

Creating a Data Management Infrastructure

IR Taking the Lead to Improve Institutional Data

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Overview

- Early attempts at data management
 - Institutional turning point
 - Culmination of research and experience
 - The proposal and institutional readiness
 - Implementing a formal structure
 - Conclusions and discussion
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The Early Years

- Attempts to address data integrity took various forms:
 - Information “sharing”
 - Committees
 - User’s Groups
 - Formal meetings
- Met with mixed reviews and results

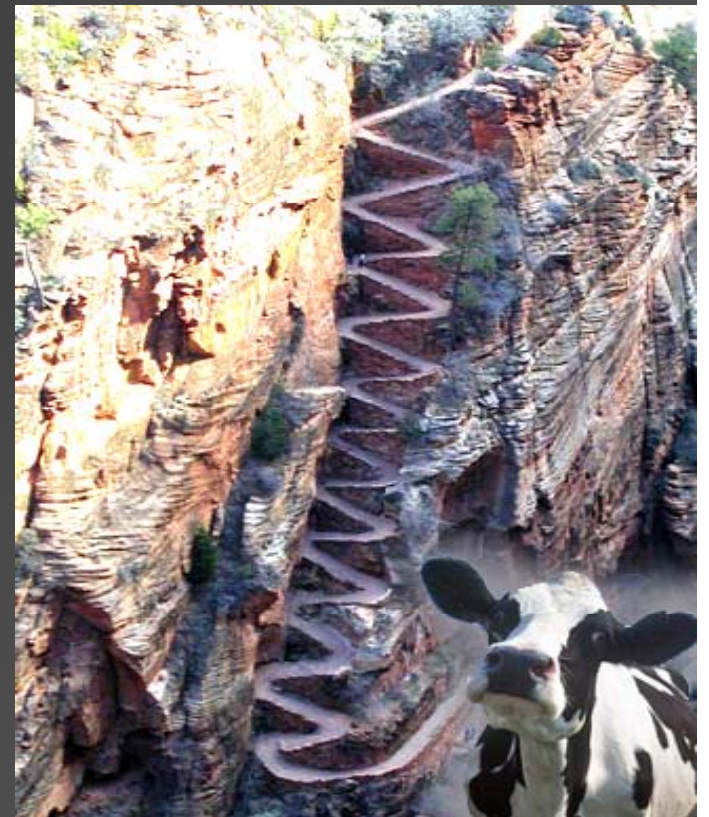


Quit Whining

- President's Planning Retreat
 - Isn't that what YOU do?
 - Looked at possibilities within the current IT committee structure
 - Read stuff
 - Preached to the saved
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Paving the Cow Path

- Common misconceptions about how to improve data:
 - Need new technology
 - Need more people
 - Need more data



Our Mantra

- Jaacks and Kurtz, 1998

It is often anticipated that the software will make life easier. The reality is that “paving over the cow path” with new technologies seldom causes significant improvement in productivity. Institutions must streamline processes, eliminate duplication of efforts, and examine outdated or inefficient processes.



Say It Again, Susan

- Susan Bostrom, Senior VP Cisco Systems

*The most important thing isn't the technology.
It's re-thinking and re-designing your
business. (2001)*

1+1 = This

*Buying computers and software is easy:
rethinking and redesigning the way we work
to take full advantage of them is not.*

Paper Chase

- Prepared white paper for President
 - Rationale: mission of IR as authority
 - Background—how we got in this mess
 - Operational systems vs. information systems
 - Definition of data access
 - Examples



Please, Please Do This



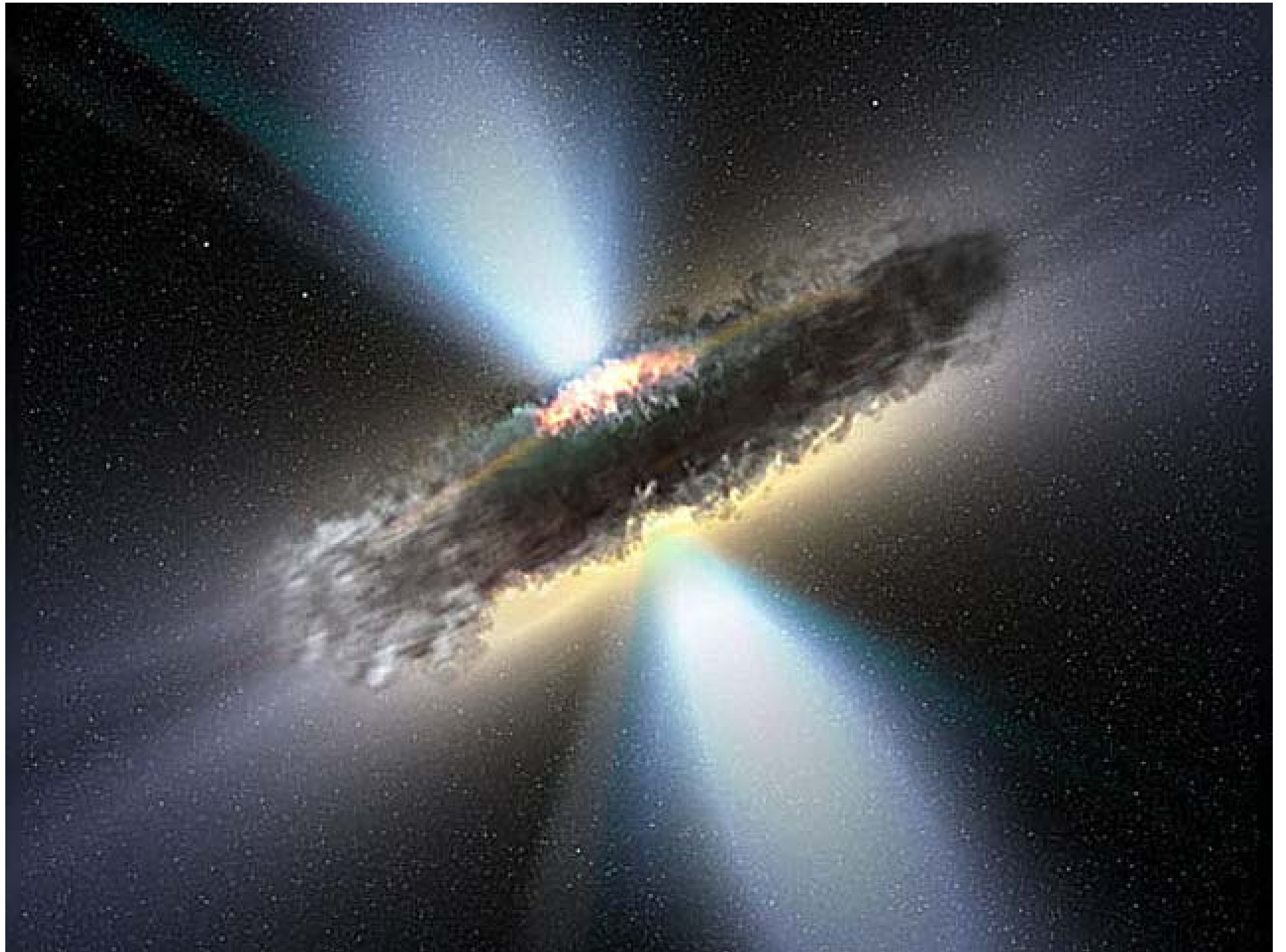
- Cabinet should appoint a Data Policy Committee
 - Initial charge: to recommend a model for UNLV that applies general principles of data management to shared university data
 - Goal: to ensure data integrity and access and to position us for new ERP or data warehouse
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Why Do It?

- Improve data integrity and access
 - Position us to take advantage of new technology
 - Provide mission-critical data to decision-makers in timely manner
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Black Hole

- A black hole is *defined* to be a region of space-time where escape to the outside universe is impossible. The boundary of this region is a surface called the event horizon. This surface is not a physically tangible one, but merely a figurative concept of an imaginary boundary. Nothing can move from inside the event horizon to the outside, even briefly.
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Meanwhile, Back at the Ranch

- *Making data more accessible also serves to improve data quality over time. As people use the data, errors can be corrected as they are found. (Scott Thorne, 2000)*
 - Institutional grant to develop a data “mart”
 - Unedited SIS extracts
 - Accessible: .NET application with data dictionary



Back to the Future

- Hired new Vice President for Finance
 - Chancellor creates Technology Committee decides that we need new administrative systems
 - Campus ERP advisory group-- how to ramp up for a new implementation
 - Whip out the white (yellowish) paper
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The Iron Was Hot

- Re-framed the paper into recommendation
- Presented to ERP advisory committee
- Presented to Cabinet Policy Review group
- Presented to Cabinet with budget
- IR budgeted one position and operating



IT or IR?



IT or IR?

- Responsibility for the construction and maintenance of the campus information architecture...is far too important to be relegated to a technical solution.
 - Maintenance of a data dictionary should be assigned to a non-parochial organization to ensure that it does not only address the technical aspect of the data.
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Own Your Feelings, Not Your Data

- Data is a valuable resource *belonging to the University*. Data Governance assumes freedom of access to University data by all members of the community, coupled with the responsibility to adhere to all policies and all legal constraints.



What is Data Governance?

- Making strategic and effective decisions regarding UNLV's information assets.
- Includes:
 - Defining roles and responsibilities for data
 - Establishing data quality policies
 - Creating metadata management practices
 - Arbitrating shared data questions

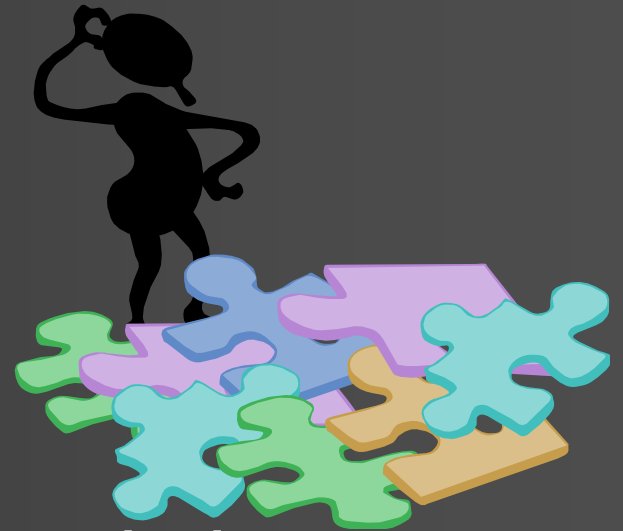


Groups Comprising Data Governance

UNLV Data Governance Program Structure



Executive Sponsors



- Executive Sponsors lay the foundation
 - Establish Data Governance Council
 - Provide policy and direction to Council
 - Determine indicators of progress
 - Establish timeline
 - Provide oversight and support on ongoing basis
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Executive Sponsors

- Provide policy and direction to Council of Stewards
 - Propose Data Policies
 - Access, Usage, Integrity and Integration
 - Determine indicators of progress
 - Tied to policies
 - Establish timeframe
 - Approve communication plan
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Data Governance Council

- Composed of Data Stewards, appointed by Executive Sponsors
 - Responsible for maintaining data quality/integrity
 - Responsible for maintaining the data dictionary/repository
 - Creates appropriate training materials for both data administrators and users
 - Prepares performance indicator progress reports for Executive Sponsors
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Data Governance Council

- Data Stewards will:
 - Establish one point of accountability for each data element
 - Establish common vocabulary to help users know they have the right data
 - Maintain University-wide, and NSHE-wide, values for common reference data
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First Policies

- Data Access Policy
- Data Usage
- Data Integrity and Integration



Data Access Policy

- Provide appropriate access to administrative data for employees without unnecessary restrictions
 - Progress Indicators
 - Formal establishment of UNLV Security Policy
 - Establish common guidelines for requesting access to information
 - Establish mechanism for resolving differences
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Data Usage Policy

- Ensure that the data assets of the University are protected
 - Progress Indicators
 - Identification of UNLV, NSHE, Nevada and federal policies and/or legislation that impacts data elements
 - Assignment of security levels to common data elements
 - Develop audit process to monitor usage
 - Formalize consequences of non-compliance
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Data Integrity and Integration Policy

- Ensure that UNLV data has a high degree of accuracy and integrity, and that key data elements can be integrated across departments and electronic systems.
 - Progress Indicators
 - Ability to Integrate –
 - Sample or audit data elements in preparation for iNtegrate conversion and report on results
 - Create metadata repository/data dictionary
 - Specifications; Tool acquired; stewards entering metadata
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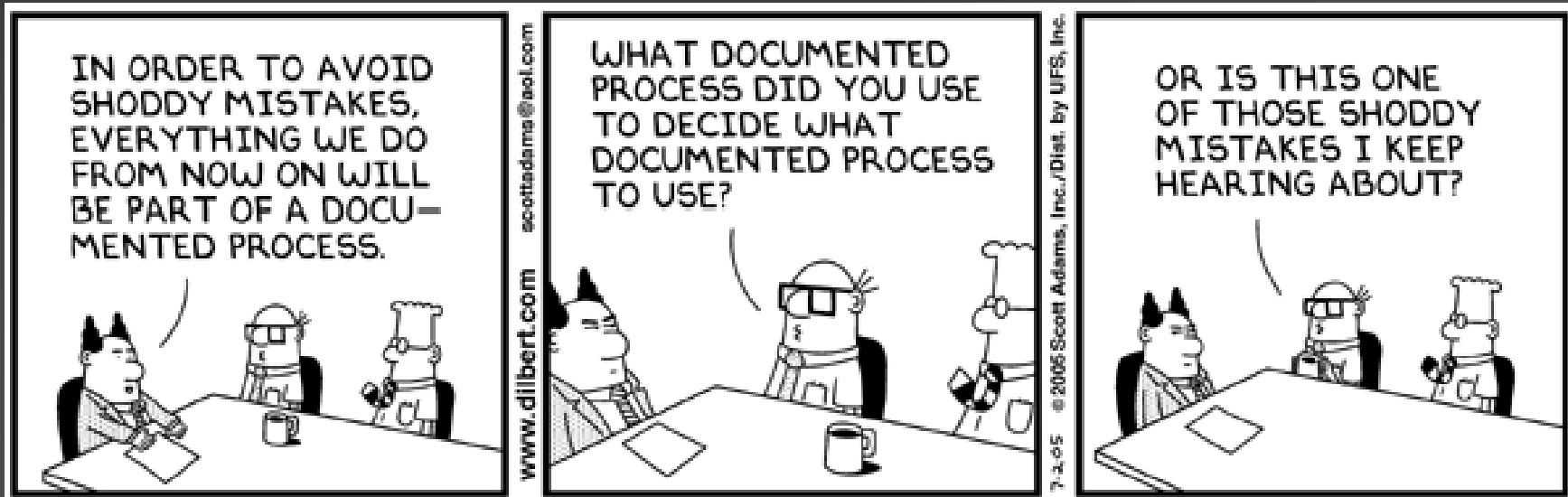
Keep It Moving



- DA website
 - List serve for feedback on policies
 - First 3 policies placed in official format for Cabinet Policy Review Committee
 - Next step: naming data stewards
 - Setting up Council
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Scary Bedtime Stories

- ERP Site visits confirm importance of process documentation and re-engineering



Scary Bedtime Stories



- Biggest problems:
 - Ignorance of supplemental systems and redundancies
 - Scope of projects did not include data dictionary, data warehouse, reporting solution
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Duh

*If people can access data, they will spend less time gathering information and more time analyzing it.
(Scott Thorne, 2000)*



Bottom Line

- Data Management is not an IT function
 - Data Management requires the support of senior management
 - It is a cultural as well as organizational adjustment
 - It requires continual work and education on the part of all involved
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Benefits

- Advances goal of making UNLV data accurate, timely, relevant, and high quality
- Reduces duplication and associated costs including potential errors
- Increases confidence in data and use in decision-making



Benefits Continued

- Creates an awareness of data as a critical institutional resource
 - Brings awareness of connection between data and business processes
 - Makes it possible to create a data architecture that supports institutional mission and goals
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