

IMPROVING DATA GOVERNANCE IN  
HIGHER EDUCATION

#AItraining



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**ai** ACADEMIC  
IMPRESSIONS

 POLL

Which statement best  
approximates the state of your  
institution's data governance?

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IMPRESSIONS 2



## CHAT

**Which division/unit is responsible for data governance at your institution?**



## LEARNING OUTCOME

**After participating...**

you will be able to build more inclusive data governance processes at your institution.

**AGENDA**


- Institutional Contexts
- Establishing a Data Governance Foothold at Your Institution
- Sustaining Data Governance Efforts
- Demonstrated Successes and “Quick Wins”

 5

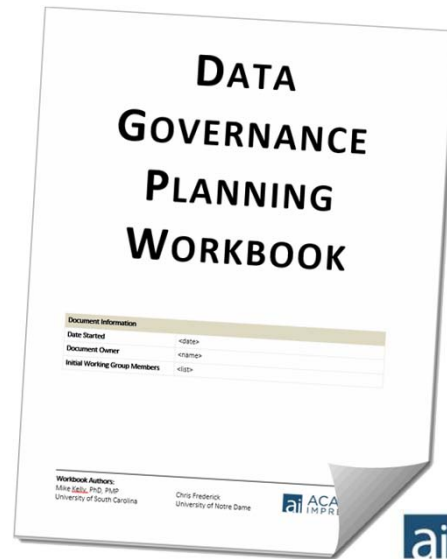
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Introduction

**DATA GOVERNANCE  
PLANNING WORKBOOK**

 6

## LEAVING WITH A PLAN



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## INSTITUTIONAL CONTEXTS



Public	Private
Multi Campus System (8)	Single Campus
Banner Student PeopleSoft Finance Legacy HR → PeopleSoft	Banner Student, HR, Finance
Decentralized/Centralized	Centralized
Research Institution	Research Institution
49,450 students	12,292 students

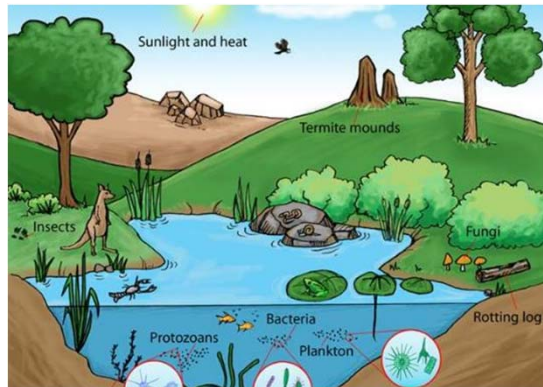


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## ESTABLISHING A DATA GOVERNANCE FOOTHOLD AT YOUR INSTITUTION



## ECOSYSTEM OF DATA



### INFORMATION SYSTEMS

- Enterprise
- Auxiliary



### DATA STORES

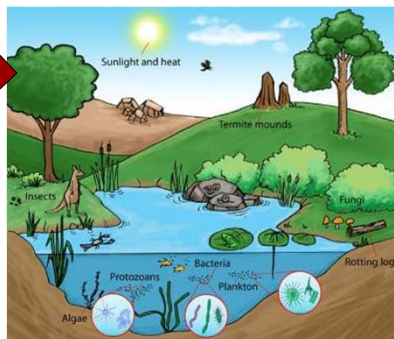
- Contributors
- Consumers



## ECOSYSTEM OF DATA



### Data Stewards



## REALITIES OF INFORMATION SYSTEMS



- One system doesn't 'do it all'
- Share data elements
- Data exchanges require records/identity matching
- Must confront reality that institutional data is both an "asset" and a "liability"


## SHARED DATA ELEMENTS



### ANY EXCHANGE OF DATA ELEMENTS BETWEEN INFORMATION SYSTEMS DEMANDS...

- Planning / coordination / change control
- Agreement on nomenclature & meaning
- Identity management
- Data sharing agreements that address -
  - Privacy
  - Security
  - Integration logistics

## STRATEGIC VS. TACTICAL INITIATIVES





*Is there a difference?*

- Both may require enterprise & auxiliary data
- Both are concerned with data quality

*but . . .*



- Strategic initiatives should *drive* data governance
- Tactical initiatives should *benefit from* data governance



## STRATEGIC INITIATIVES . . .


SHOULD ***DRIVE*** DATA GOVERNANCE BY ASKING

- What data is required to inform decision making?
- Do we collect the right data already?
- Do we organize & structure it for use?
- Is it readily understood?
- What do we need to change or improve?
- What strategic goals can we track with data?





**TACTICAL INITIATIVES . . .**




**SHOULD BENEFIT FROM DATA GOVERNANCE**

- Because DG processes streamline
  - Knowing what’s already available
  - Knowing who to go to
  - Knowing what to ask for
  - Making sense of the data/information you access

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**KNOWING THE DIFFERENCE**



Strategic Initiatives	Tactical Initiatives
<p><b>ENROLLMENT REPORTING:</b> <i>How many students do we enroll/need to enroll?</i></p> <ul style="list-style-type: none"><li>• Headcount vs. FTE</li><li>• Which campus claims them?</li><li>• How are they distributed by level?</li><li>• Are we ahead of last year?</li></ul>	<p><b>GRANT PROPOSAL:</b> <i>Need specific institutional info on transfer students</i></p> <ul style="list-style-type: none"><li>• What are our main transfer feeder schools?</li><li>• How many transfers in STEM majors?</li><li>• How many transfers are ‘new majority’?</li></ul>

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**QUESTIONS ARE TEACHERS**





**RESPONDING TO QUESTIONS WILL TEACH YOU**

- What you don't know
- What you don't agree on
- What you never thought about collecting
- What you never imagined being asked
- To interrogate the requester

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**EVOLUTION OF DATA STEWARDSHIP**



**RECOGNIZING REALITY**

- Operations generate data
- Somebody needs to be responsible

**IDENTIFYING & DESIGNATING**

- Do you manage a functional area?

**COMMUNICATING WIDELY**

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**SO...YOU'RE A DATA STEWARD**

Expectations 5

Skills 2

Knowledge 3

Responsibilities\* 4

Respond to inquiries 6

Accountability 1

Image source:  
<http://www.nhs.uk/Change4Life/PublishingImages/personBodyPartsIllustration.gif>

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**STEWARDSHIP TO GOVERNANCE**

Registrar

Bursar

Admissions

HR

Administration

Image source:  
[http://images.americas.creative.com/Images/products/inline/MSO\\_baroque\\_orch.jpg](http://images.americas.creative.com/Images/products/inline/MSO_baroque_orch.jpg)

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## ESTABLISHING A Foothold



### MOTIVATION TO GET GOING

- ✓ Strategic need or lack of capability or anticipated change

### FIRST STEPS

1. Build on what you already have - data stewards.
2. Go for a quick win.
3. Identify who is knowledgeable and responsible.
4. Clarify their responsibilities and decision rights.
5. Articulate how to work together and communicate.



## STEWARDSHIP TO GOVERNANCE

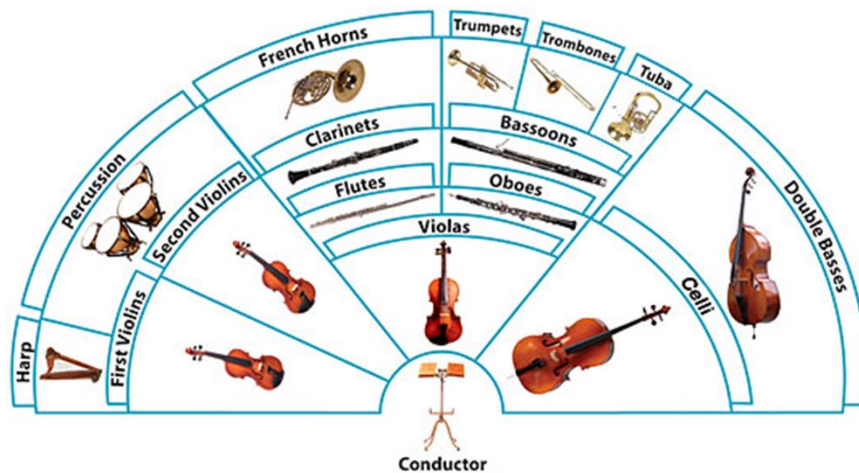



Image source: [http://images.americas.creative.com/images/products/intline/MSO\\_baroque\\_orch.jpg](http://images.americas.creative.com/images/products/intline/MSO_baroque_orch.jpg)




**MATURING INTO DATA GOVERNANCE**




**FRAGMENTED ACTIVITIES → FORMAL & AGREED UPON:**

- Objectives
- Policies + Procedures + Standards + Guidelines
- Business processes
- Data definitions
- Identification of resource needs
- Commitments of resources
- Arrangement or framework




**MATURING INTO DATA GOVERNANCE**



**CULTURAL TRANSFORMATION**

- Embracing & promoting tighter coordination
- IR becomes driver for
  - data quality & integrity
  - data standards
- IR/Analytics, privacy, security become drivers for
  - identity management
  - access & permissions





## TAKEAWAYS

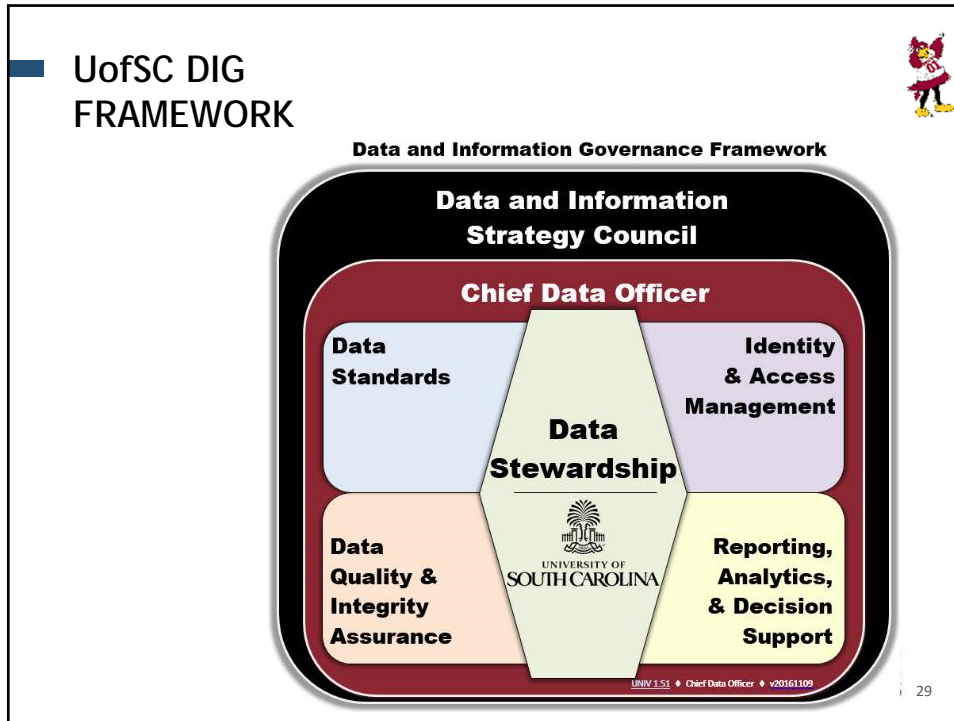
- Transition takes time
- Need leadership & coordination
- Acknowledge complicated relationships
- Share knowledge
- Communicate
- Need for trust is profound
- Need for management tools



## UofSC TIMELINE

- Recognize concept Data Steward - early 2000s
- Designation in Policy & specifying responsibilities - 2008
- SME leads for ERP transitions - 2008-present
- Loose federation - 2008-present
- CDO created - 2013
- Working Group on Data & Information Governance Policy and Framework - 2014-2015
- Data & Information Strategy Council + Data Stewardship Council - 2016 ff





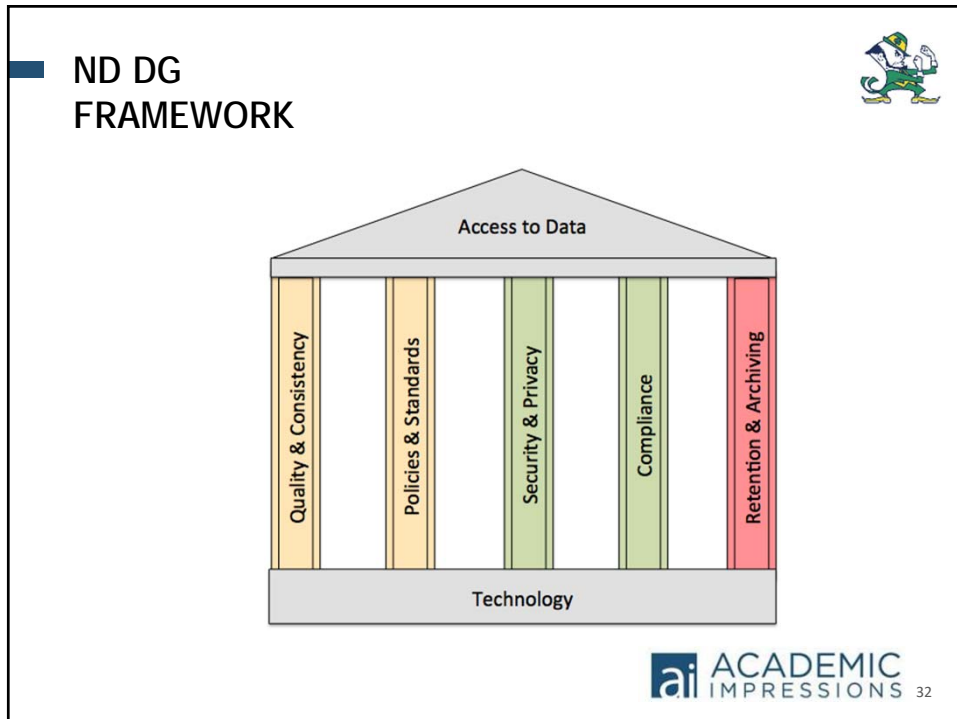
**?** QUESTIONS

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Best Practices

## SUSTAINING DATA GOVERNANCE EFFORTS





## Slide 31

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- 1** Is this where we would put tools? Should this be a follow up presentation. This is already pretty long.  
Christopher Frederick, 10/28/2016
- 2** If it is tools, then likely you'd want a data cookbook school in here  
Christopher Frederick, 10/28/2016

## ND TIMELINE



- Recognize concept Data Steward for ERP transitions - early 2000s
- Highly Sensitive Data Handling Policy - around 2005
- Banner ERP go-live - 2005
- First Attempt at Enterprise Data Warehouse Failed - 2012
- Executive Sponsorship for Data Governance granted - 2012
- Campus Data Steward Appointed - 2013
- Begain work on core data definitions - 2013
- Second Attempt at Enterprise Data Warehouse successful - starting 2013
- Data Governance foothold firmly established - 2014
- Data Governance now involved in CRM go-live, system integrations - 2015
- Broad Data Access, Handling, and Information Sharing Policy - Early 2016



## ESTABLISHING A FOOTHOLD



### START WITH EXECUTIVE SPONSORSHIP

- ✓ Data governance requires institutional fortitude. You will need executive sponsorship to overcome departmental skirmishes and help usher change.

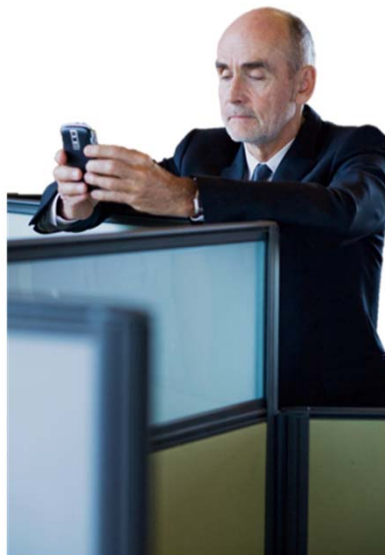
### FIRST STEPS

1. Identify critical data pain points caused by the lack of agreement between offices on core data definitions.
2. Use real examples for the appointment of a Campus Data Steward.

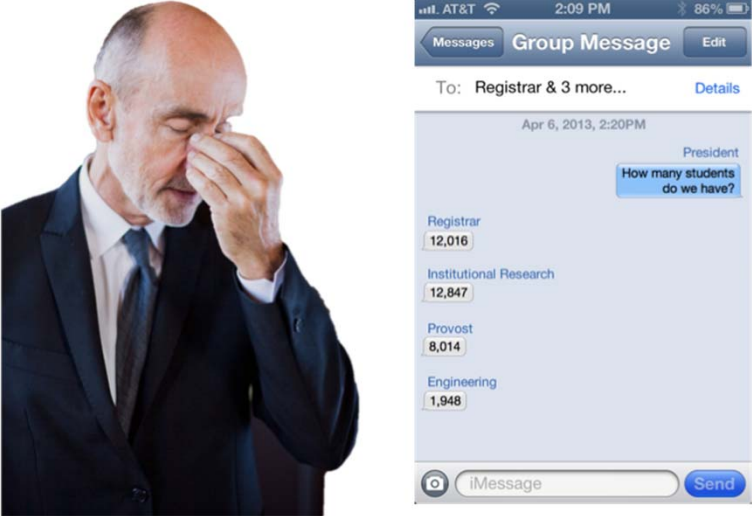




One day our president was wondering...



# Improving Data Governance in Higher Education



The image shows a man in a dark suit and tie, with his hand covering his eyes in a gesture of frustration or despair. To his right is a screenshot of an iPhone group text message. The message is titled "Group Message" and is addressed to "Registrar & 3 more...". It is dated "Apr 6, 2013, 2:20PM". The message content is as follows:

President  
How many students do we have?

Registrar  
12,016

Institutional Research  
12,847

Provost  
8,014

Engineering  
1,948

The screenshot also shows the AT&T carrier, 2:09 PM time, 86% battery, and an iMessage input field with a "Send" button. A small green mascot logo is in the top right corner of the slide.

4

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The image shows the same man in a dark suit and tie, with his hand covering his eyes. A blue thought bubble is positioned above his head, containing the text:

We need data governance!

A small green mascot logo is in the top right corner of the slide.

5

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## CHANGING CULTURE



### HIRE A CAMPUS DATA STEWARD WITH CLOUT

- ✓ Find a trusted leader that can help mediate differences between stakeholders.

## STEWARDSHIP TO GOVERNANCE

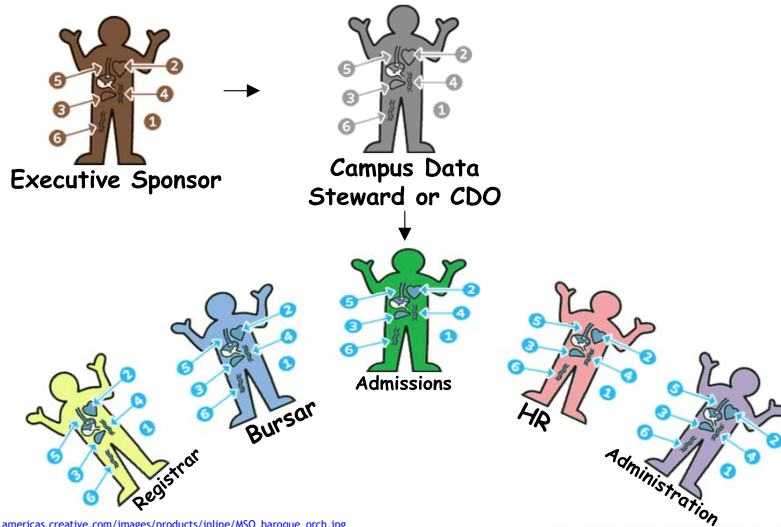


Image sources:  
[http://images.americas.creative.com/images/products/inline/MSO\\_baroque\\_ersch.jpg](http://images.americas.creative.com/images/products/inline/MSO_baroque_ersch.jpg)  
<http://res.freestockphotos.biz/pictures/17/17868-swiss-flag-pv.jpg> (Create commons for commercial use)

## ESTABLISHING A FOOTHOLD



### IDENTIFY AND INVOLVE STAKEHOLDERS

- ✓ Use a RACI matrix to minimize meeting fatigue

### FIRST STEPS

1. Identify definitive list of stakeholders for every subject area.
2. Carve out a reasonable set of related data definitions that will be used to solve a real problem.
3. Poll all stakeholders to determine their desired level of involvement.



## ESTABLISHING DATA DEFINITIONS



### IDENTIFY AND INVOLVE STAKEHOLDERS

- ✓ Use a RACI matrix to minimize meeting fatigue

Sprint	Term	Campus Data Steward	Registrar's Office	OSPIR	Student Affairs Hoffman-Harding	Stu Fin Ser
		Chapple	Micou	Gurty		Br
1	Academic Degree	A	R	C	I	
1	Academic Term	A	R	C	I	
1	Academic Year	A	R	C	I	
1	Active Student	A	R	C	I	
1	Campus Residence Status	A	C	C	R (Shoup)	
1	College	A	C	C	I	
1	Degree Seeking Status	A	R	C	I	
1	Enrolled Student	A	R	C	I	
1	Student Classification	A	R	C	I	
1	Student Continuation Type	A	R	C	I	
1	Student Level	A	R	C	I	
1	Student Time Status	A	R	C	I	
2	Catholic Status	A	C	C	I	
2	Citizenship	RA	C	C	I	
2	Credit Hours, GPA	A	R	C	I	
2	Credit Hours, Total	A	R	C	I	
2	Gender	RA	C	C	I	
2	GPA, Cumulative	A	R	C	I	
2	GPA, Level	A	R	C	I	
2	GPA, Term	A	R	C	I	



## ESTABLISHING A FOOTHOLD



### PUT SOURCE SYSTEM JARGON IN ITS PLACE

- ✓ Use simple language that can be easily understood by those without in-depth knowledge of your ERP.

### FIRST STEPS

1. Don't define data definitions using source system terms.
2. Avoid language such as, "A person is anyone found in SPAIDEN".
3. Keep source system jargon in its place - technical metadata.

## ESTABLISHING DATA DEFINITIONS



### RECONCILE POPULATION DIFFERENCES VISUALLY

- ✓ Use simple data visualizations to augment textual definitions.

**Active Student**  
An individual who has been confirmed by an admitting office (or of her admitting authority), as recorded by the University Registrar, is considered an active student until he or she:

- Graduates (if degree-seeking)
- Completes the academic term (if non-degree-seeking)
- Withdraws or is dismissed by the University
- Fails to report for a spring or fall academic term (unless granted a leave of absence by a Dean)

Last Updated: Tue, 06 Oct 2015 08:21 PM

**Externally Reportable Enrolled Student**  
Externally reportable enrolled students include all active students who are:

- Directed for a given academic term
- Credit-bearing students for that academic term
- Not enrolled at a Student Level of Credit Institutional or Pro-Codage

Last Updated: Tue, 06 Oct 2015 08:21 PM

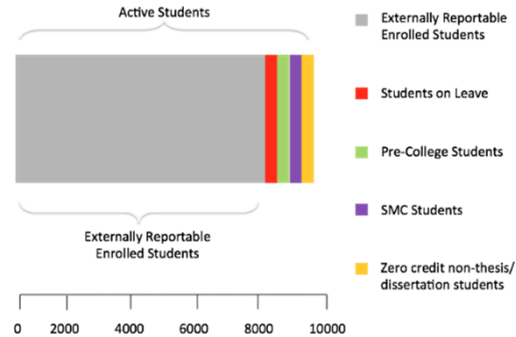


## ESTABLISHING DATA DEFINITIONS



### RECONCILE POPULATION DIFFERENCES VISUALLY

- ✓ Use simple data visualizations to augment textual definitions.

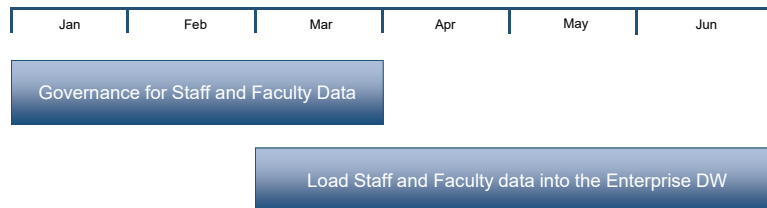


## ESTABLISHING DATA DEFINITIONS



### LEAD WITH DATA GOVERNANCE

- ✓ Stagger your IT projects so that data governance work starts before the main development effort begins.



## CHANGING CULTURE



CREATE SIMPLE GUIDING PRINCIPLES TO  
GOVERN SENSITIVE TOPICS LIKE SECURITY &  
ACCESS...

Drama ≠ Damage


## CHANGING CULTURE



WHEN THINKING ABOUT DATA ACCESS...

- ⊙ Don't ask: "Do you have a business need to access this data?"
  - That an internal user does not have specific business need for access to information should not be the governing question.
- ✓ Do ask: "What harm could come from accessing this data?"
  - Should any internal user access this information, would that access be expected to have a serious adverse effect on the operations, assets or reputation of the University or compromise the University's obligations concerning information privacy?

**CHANGING CULTURE**



**SIMPLIFY AND PROMOTE ACCESS TO TERMS AND REPORTS**  
✓ Be like Google.

Inju


Reports

- NCAA: Top 20 Season Ending Injuries

Terms

- Football Injury
- Season Ending Injury

Make it easy to look up a term definition, as well as related datasets and reports.



**? QUESTIONS**



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## DEMONSTRATED SUCCESSES AND "QUICK WINS"

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### ■ SUCCESS: A STRATEGIC NEED



#### DATA DICTIONARY

- Shared knowledge & understanding

#### ENHANCED ENROLLMENT REPORTING CLARIFIES

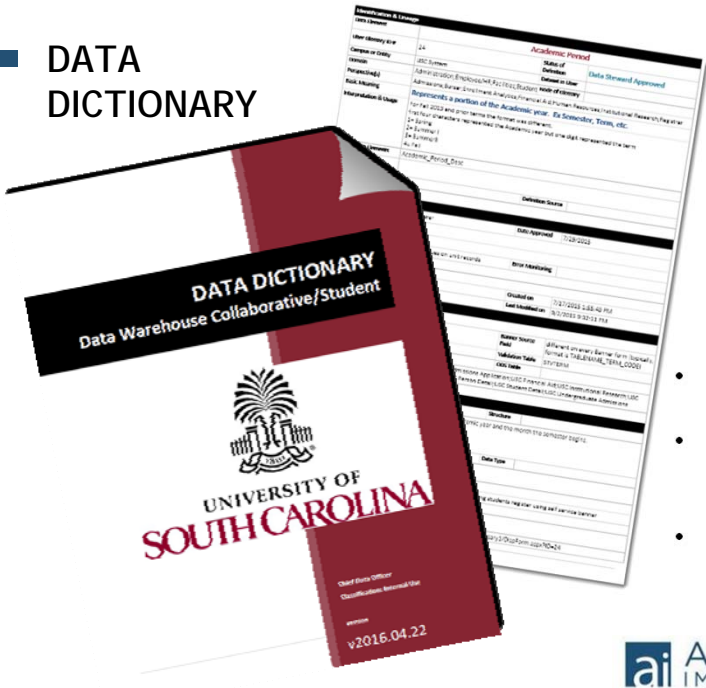
- What an enrolled student is &
- How many we have
- Headcount and FTE

#### WHICH CAMPUS THEY BELONG TO

- Consequences for revenue
- Campus-claiming business rules
- Different rules for HC vs. FTE

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## DATA DICTIONARY




The image shows the cover of a red book titled "DATA DICTIONARY Data Warehouse Collaborative/Student" with the University of South Carolina logo. Next to it is a sample page from the dictionary, which is a detailed table with columns for "Academic Period", "Data Steward Approval", "Status of Definition", "Date of Definition", "Created on", and "Last Modified on".

- Documented methodology
- 301 data elements defined
- Searchable

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## DATA PORTAL



The screenshot shows the dataND portal interface with a search bar, navigation menu, and the text "Trusted Data for Informed Decisions".

- University approved source of data for campus
- Find everything from one search bar
- Provide consistent answers to common questions
- Make data definitions available (851 terms)

*"dataND allows us to spend less time on finding and extracting data and more time on analyzing and understanding its implications."*

--John Affleck-Graves, Executive Vice President

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## EXPANDING ON SUCCESS



- Address additional info needs
- Details we need to know about enrolled students
  - Bio/dem attributes
  - Tracking success: retention & graduation
- Timely info... ie. analytics & BI
- Support decisions: how many students we will need

## SUCCESS: A STRATEGIC NEED

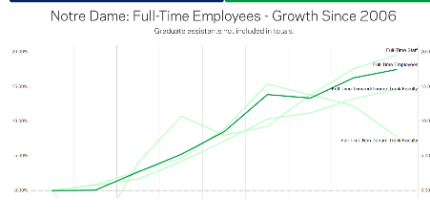
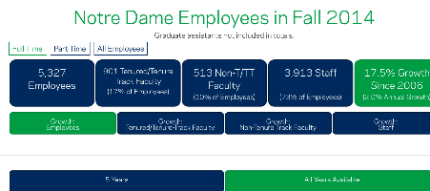


### IMPROVED EMPLOYEE ANALYTICS

Created a common language for talking about staff and faculty.

Example:

- Staff Growth
- Faculty Growth
- Talent Review
- Turnover Analysis
- Diversity



## SUCCESS: A STRATEGIC NEED

[X] All Buildings

[X] For University Use

[X] Other Buildings

[X] Campus

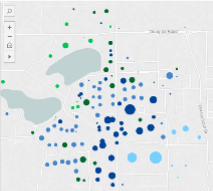
[X] South Bend Vicinity

189  
Buildings

10,952K  
Gross Area (sq. ft.)

### Buildings (by Count) - Classified by Primary Purpose

Administrative	51
Residential Life	51
Academic	50
Athletic	20
All Other	17



## IMPROVED SPACE ANALYTICS


Created a common language for talking about space.

Example:

- Space Individual Occupant
- Space Department Occupant

Improved Space Utilization

- Classroom Utilization
- Office Utilization
- Etc




## SUCCESS: A STRATEGIC NEED

## IMPROVED RESEARCH ANALYTICS

Created a common language for talking about research data

Example:

- Sources of Research Funding
- Research Expenditures



Exclude Medical

Include Medical

### Research at Notre Dame in 2015

Total Expenditures: \$191 million

Excludes funding for Medical Sciences and Other Life Sciences

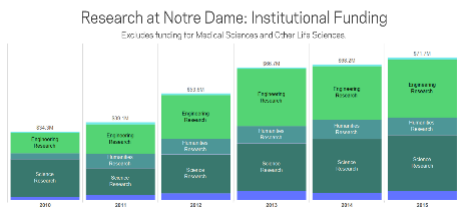
Institutional Funds  
\$72 million (37.6%)


Federal Funds  
\$94 million (49.9%)


External Non-Federal  
\$85 million (43.5%)

### Research at Notre Dame: Institutional Funding

Excludes funding for Medical Sciences and Other Life Sciences








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## QUESTIONS








## EVALUATION

**Thank you!**

Please remember to complete the event evaluation.  
Your comments will help us continually improve the  
quality of our programs.

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