



# Governing our Data for Value: Everyone Matters

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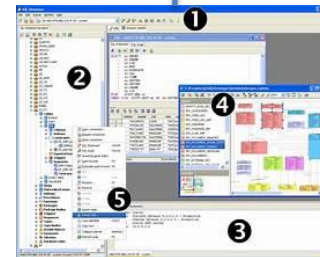


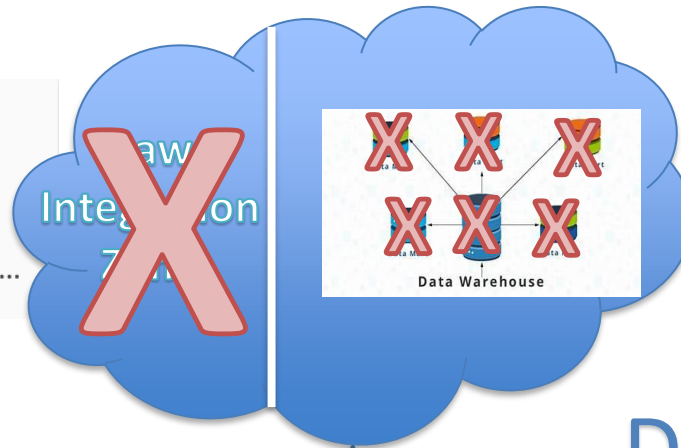
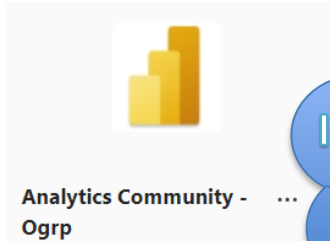


IBM Cognos  
Analytics



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# Transparency

- Catalog of data assets
- Trustee
- Lead Data Steward
- List of approved stewards

## Domain-specific Support

- Business process training
- Appropriate Use & Confidentiality
- Community of Stewards



### Data Dictionary

Data Dictionary outlining a Database on Driver Details in NSW

Field Name	Data Type	Data Format	Field Size	Description	Example
License ID	Integer	NNNNNN	6	Unique number ID for all drivers	12345
Surname	Text		20	Surname for Driver	Jones
First Name	Text		20	First Name for Driver	Arnold
Address	Text		50	First Name for Driver	11 Rocky st Como 2233
Phone No.	Text		10	License holders contact number	0400111222
D.O.B	Date / Time	DD/MM/YYYY	10	Drivers Date of Birth	08/05/1956



- Functional & Technical Definitions
- Table Documentation
- Reference Data

# Governing Our Data

- Institutional vs research data
- Challenges and Actions
- Policies and Guidance:
  - Data Classification
  - Roles and Responsibilities
  - Access Management
- Tools and Technology



# From Problems to Progress

## Challenges

- Unclear accountability
- Siloed information
- Inconsistent access to data
- Lack of understanding stakeholder needs
- Resistance to change
- Gaps in data literacy

## Actions

- Strategy: non-invasive
- Clarifying roles and responsibilities
- Reviewing policies and processes
- Creating accessible resources with key information
- Providing training and resources



# Understanding and Managing Risk

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## SUMMARY OF UNIVERSITY OF MISSOURI SYSTEM DATA CLASSIFICATION LEVELS (DCL)

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CLASSIFICATION	TYPE OF INFORMATION/DISCLOSURE RISK
<b>1: PUBLIC</b>	Publicly available with no security measures required.
<b>2: SENSITIVE</b>	Shared internally and not available to the public, though not required to be protected by statutes or regulatory policies.
<b>3: RESTRICTED</b>	Confidential business or personally identifying, and subject to legal, regulatory, or contractual requirements. Unauthorized disclosure could harm the University.
<b>4: HIGHLY RESTRICTED</b>	Highly confidential and subject to the strictest legal and regulatory requirements and requires defined security controls. Unauthorized disclosure could result in significant harm to the university.

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Objective: To provide a framework that data owners can use to assign best practices based on business rules.



# Roles and Responsibilities

## SUMMARY OF UNIVERSITY OF MISSOURI SYSTEM DATA GOVERNANCE ROLES

ROLE	RESPONSIBILITIES
DATA TRUSTEE	<ul style="list-style-type: none"><li>• Maximize the value of data while ensuring compliance.</li><li>• Establish the vision, strategic alignment, and organizational culture.</li><li>• May delegate responsibilities but always accountable.</li></ul>
DATA STEWARD	<ul style="list-style-type: none"><li>• Manage policies, processes, quality, consistency, and documentation.</li><li>• Ensure security controls and compliance with training.</li><li>• Responsible for understanding the business integrity.</li><li>• <u>Lead Data Stewards establish data lifecycle and <b>manage access</b> to data.</u></li></ul>
DATA CUSTODIAN	<ul style="list-style-type: none"><li>• Oversee the technical environment for data.</li><li>• Enforce policies, protect data, and maintain quality and business integrity.</li></ul>
DATA CONSUMER	<ul style="list-style-type: none"><li>• Understand and adhere to business and access rules, use data only for its intended purpose, and report any unauthorized access.</li></ul>



Objective: Maximize the value of resources to achieve our mission, while carefully safeguarding the security, privacy and integrity of data



# Balancing Access and Protection

- **Role-based access controls (RBAC):** applied to limit scope of data a particular person in a particular org unit should see within a particular domain.
  - Access granted by **Role**, not individual
  - Access assigned to **pre-defined, meaningful domains** of data

## Definitions:

- ❖ **Role:** Driven by the question: “What do they need to do their job”
- ❖ **Domain:** Area of data usually defined by a business function
- ❖ **Sub-Domain:** As need when there are regulatory or sensitivity differences within a domain.
- ❖ **Organizational Controls:** access reflecting the same role, but in different organizational structures *when access needs to be differentiated*. E.g. Business Manager in Business School vs Law School.





# Access Management Framework

- **Access Levels:** pre-defined meaningful domain and scope of data

DCL Level → Business Unit → Domain → <Sub-Domain> → <Scope>

- **Groups of People:** Defined by shared role or responsibilities, e.g.,
  - ✓ MU Deans and Chairs
  - ✓ MU Distributed Student Analysts

Data Classification System	Domains/sub-domains	Useful Classifiers
➤ DCL1: Public	➤ Student	➤ Aggregated > 10
➤ DCL2: Sensitive	➤ Student Recruiting	➤ Direct data access
➤ DCL3: Restricted	➤ Student/Financial Aid	
➤ DCL4: Highly Restricted	➤ Human Resources	
	➤ Finance	



Objective: To ensure that the right access is provide to the right group of people to accomplish business goals.



# Data Governance Software RFP

- Goals for the software
  - Promote active engagement with data governance
  - Encourage collaboration while protecting sensitive information
  - Support management of the data lifecycle
- Goal for the RFP process:
  - Provide a solution to help manage data assets
  - Get buy-in from the users
  - Facilitate data literacy efforts



# Knowledge Management

## Business Glossary

Enterprise-wide collection of data elements and definitions of measures.

Useful for business teams and compliance.

## Data Dictionary

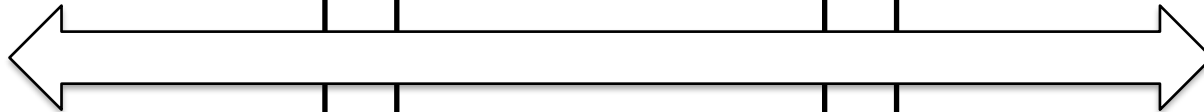
Technical information and metadata in a database or information system.

Useful for data engineers and IT teams.

## Data Catalog

Provides an inventory of assets like databases and information systems.

Useful for analysts, engineers, and business users.



# Industry Consensus: Change is Needed



**GO BIG—**  
MAKE AN INSTITUTIONAL  
COMMITMENT TO ANALYTICS.



**INVEST WHAT YOU CAN—**  
YOU CAN'T AFFORD NOT TO.



**ANALYTICS IS A TEAM SPORT—**  
BUILD YOUR DREAM TEAM.



**PREPARE FOR SOME DETOURS**  
ON THE ROAD TO SUCCESS.



**ANALYTICS HAS REAL IMPACT**  
**ON REAL PEOPLE—**  
AVOID THE PITFALLS.



**TICK-TOCK, TICK-TOCK—**  
THE TIME TO ACT IS NOW.

## **Educause #1 Issue for 2025: *The Data-Empowered Institution:***

Using data, analytics, and AI to increase student success, win the enrollment race, increase research funding, and reduce inefficiencies



# Thank you!

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## Resources

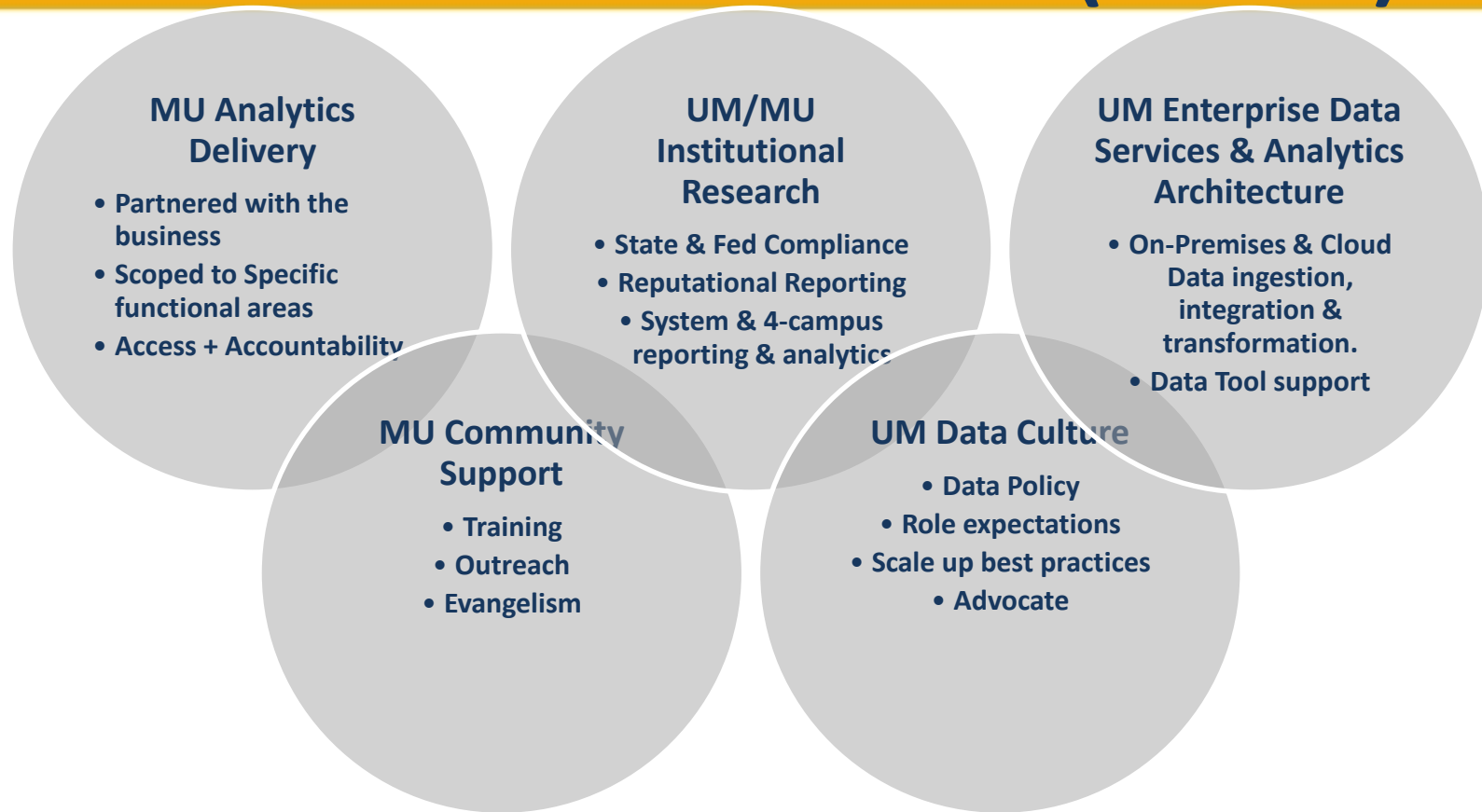
1. [AIR, EDUCAUSE, NACUBO Joint Statement on Analytics](#)
2. AIR, EDUCAUSE, NACUBO: [Change with Analytics Playbook](#)
3. [Analytics in Higher Education: Benefits, Barriers, Progress, and Recommendations](#), a collaboration between EDUCAUSE and AIR.
4. [2025 EDUCAUSE Top 10: Restoring Trust](#)
5. The [2023 EDUCAUSE Horizon Action Plan](#) is a good resource if you are looking to start a DG program
6. Robert S Seiner's Non-Invasive Governance books
  1. Non-Invasive Governance The Path to Least Resistance and Greatest Success (2014)
  2. Non-Invasive Governance Strikes Again Gaining Experience and Perspective (2023)
  3. Upcoming- Non-Invasive Governance Unleashed Empowering People to Govern Data and AI (2025)



# Appendix



# University Data, Analytics and Institutional Research (UDAIR)



## Office of the CDO

Low-Code App  
Development

Data  
Governance

Admin  
Support

Outreach &  
Evangelism

Project  
Manager

Performance  
Improvement



# UDAIR Goals



## Data Foundations

- High-quality data integrated across the silos
- Promote scalable, secure, and robust access to governed data



## Empower leaders and business users

- Scale up from ad hoc to on-demand
- Develop a “product and persona approach” to delivering data



## Agile data discovery

- Enable agility to discover insights
- Develop path from agility to certified datasets



## Governed Data

- Owner & Steward responsibilities by domain, including data quality
- Data defined and documented to promote trust & usability



## Data Literacy and Adoption

- Grow the ability to communicate, read and work with data
- Promote and monitor adoption of analytics



## Promote Advanced Analytics

- Predictive and proscriptive analytics
- ML & AI for operational efficiency





# Authentic and Sustained Change

## Operations

- Investment in support structure (UDAIR)
- Analytics and IR Centers of Excellence
- Operations and project prioritization and transparency
- Upskilling, communities of practice, support and training
- Office of the CDO

## Governance

- Cross-domain leadership (CDO, Privacy Officer, DG Committee)
- Philosophy: Non-invasive. Culture + formalize existing practice
- Formalize, streamline and educate on existing policies and practices
- Data governance RFP and stakeholder engagement

## Infrastructure

- Strategy: no single use data, analysts as customers
- Services: IT as an enabler, not a bottleneck
- Single BI tool, cloud investment
- ELT: engineering, platform, performance, access, alignment



# Roadmap: Where We've Been

## Operations

- Investment in UDAIR
- Market competitive career progressions
- Analytics Center of Excellence (+ IR):
- Hub and spoke service
- Business Alignment
- Cx Product Focus
- Defined operational processes
- Upskilling: OCM
- Upskilling: Data Evangelist
- Upskilling: Portfolio & Project Management
- Training and communities of practice
- Transparent prioritization
- UM/MU + IR/Analytics
- Office of the CDO

## Governance

- Chief Data Officer
- Privacy Officer
- Data Governance Committee
- Sharepoint Governance as a Service
- Campus & System advisory groups
- Data Governance Policy (proposed)
- Non-Invasive Data Governance
- Formalized Access model
- Data Governance Manager!
- Formalize System prioritization process
- DG Tool RFP

## Infrastructure

- Define Data Strategy: Move away from single use data
- Analysts as the customer, not single business users
- Define data services: IT as an enabler, not a bottleneck
- Single BI Tool strategy
- Cloud Investment
- Hire Data Engineers
- Upskilling: ETL to Data Engineer
- Upskilling: Sys Admin to Platform Engineer
- Repeatable ingestion/devops
- Platform management/governance
- Transformation performance tuning, orchestration, maintenance and observability
- Access Management model and oversight
- Service alignment across central IT and four campuses



# Roadmap: Where We Need to Go

## Operations

- Shared Intake
- Planning and Prioritization across teams (not just UDAIR)
- Service Management Oversight

## Governance

- Data Governance Policy
- Access Model documentation & Training
- Formalize System prioritization process
- DG Tool RFP selection process
- IT & Cloud Governance

## Infrastructure

- Upskilling & Standards: DBPA
- Upskilling: ETL to Data Engineer
- Upskilling: Sys Admin to Platform Engineer
- Repeatable ingestion/devops
- Platform management/governance
- Transformation performance tuning, orchestration, maintenance and observability
- Access Management model and oversight
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# Access Management Metadata

## Groups of People

- Friendly name
- Technical name
- Primary owner
- Description
- Team that created group
- Created by
- Type
- On Premise
- Is group certified?
- Is group automated?
- Synced with AAD
- Assigned Roles

## Data Access Levels

- Access Level Title
- Role
- Business Unit
- DCL Level
- Data Domain/sub-domain
- Description
- Recommended:
  - Data Trustee
  - Applicable Regulations
  - Business-level access rules
  - Required training?
  - Security rules
  - Aggregated or PII
  - Organizational Scope

