadow IR
- ▶ Supports higher product quality
- ▶ Most sustainable
- ▶ Best opportunity to shift to a more data-driven decision making culture
- ▶ Creates the structure to promote knowledge generation
- ▶ Creates an environment where various skill sets can thrive
- ▶ This model promotes a more proactive leadership role for IR
- ▶ Creates framework for building an effective governance structure
- ▶ Faster response times
- ▶ More easily adaptable to change

#### **Cons**

- ▶ Most complex to implement because of the highly collaborative nature of this model; requires willingness to compromise
- ▶ Additional resources needed to accelerate results
- ▶ No new investment risks the success of the option
- ▶ Time to implement and sustain
- ▶ Negotiating through the redistribution of resources
- ▶ This option could be more difficult to communicate due to the complexity which could impact political perception



*Option 4 continued – Collaborative Knowledge Network*

**Further Analysis Needed**

- ▶ Governance structure.
- ▶ Resource analysis (e.g. space, software licenses, etc.) at each campus.
- ▶ Equitable allocation of resources.
- ▶ IR's role in increasing data-driven decision making throughout UA System; changing the culture and engagement at all levels of leadership and employees.

## Other Opportunities for Change to Meet the Charge and Goal

- ▶ **Improve Data Administration**
  - Governance, documentation, architecture, data hygiene, acquisition.
- ▶ **IR Culture: Empower People to Use IR Data**
  - Data-Informed Resource Allocation.
  - Use data to guide investments aligned with institutional goals.
  - Identify best practices related to meaningful metrics.
  - Sharing UA case studies of successful models of data utilization for improvement of: student outcomes, business processes, cost savings, give recognition for these via symposium or awards, etc., and stories are highlighted for public accountability.
  - IR educating others about what analytic tools are available and how to use.
  - Distinct definitions of the services and functions that the four IR offices can and do provide to university system, units, etc. (what IR can do for you).
  - Improve direct access to data by faculty and staff at departmental level.
  - Accessible interface, easy access would be preferable.
- ▶ **Automated Reporting**
  - Automate Fiscal Management Report.
  - Automate research data to avoid multiple reporting demands on faculty.
  - Canned reports online (for all users).
  - Dashboard with user friendly canned reports.
- ▶ **IR Operations**
  - Define and resource specific positions.
  - Create a career pathway in UA that leads to IR.
  - Add data warehouse roles to incorporate disparate data sources (e.g. US Census, SAT).
  - Common repository for all 4 IR offices (and anyone else who wants) to exchange complex query (Bluewhale, Redbear) codes (SAS, SSMS, TOAD); include organization/indexing scheme so can be searched easily.
- ▶ **IR Governance**
  - Set a culture of data ownership by data entry personnel.
  - Better link IR data reporting with state agencies in K-12 & AK DoLWD.
  - Make common, well-maintained data entry manuals.
  - Direct interaction with student government at both the universities and system governance levels.
  - Stronger IR collaboration: formal IR Council for collaboration.
  - IR/IT Relationship.
  - IR representative/role in IT governance.
  - Stop acquisitions of disparate, duplicative tools for data visualization - recoup the money and use for shared service function.

### ► **Academic Analytics Projects:**

- Success rates for research funding.
  - Investigate whether the university should focus in other NSF areas.
- Maximizing space utilization.
  - Could enhance enrollment.
- Focused recruitment.
  - With support from K-12, UA system identifies HS graduated students qualifying for AK Performance Scholarship and begins focused recruitment efforts (are some qualified students unaware of the opportunities?).
  - Who amongst the ‘some college’ market is most likely to enroll?
  - Collaborate with AK DoLWD job market predictions.
- Advanced enrollment prediction.
  - Predict demand for course sections prior to students enrolling in them.
  - Which section will succeed as a distance delivered course?
  - What time should sections be offered to be most attractive to students?
  - Understand capacity to meet student need for courses.
- Financial aid.
  - How big of an offer will convince a student to stay at UA?
  - Estimate price elasticity of demand.
- Targeted fundraising.
  - Which alumni are most likely to contribute to a particular project? (E.g., deferred maintenance needed in a residence hall; target alumni who lived there or undergraduate research and target alumni who did undergraduate research).
- Proactive advising.
  - As instructor, Y% of students passing my course, go on to pass the next course in the degree sequence, including time series and comparison to average rate.

## **Addendums**

- Statement of Aspirational Practice for Institutional Research: [https://www.airweb.org/Resources/ImprovingAndTransformingPostsecondaryEducation/Documents/Statement\\_of\\_Aspirational\\_Practice\\_for\\_IR\\_Report.pdf](https://www.airweb.org/Resources/ImprovingAndTransformingPostsecondaryEducation/Documents/Statement_of_Aspirational_Practice_for_IR_Report.pdf)
- EAB Developing a Data-Driven University: [http://www.nku.edu/content/dam/StrategicPlanning/docs/implementationteams/technologysupport/library/21067\\_UBER\\_Developing-a-Data-Driven-University.pdf](http://www.nku.edu/content/dam/StrategicPlanning/docs/implementationteams/technologysupport/library/21067_UBER_Developing-a-Data-Driven-University.pdf)
- University of Delaware Papers and Presentations: <http://ire.udel.edu/ir/professional-presentations>
- SUNY Binghamton Papers and Presentations: <https://www.binghamton.edu/oira/papers.html>