



Education
Advisory
Board

IT Forum

Hallmarks of the **Data-Driven** **University**

Preview of Our Data-Driven Enterprise Research

Laura Whitaker

IT Forum

Practice Manager

Kevin Danchisko

IT Forum

Research Analyst

Road Map for Today's Discussion



- 1 | Welcome
- 2 | Our Directive from Members
- 3 | Roadblocks to Sustainable Data Governance
- 4 | Hallmarks of Data-Driven Enterprises in Higher Education: Focus on Data Governance
- 5 | Diving Deeper: One Example Tactic
- 6 | What to Look Forward to at Our National Meeting



90 Members and Growing

Armstrong State University	McGill University	University of Alberta	University of Oregon
Ball State University	Metropolitan State University of Denver	University of Arkansas	University of Ottawa
Baylor College of Medicine	Northern Arizona University	University of British Columbia	University of Pittsburgh
California State University, Dominguez Hills	Northern Illinois University	University of Buffalo	University of Rochester
California State University, Fullerton	Northern Kentucky University	University of California, Berkeley	University of Saskatchewan
California State University, Northridge	Old Dominion University	University of California, Davis	University of South Carolina, Columbia
Carnegie Mellon University	Oregon State University	University of California, Irvine	University of South Florida
Central Michigan University	Pepperdine University	University of Cincinnati	University of Texas at Arlington
College of William & Mary	Prairie View A&M University	University of Colorado, Boulder	University of Texas at Tyler
Colorado State University	Purdue University	University of Colorado, Colorado Springs	University of Toronto
Dartmouth College	Queen's University	University of Connecticut	University of Utah
East Carolina University	Ryerson University	University of Florida	University of Wisconsin, Madison
Eastern Illinois University	San Jose State University	University of Georgia	University of Wisconsin, Milwaukee
Eastern Kentucky University	Southern Illinois University at Carbondale	University of Guelph	University of Wisconsin, Stout
Elon University	Southern Polytechnic State University	University of Illinois at Chicago	Virginia Polytechnic Institute and State University
Gallaudet University	Stony Brook University	University of Kentucky	Washburn University
Georgia College and State University	Syracuse University	University of Massachusetts System	Washington State University
Georgia State University	Tennessee Technological University	University of Memphis	Washington University
Indiana University	The George Washington University	University of Michigan	Webster University
Lafayette College	Towson University	University of Nevada, Las Vegas	Western Illinois University
Longwood University	Tulane University	University of New Hampshire	West Virginia University
Louisiana State University	University of Alabama	University of North Carolina, Charlotte	Winthrop University
	University of Alabama at Birmingham		



What Should We Research?

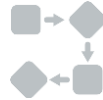
What Our Members Told Us



**Data-Driven
Enterprise**



**Student
Success
Road Map**



**Transforming
Administrative
Services**



**Rightsizing
Security
Strategy**



Sustainable Data Governance



Accountability for Data Management



Access and End User Support



BI Organization and Strategy

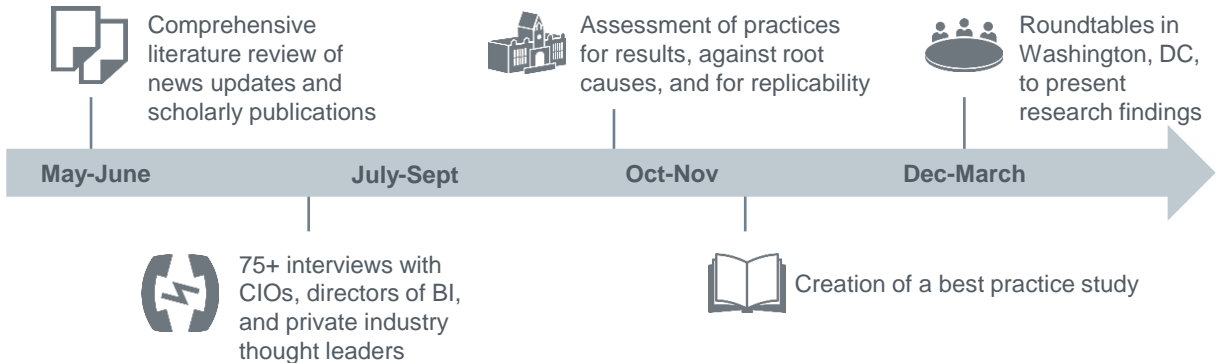
Our Methodology

Process for Our Data-Driven Enterprise Research



5

Discovering Best Practices for the Data-Driven Enterprise



Why Now?

Data an Increasingly Necessary Element of Decision-Making



Increasing Competition for Vital Resources

- Widespread funding shortfalls and budget cuts
- Rise of performance-based funding and budgeting models
- Changing national demographics, with the number of domestic high school students forecasted to decrease over the next decade



Gut Decisions No Longer Making the Cut

- Decisions based on assumptions lead to sub-optimal allocation of resources



“We’re missing opportunities to improve the university. We’re missing opportunities to increase our retention rates; we’re missing opportunities to get students graduated in four years; we’re missing opportunities to understand where we need to be recruiting.”

CIO, Master’s University

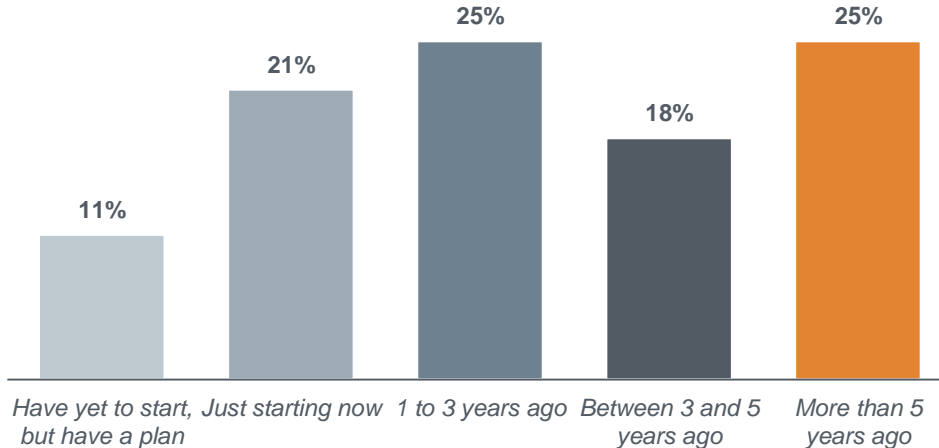


The Data-Driven University Already Exists...



The Concept of Business Intelligence Is Nothing New

When Did You Start Your BI Initiative?



n = 28, with 3 skipped

...And Everyone's Doing It

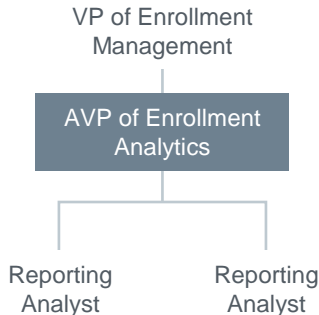
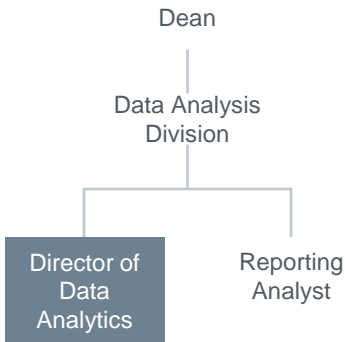
All Corners of the Campus Already Using Data for Decision Making



Distributed Analytics Staff Appearing across Campus

In Schools

In Business Units



15
Distributed Cognos licenses discovered at one research university at the start of a coordinated BI effort

So What's Broken?



Roadblocks to Effective Data-Driven Decision Making



Data Definitions

- No standard definitions
- No access to data definitions
- Variations in existing definitions
- No central staff to resolve inconsistencies



Data Collection

- Data fields not collected
- Open field entries not defined
- Place-holder data used
- Fields misappropriated
- No checks on data entry quality



Data and Systems Architecture

- Static system structure not aligned to the institution
- Improper system implementation
- Existence of suboptimal shadow systems
- No standardized data practices

Key Elements of the Data-Driven University



Data Governance Structure

Structure data governance with long-term sustainability as a top priority



Institutional Strategy

Establish BI as an all-in, enterprise effort



Data Management

Make data quality problems visible to procure participation in data management efforts



Disciplined BI Software Spend

Eliminate redundant and inefficient distributed BI spend



Organizational Structure

Centralize BI leadership efforts to expand the abilities of distributed data users



End User Support

Empower end users through self-service BI

Today's Focus



Hallmarks of Sustainable Data Governance



Data Governance Structure

Structure data governance with long-term sustainability as a top priority

1

Invest in better data governance before expanding the BI tool portfolio.

2

Put one full-time staff member in charge of data governance efforts.

3

Structure data governance into two main committees: 1) a prioritization committee of university executives, and 2) a definition/access committee of data custodians who are aligned with functional units and understand the organizational use of data.

4

Make attendance at data custodian committee meetings voluntary for all but the data governance director and the unit with the most responsibility for the data in question at each meeting.



A Culture Problem, Not a Tech Problem

Don't Invest in More Technology Before Investing in Data Governance

Data Problems



- Administrators at a private research university in the Northeast frustrated with data problems across the university



New ERP System



- University purchases Workday, thinking it will solve the data management problems



Data Problems



- Same data management problems persist



“If Cognos has 100 functions, we’re using two or three.”

Chief Data Officer, Public Research University



“A data-driven institution is very transparent, very open, and sharing is everywhere. And that particular value set is not part of our institution at this moment in time.”

CIO, Public Research University



Setting up for Success

BI Maturity vs. Data Governance Maturity

Characteristics Determining BI Maturity

- Our data resides in departmental silos
- Institutionally, data is viewed as a shared asset
- Decisions are validated with data from central sources
- We align BI initiatives with institutional priorities

Fragmented: zero or few processes govern the input, collection, definitions, usage, and access of data

Focused: within a narrow terrain (e.g., reporting) policies, definitions and processes exist

Enterprise Perspective: common policies and standards in effect, centrally-managed KPIs



n = 28, with 3 skipped

Source: EAB interviews and analysis.



Follow the Leader

Staffing for Data Governance Often Nonexistent

Typical Failure Points of Data Governance Related to Leadership



Staff Responsibility Changes

Person with side responsibility for data governance moves to another position; data governance responsibilities not reassigned.



No Shepherd of the Flock

No leader exists to hold committee members accountable to complete follow-up tasks from meetings. Committee disbands due to frustration among members.



Rise of a New “Chief” Position

Chief Data Officers Appearing in Higher Education



US Higher Education

8

CDOs found in higher education

Example Institutions:

- Cornell University
- Kennesaw State University
- Purdue University
- Savannah State University
- University of South Carolina
- University of Wisconsin
- University System of Georgia
- Wichita State University



Global Organizations

~250

Estimated CDOs across the world by end of 2014

Example Organizations:

- Cambia Health Solutions
- City and County of San Francisco
- IBM
- Nationwide Insurance
- ShopAdvisor
- State of Colorado
- TD Bank
- Wells Fargo

...But Uncertainty Abounds about the CDO’s Role



“If someone today tells you they know how to do the chief data officer's function, they're lying to you.”

Richard Wang, Director of MIT's CDO and Information Quality Program



Who's Needed Right Now?

Two Roles for Advancing the Use of Institutional Data

Comparing the CDO to the Data Governance Director

	Chief Data Officer	Data Governance Director
Core Responsibilities	<ul style="list-style-type: none"> Leads data definition creation Coordinates data governance meetings Oversees data quality processes Develops data management policies Oversees the design of the data warehouse and data integration Encourages use of BI for decision-making and strategic planning 	<ul style="list-style-type: none"> Leads data definition creation Coordinates data governance meetings Develops data governance policies Advises campus members on data management and data use Maintains the data dictionary
Desired Attributes and Skill Sets	<ul style="list-style-type: none"> Experience with data architecture, data management, and development of data governance Strong communication skills for both executive-level and technical implementation discussions 	<ul style="list-style-type: none"> Broad understanding of higher education operations Experience with higher education data (from one or more functions) Respected among colleagues on campus Project management skills
Estimated Salary	\$145-165K	\$80-110K



Perils of the Single Committee Structure

Committees Doomed to Fail from the Start

Roadblocks to Data Governance Committee Success



Committee turns into a prioritization committee, disagreeing on what to do next (and never getting to it)



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



Committee members consider the group a one-time project, not a long-term process



Committee turns into a group of delegates, as members aren't held accountable to anyone



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



No show of support from institution executives leads to loss of interest



Separate Strategy from Operation

Two Committee Structure Best for Achieving Execution

Data Strategy Committee



- **Role/purpose:** Direction setting (the “what”)
- **Seniority:** VP- to AVP-level
- **Composition:** Cross-functional data trustees (IT, Provost’s office, CBO’s office, Registrar’s office, etc.)
- **Size:** 5-10
- **Time commitment:** Minimal (one hour per quarter or semester)
- **Agenda:**
 - What areas of the university may benefit most from better data?
 - What has the data governance committee done since the last meeting, and what should they focus on until our next meeting?

Data Governance Committee



- **Role/purpose:** Execution (the “how”)
- **Seniority:** AVP- to director-level
- **Composition:** Cross-functional data custodians (IT, Provost’s office, CBO’s office, Registrar’s office, etc.)
- **Size:** 12-20
- **Time commitment:** High (one hour per week or month)
- **Agenda:**
 - What should the definition and security level for these terms be?
 - What standard terms do we not have that are causing problems?
 - Who across campus should be a data custodian?

Source: EAB interviews and analysis.



Why Am I Here?

Typical Data Governance Meetings Fail to Maintain Members' Interests

Representative Data Governance Committee Meeting



Results

Low Engagement among Members

Drop-off in Attendance

Members Send Delegates

Committee Stops Meeting





Inclusive Doesn't Have to Mean Big

Process for Term Definition at the University of Notre Dame

Project Identification



- BI strategy committee determines project priorities
- Data governance director and relevant unit directors determine terms necessary to define

Role Selection



- Data governance committee members **self-select their roles** in definition creation



Term Definition



- Data governance committee members who opt-in to definition creation meet to define terms
- Committee meets once per week for 60-75 minutes



Data Governance Committee Member Roles: RACI

Responsible: Owns the definition and leads the effort to accurately develop it

Accountable: Answers for the completeness and correctness of definitions across the institution

Consult: Participates in the development of the definition

Incorp: Is kept informed on the development of definitions. Provides tacit agreement to the term's definition



Matching the Right People to the Right Terms

Opt-in Process Promotes Engagement and Sustainability

Opt-in Survey

Faculty Status

Indicates whether an individual holds a current appointment to the faculty and, if so, whether they hold an appointment to the Regular faculty, as defined in Article III, Section 1, Subsection (e) of the University of Notre Dame Academic Articles.

- Responsible
- Accountable
- Consult
- Inform
- No Stake



Data Governance RACI Matrix (excerpt)

Term	Campus Data Steward	Regis.	Strat. Planning	Stud. Aff.	Athl.
Course Category	A	R	C		
Course Category Banding	A	R	C		
Course Number Level	A	R	C		
GIA Athlete Status	A	C	C	I	R
Satisfactory Academic Progress	A	C	C	I	
Sport	A	C	C	I	R

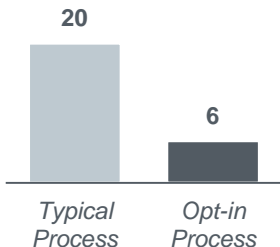
Source: EAB interviews and analysis.



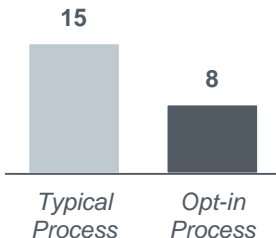
A Win-Win-Win

Seeing Results in Engagement, Efficiency, and Effectiveness

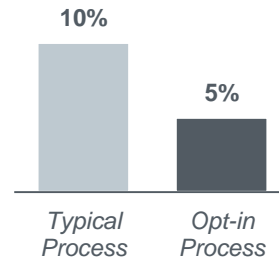
Number of People Attending Meeting



Time Needed to Define a Term (in Minutes)



Terms Requiring Revisions



300+

Terms defined by Notre Dame's process

600+

Director-level and above staff hours saved per year (conservative estimate)

What to Look Forward to

More Hallmarks of Data-Driven Universities



Data Governance Structure

Structure data governance with long-term sustainability as a top priority



Institutional Strategy

Establish BI as an all-in, enterprise effort



Data Management

Make data quality problems visible to procure participation in data management efforts



Discipline BI Software Spend

Eliminate redundant and inefficient distributed BI spend



Organizational Structure

Centralize BI leadership efforts to expand the abilities of distributed data users



End User Support

Empower end users through self-service BI

Services Available to IT Forum Members



Helping Your Team Work Smarter and Faster



Insight Centers

- Immediate access to web-based resources for members of your team trying to get smart on an issue quickly
- Example insight centers:
 - Data-Driven Enterprise
 - Academic Information Services



Webconferences

- Hour-long educational sessions that focus on select case studies from best practice research or emerging issues
- Example webconferences:
 - IT Security Breach Preparation & Response
 - Rationalizing University Technology Investments
 - Innovations in Delivering Quality Instruction at Scale



Onsites

- One-to-two hour formal presentations with Q&A or half-day facilitated interactive sessions on selected issues
- Example uses:
 - Strategic planning
 - Consensus building
 - Board education

Services Coming Down the Road

Teaching You Our Identified Best Practices



27



Roundtable Meeting

- A concise presentation of the year's most promising research, reserved for CIOs. The roundtable meeting is limited to 25 to 35 attendees to ensure robust discussion and sharing of ideas
- Multiple roundtables will be held to accommodate busy member schedules
 - Dec 2-3, Washington (at capacity)
 - Jan 13-14, Washington
 - Feb 24-25, Washington
 - Mar 17-18, Chicago



Best Practice Study

- Innovative ideas—all proven and put into practice at other colleges and universities—addressing the data governance and BI challenges facing IT leaders across the country



Toolkits and Resources

- Implementation guides and diagnostic tools to help you put best practices in place at your institution (e.g., hallmark maturity diagnostic, data quality problem identification survey)

Thank You

Contact Information for IT Forum Team Members



Laura Foster Whitaker
Practice Manager
EAB Strategic Research
lwhitaker@eab.com
202-568-7483



Kevin Danchisko
Analyst
EAB Strategic Research
kdanchisko@eab.com
202-568-7509



Education Advisory Board Website

- www.eab.com
- Open to all members of your institution with an @____.edu or @____.ca email address

Existing EAB Data-Driven Research

Perspectives from our CBO-focused research

Developing a Data-Driven University

Research study with strategies and best practices for increasing reporting and analytical capacity to improve institutional effectiveness.

- Forum: Business Affairs Forum
- Audience: CBOs, CIOs, BI Directors
- Year: 2010
- Learn How To:
 - Overcome data denial
 - Increase analytical and reporting capacity
 - Drive awareness of data and analytics
 - Inspire use of data in decision-making

Webinar Sessions on Developing a Data-Driven University

Part One:

This webinar provides an overview of how progressive institutions have liberated scarce analytical resources to focus on internal assessment versus external accountability requirements.

Part Two:

The session profiles the dashboards, key performance indicators, and business intelligence capabilities that are emerging as the new gold standard for university decision support.