

APS Summit

2019

Data Governance

What it Is, Why it Matters, and How to Get it Right

Your Facilitators



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APS Summit

2019

Data Governance

What it Is, Why it Matters, and How to Get it Right

1

Higher Education's Data Revolution

2

Data Governance: The Key to Turning Data into Value

3

The Perils of a Data Wild West

4

A Better Way: Supporting Institutional Data Governance

Widening Gap Between Data and Insight

Campuses Struggling to Capitalize on Data Explosion

Mounting Pressure For Campuses to Be Data-Driven...



*Flattening
Revenues*



*Rising Costs
of Education*



*Growing Pressure
to Prove Value*

...But Investments in Analytics Aren't Always Paying Off

Options Exploding



>300

vendors in the higher education technology landscape, as of 2018

Urgency Rising



57%

of higher ed CIOs ranked analytics as a **top priority** for their institution in 2018

Payoff Lacking



19%

of higher ed CIOs consider their investments in data analytics as "very effective"



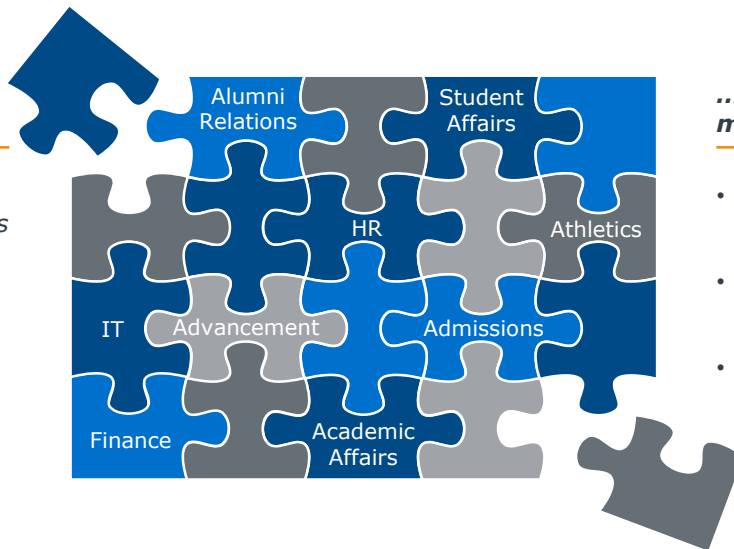
No Part of Campus Exempt from Data Revolution

Staff Across the Institution Have Key Roles to Play in Analytics Efforts

Everyone is a Piece of the Data Analytics Puzzle

Whether you're creating data...

- *Inputting new data to systems*
- *Installing new technologies*
- *Collecting data through analog processes*



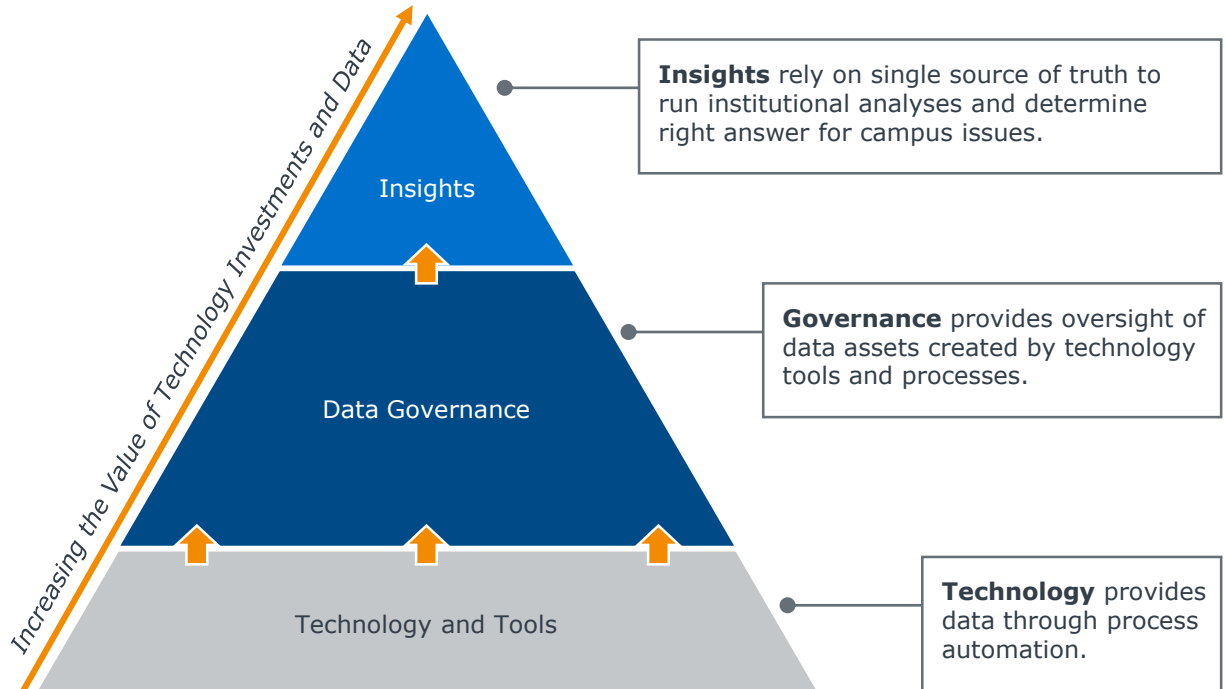
...or using data to make decisions

- *Running reports from systems*
- *Custom analyses and intelligence*
- *Benchmarking and reporting*



Foundational Work Needed on Enterprise Data

Getting Value From Data Requires Campus-Wide Investment



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A Better Way: Supporting Institutional Data Governance

What is Data Governance?

A (non) Technical Definition

“**Data Governance** is an enterprise capability that supports effective data management.

It includes:

- Defining ownership rights and responsibilities;
- Determining data's meaning, storage, accessibility, usage and security;
- Enforcing institutional standards and policies regarding data.

Data Governance: Sharing and Caring For Data

Policies and Processes to Aggregate, Standardize and Improve Campus Data

Data Governance in Action

Inputs



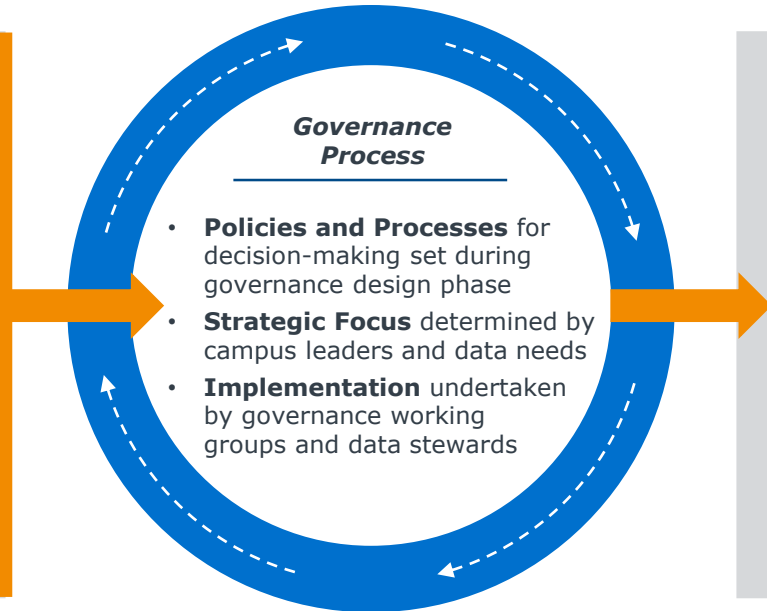
Locally Input
Data



Operational
Data



Contextual
Data



Governance Process

- **Policies and Processes** for decision-making set during governance design phase
- **Strategic Focus** determined by campus leaders and data needs
- **Implementation** undertaken by governance working groups and data stewards

Outputs



Common Data
Definitions



Principled Data
Access Rights



Data Quality
Improvements

Opportunities for Impact Span Data Lifecycle

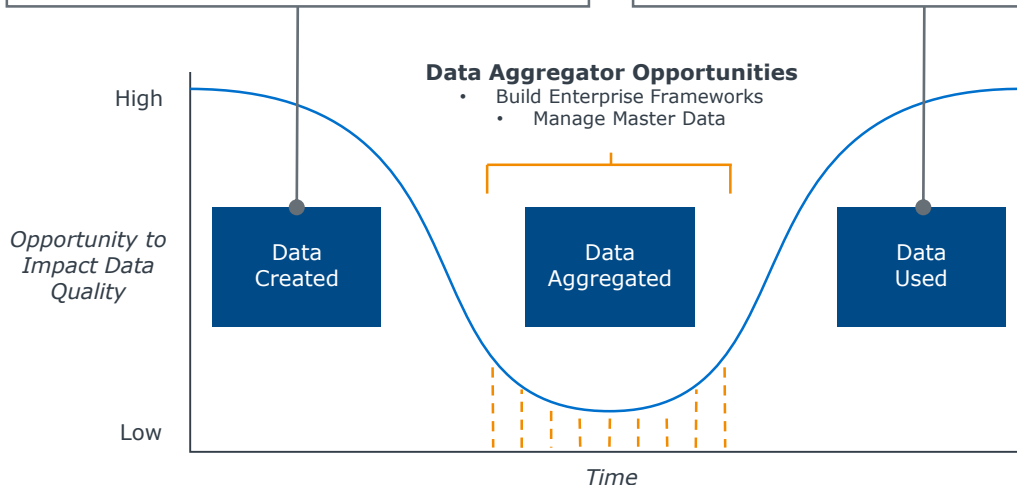
Data Owners and Users Have Greatest Levers for Improving Data Quality

Data Creator Opportunities

- Systems are owned by diverse units who control configuration and business logic
- Data is entered by frontline staff, whose choices impact data quality for all

Data User Opportunities

- Gaps in data availability identified
- Data inconsistencies observed in analysis, and reported to stewards
- Analysis creates new enterprise data



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A Better Way: Supporting Institutional Data Governance

Value Confined to Operational Silos

Current Focus on Unit-Level Needs Over Enterprise Decision-Making



Data Definitions

- Varying definitions specific to each unit
- Data definitions for internal eyes only
- Staff only involved with data in their unit



- ✗ Multiple different definitions of "student" between departments
- ✗ Data definitions not publicly accessible or hidden unintentionally



Data Collection

- Data used for single unit purposes and value
- Place-holder data used for convenience of unit
- Data quality assumed and unverified by institution



- ✗ Workarounds use open fields to record advisor names
- ✗ Low adoption of central data and reporting tools leading to data denial



Data Systems

- Static system structure aligned to business unit
- Inconsistencies among system implementation
- Siloed suboptimal shadow systems



- ✗ Excel spreadsheets stored on local analyst desktops
- ✗ Data errors only corrected in frozen data, not in source system

Project Mentality Leads to Disappointment

Efforts Structured to Fail, Collapse Under Weight of Enterprise Oversight

Best Laid Plans to “Tackle” Data Issues Once and For All...

1

Data Quality and Data-Driven Decision-Making identified as institutional priorities

2

Group Formed to Oversee the Initiative and create plan for data aggregation, improvement, usage

3

Plan to Collect, Cleanse, and Aggregate Data to provide a single source of truth for enterprise data

4

Data Hub Proposed to Provide Easy Access to Reliable Data, empowering campus to make data-informed decisions

...Overwhelmed by the Magnitude of the “Project” Undertaken



Committee focuses on **prioritization only**, disagreeing next steps (and not moving into action)



Committee lacks the **appropriate staff** to think strategically about data assets across the institution



Committee turns into a **group of delegates**, as members aren't held accountable for their attendance



No arbiter exists to resolve disputes as there is no true leader of the committee or initiative



No show of support from other campus executives leads to loss of interest in continuing efforts

BI Inundated with One-Off Requests

At the Expense of Predictive, Prescriptive Analyses for the Institution

Struggling to Be Strategic

“We continue to need to be reactive, to jump in and help to fix problems, which really is sucking away bandwidth to focus on strategic areas and otherwise contribute our expertise to campus.”

Anja Canfield-Budde

*Director of Enterprise Data and Analytics
University of Washington*



Estimated BI Time Spent on Ad Hoc Requests

25-100%

Significant Money and Time Expenditures

\$10,000

per ad hoc report request (fully loaded cost)

3-6

week backlog for typical unit-level requests

3,500

hours spent on ad hoc reporting over 12 months at one research university

Poorly Managed Data at Risk of Exposure

With People and Processes Often the Cause of Enterprise Data Breaches

Lack of Standards = Lack of Security



Outside Higher Education

The infamous Equifax data breach resulted in the **information exposure of almost 146 million Americans** and came down to a single human error where one employee failed to implement a software update that would have prevented the breach.

Inside Higher Education

A senior administrator at the University of Chicago Law School **accidentally sent a mass email to 297 students** accepted into the Fall 2019 Master of Laws program, with the **personal information of every applicant** attached to the email.



Did you know? 4 of the 5 top causes of data breaches can be attributed to human error.

Bad Data Means Bad Decisions

When Lack of Checks and Balances Lead to Incorrect Analyses

Data Entry Error Causes University to Obtain Top U.S. News & World Report Ranking... for 'Most Debt'

A Florida Gulf Coast University employee's error caused the university to submit an average student debt of \$56,208 per student – over \$30,000 off the actual figure, and discovered too late to update print publications.



Without standard polices in place to verify the quality and accuracy of data, interpretation errors are common



Common Data Quality Challenges

Prevalent Issues Surfaced During APS Implementations

Data Quality Challenge	Definition
Found Among Almost All Members	
Inconsistent Faculty Percent Responsibility	Faculty share of a co-taught course reflects actual percent responsibility for classes taught and equals 100%, and percent of classes assigned is separately tracked.
Applies to Most Members	
Inconsistent or Inaccurate Course Type Assignments	All sections taught are tied to consistent definitions that reflect teaching style of that section. Course types are often set at default options (i.e., lecture).
Enrollment Caps Set to 'Zero' or Inaccurate	All sections are set to a number greater than zero. Faculty often use zero caps as a shortcut to approve students, which hinders seat utilization and workload analyses.
Cross-listed Courses Not Connected	When a course is cross-listed and composes multiple sections from departments, the institution designates those sections clearly. Cross-listed courses are often not linked in any data field and must be manually connected for analysis.
Credit Distribution Among Multi-Instruction Types	Each college and department uses the same set of credit distribution practices that aligns with consistent course types or indicates coursework requirements. Inconsistent practices are often employed, such as allotting 3 SCH for a lecture and 1 SCH for a lab in one department and 2 SCH in another department.
Inaccurate or Missing Tenure and Rank Codes	Tenure/rank uniquely group faculty and instructional staff into meaningful categories describing their relationship with the institution. This information is often not tracked, outdated, or simply inaccurate.
All Employees Not Accounted For	All employees at the institution are centrally tracked in the HR employee and payroll files. Some staff (e.g. graduate assistants and teaching assistants) are often never entered into HR files, preventing analysis of teaching roles and workloads.

Source: Academic Performance Solutions.

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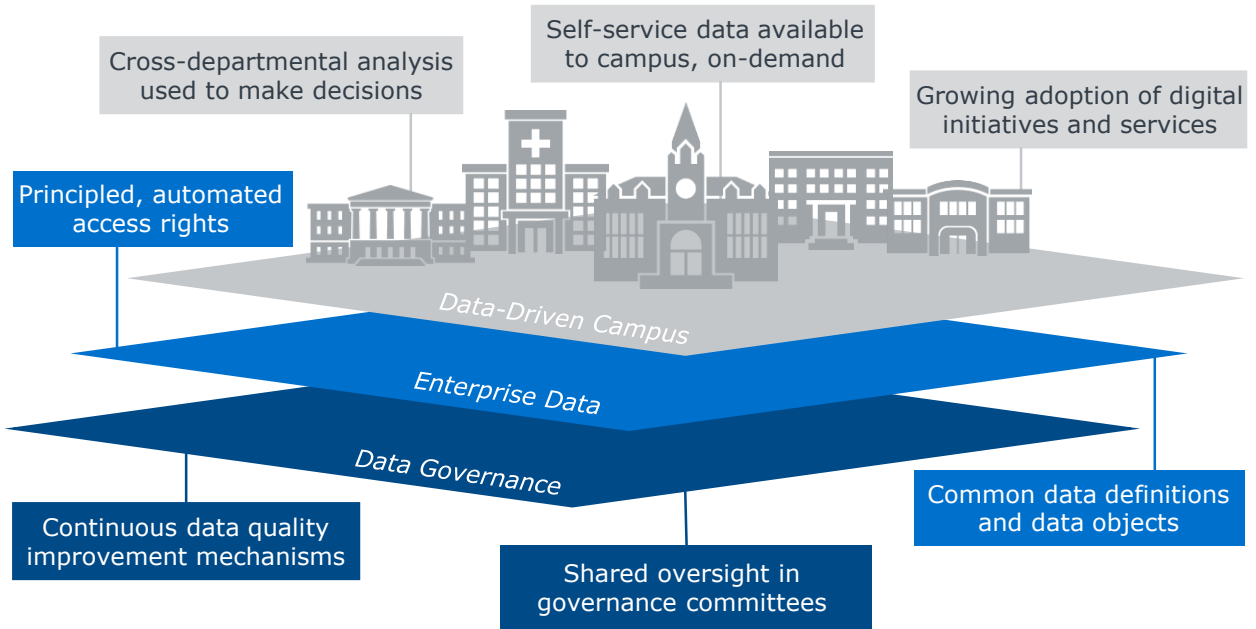
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A Better Way: Supporting Institutional Data Governance

Create Collaborative Data Governance Capability

Campus Leaders Must Work Together to Build Quality Enterprise Data

Data Governance the Bedrock of a Data-Driven Campus



Effective Data Governance at a Glance

Multiple Enterprise Strengths Represented at High-Performing Universities

Five Key Pillars for Data Governance Success

Institutional Data Ownership

Shared view of campus data and technology as a strategic asset by prioritizing efforts to standardize and manage data



Data Governance Structures

Strong shared governance structures for strategy and implementation that align expertise to tasks



Enterprise Data Value

Leverages data for institutional use with data dictionaries and metadata accessible to all stakeholders



Data Quality Assurance

Strategy to ensure data quality through data stewards and monitoring compliance with set standards



Data Access Controls

Grants data access on a principled, (semi-) automated basis, segmenting confidential data from public data



Agile, Iterative Data Governance

Focus on Enabling Capabilities to Drive Continuous Improvement Cycle

1

Setting Strategy

Campus leaders determine areas of focus for data governance work

2

Standardizing Data

Data governance workflows identify and define enterprise data objects

3

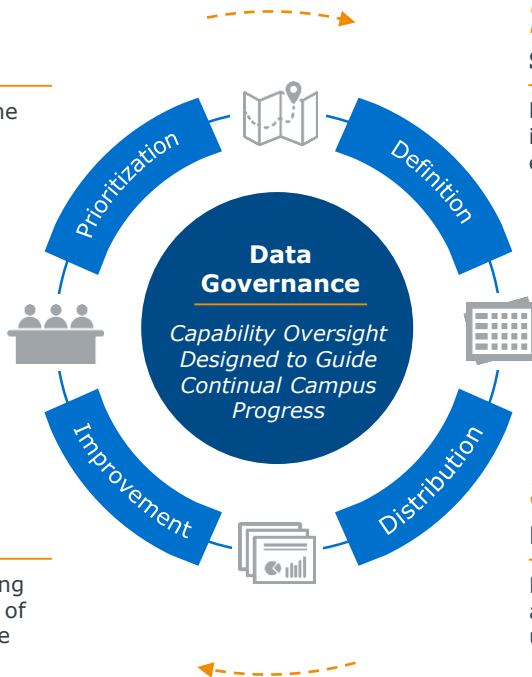
Enabling User Access

Enterprise data and metadata are made available to end users for decision making

4

Improving Quality

Usage issues and emerging needs provide new areas of focus for data governance



Advocate for Standards, Support Working Groups

Campus Community Must Embrace Strategy and Workflows to Drive Change



Embrace Institutional Data Strategy

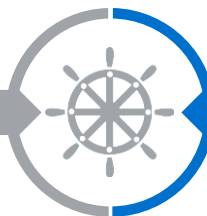
- Promote all campus data as a shared institutional asset
- Advocate for campus-wide data strategy with institutional peers
- Communicate data quality feedback and emerging data needs to governance groups



Support Data Quality Improvement Efforts

- Partner with data governance group to provide insight into business logic, existing data definitions
- Adopt central definitions for unit-level analyses, decision-making
- Promote better data hygiene for data collection and input

Data Governance Strategy



Data Governance Work



How Does Your Institution Measure Up?

Using the IT Forum's Data Governance Self Test to Identify Areas for Focus

Data Governance Maturity Self Test

Capability #1: Organizing Your Data Governance Initiative

Grading Key

Please indicate how well each statement describes your institution.

1	2	3	4	5
Not at all	Poorly	Somewhat	Fairly well	Well

Institutional Strategy	Data-Driven Culture	Data Committee Structure	Organizational Customary	Implementation Framework
<p>The institution has a formal data plan which articulates the steps to be taken to better leverage data and which names those responsible for executing those steps.</p> <p>Score: _____</p> <p>Campus leaders recognize data governance as an enterprise-level capability, requiring shared governance across the institution.</p> <p>Score: _____</p>	<p>Campus members recognize that data is an institutional asset and as such is not owned by individuals or departments, but is owned by the institution.</p> <p>Score: _____</p> <p>Leaders promote a culture of data informed decision-making, or ensure campus to base resource decisions and choices on fact, not intuition.</p> <p>Score: _____</p>	<p>We distinguish between strategic and operational data issues and match the seniority and expertise of people to the data governance activities we task them with.</p> <p>Score: _____</p> <p>The roles and responsibilities of each committee and its members are clearly defined, recorded, and revisited regularly.</p> <p>Score: _____</p>	<p>A designated individual(s) oversees data governance and management, working in tandem with unit-level data stewards.</p> <p>Score: _____</p> <p>We have an established and clearly documented process for onboarding new members of the data governance group at the leadership and implementation levels.</p> <p>Score: _____</p>	<p>Data stewards are appointed and known within all operational units, and have clear policies outlining their roles and responsibilities.</p> <p>Score: _____</p> <p>Our data domains are clearly mapped, providing full coverage of enterprise information across different functional areas and sites.</p> <p>Score: _____</p>
<p>Subtotal: <input style="width: 50px;" type="text"/></p>	<p>Subtotal: <input style="width: 50px;" type="text"/></p>	<p>Subtotal: <input style="width: 50px;" type="text"/></p>	<p>Subtotal: <input style="width: 50px;" type="text"/></p>	<p>Subtotal: <input style="width: 50px;" type="text"/></p>

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The best practices are the ones that work for you

- 1
 Complete self test questions using a 1-5 scale: do statements describe your institution?
- 2
 Use page 3 to add up scores and determine your overall maturity score.
- 3
 Identify areas of weakness and strength to surface areas of fruitful investment.
- 4
 Discuss results with a peer to determine next steps for your campus.

Group Discussion: Pair and Discuss

What Can We Learn from the Self Test Scores in the Room?

Choose an Area that You Scored **Low**

- 1 Why did you allocate that score in the given domain?
- 2 Were you thinking of a particular area/department/project?
- 3 Did your partner allocate a different score? Can you learn from their experiences?



Choose an Area that You Scored **High**

- 1 Why did you allocate that score in the given domain?
- 2 Were you thinking of a particular area/department/project?
- 3 Did your partner allocate a different score? Can you learn from their experiences?



Guidelines for Sharing with the Group:

Where did you and your partner see similarities in your institutions' maturity?

Where did you identify differences in your relative maturity scores for particular domains?

What would you suggest as the strengths and weaknesses of your institutions?

Data Governance Center of Excellence

End-to-End Support for Establishing Agile, Sustainable Data Governance

ORGANIZE

Stand Up Oversight

Design

Assemble the appropriate groups to provide oversight, and determine policies and implementation workflows.



OPERATIONALIZE

Implement Institutional Data Governance Initiatives

Define

Agree definitions for enterprise data, creating and augmenting the campus data dictionary.



Deliver

Encourage campus adoption of central, enterprise data, and use feedback to drive new strategy.



Questions, Comments, and Planning Next Steps

What's Next for Your Institution?

Questions to Take Back to Campus

- Where are the largest **discrepancies in people's perceptions** of data governance maturity? How can you create better alignment?
- How thorough is our **understanding of the processes as they exist today**? How different are they across groups/units?
- What should the institution **be focusing on in the immediate term**? Are there already strategic areas of focus that your campus should be delivering on?
- What are your **next steps** to embed new thinking into the way that work gets done?
- How can we continue to **leverage EAB's work** as we redesign governance?
- Who is **accountable** for ensuring that next steps take place?

Get in Touch!



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