Key Issues

1. What is Data Governance and why is it important?

2. What are the key concepts of Data Governance and Best Practices you need to know?

3. What are some steps you can take to create a successful Data Governance strategy?
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What is Data Governance?

Data Governance: An organizational approach to data management, formalized as a set of policies and procedures that encompass the full life cycle of data.
What is Data Governance?

• Tools, policies and processes to:
  – Improve data quality and reduce data redundancy
  – Protect sensitive data
  – Ensure data and IT compliance with federal and state regulations
  – Encourage use of data, correctly
  – Platform for robust data analytics
In a World without Data Governance...

• Has this ever happened to you?
  – Funding denied due to erroneous data
  – Lost instructional time because of late data
  – Letter Grade negatively impacted because of enrollment error
  – Time wasted cleaning up the same data issues year after year
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The Pillars of Data Governance

Data Governance

- Measure Results of Data Governance
- Information Lifecycle Management
- Metadata Management
- Data Quality
- Master Data Management
- Data-Driven Decisions
- Data Privacy and Security
Governance Pillars: Data Quality

Data quality is about having data that is “fit for purpose.”

• Benefits
  – Accuracy in reporting and business decisions
  – Time and cost savings by removing redundant data storage and reduced time spent on manual data reconciliation
  – Build trust in your data
Governance Pillars: Metadata

Metadata is data about the data.

- Business data glossary
- Technical data dictionary
- Operational Data Dictionary
- Data lineage
Governance Pillars: Metadata

Benefits

• Consistent understanding of data definitions
• Traceability of data transformations
• Reduced data redundancy
• Save time and effort of tracking down data or reconciling duplicated data
• Ability to identify ahead of time possible consequences and impacts of any changes to processes, storage, applications or reports.
Governance Pillars: Masterdata Management

BEFORE...

Registrar
Acad. Coaches
Finance

...AFTER

Masterdata
Registrar
Acad. Coaches
Finance
Governance Pillars: 
Masterdata Management

• “Masterdata”
  – The critical data used across the organization by multiple divisions

• “Masterdata management”
  – Process and policies to achieve consistent master data, which is managed centrally

• Benefits
  – Single source of all Masterdata, managed centrally and disseminated
Governance Pillars: Data Analytics

-Data analytics is the tools and processes for data discovery to improve business outcome. Analytics is the discovery and communication of meaningful patterns in data.

-Analytics Governance is the setting of policies and procedures to better align users with the investments in analytic infrastructure.

Benefits

- Cost saving in analytics (system and people)
- Improved system performance of Production servers
- Data consistency across business divisions
- Improved business decisions
Governance Pillars: Privacy and Security

Data privacy ensures legal expectation and public expectation of data is met from its creation to archival.
Data security protects the data from data loss and data corruption

Benefits

- Data Privacy and Data Security ensures valuable data is protected from misuse and loss
Governance Pillars: Information Lifecycle Management

A systematic, policy-based approach to data collection, use, retention, and deletion.

**Benefits**

- Improved timeliness in reporting
- Improved system performance through the process of archiving unused data
Key Issues

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Easy Data Governance Approach

1. Conduct Governance Maturity Assessment
2. Create a roadmap for areas needing improvement
3. Implement Data Governance Committees
4. Kickstart workgroups in all Governance Pillars
5. Measure Governance benefits and improve
Step 1: Governance Maturity Evaluation

• Evaluate where your organization is, and where you want to be

• Identify areas of weakness, pressure points, or strengths that can be built upon
Gartner Governance Maturity Model

Level 1 Nonexistent
Sporadic efforts to repair data, and no dedicated or recognized data personnel

Level 2 Repeatable
Informal data management by a few unofficial data people; to reduce risk may have pockets of informal data management within critical projects

Level 3 Defined
A formal but not a dedicated team in place; beginning of proactive data management

Level 4 Managed
Formal proactive team with some areas of informal or reactive data management; may or may not be a dedicated team

Level 5 Optimized
Dedicated formal team with a balanced mix of data management skills, knowledge, experience and abilities

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Governance Maturity Exercise

• 10 minutes
Step 2: Create a Roadmap

- How to go from your current level of maturity to where you want to be
- Use results of Maturity Assessment to identify critical needs
- Move on to step 3 and have Data Governance committees develop roadmap
Step 3: Data Governance Committee Structure

- Executive Council (Strategic)
- Data Governance Board (Strategic)
- Data Steward Committee (Tactical)
# Data Governance Committees

## Roles and Responsibilities

### Data Governance Executive Council

<table>
<thead>
<tr>
<th>Level of Focus</th>
<th>High, Strategic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who?</td>
<td>Senior leadership</td>
</tr>
</tbody>
</table>

### Roles

- Champion data governance
- Provide guidance on tools, policy and processes
- Sponsor, approve and champion the governance goals in all pillars
- Communicate expectation and requirements in data governance
- Address and resolve escalated issues
- Provide incentives and impetus for data decision making
## Data Governance Committees

### Roles and Responsibilities

<table>
<thead>
<tr>
<th><strong>Data Governance Board</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level of Focus</strong></td>
</tr>
<tr>
<td><strong>Who?</strong></td>
</tr>
</tbody>
</table>
| **Roles**                | • Creates and approves policies, processes and tools and define standards to meet Governance goals  
                          | • May initiate or select tools, policies and processes  
                          | • Prioritizes Governance works in all pillars  
                          | • Assigns Governance work  
                          | • Address and resolve issues escalated to this level  
                          | • Participate in workgroups in pillars  
                          | • Meet regularly to address data issues |
# Data Governance Committees

## Roles and Responsibilities

### Data Stewards Committee

<table>
<thead>
<tr>
<th><strong>Level of Focus</strong></th>
<th>Detailed, Tactical</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Who?</strong></td>
<td>Data owners, data managers, or data analysts who implement, work with or enter data</td>
</tr>
</tbody>
</table>
| **Roles**          | • Lead and organize workgroups for addressing continuous improvement projects in each Governance Pillar  
                      • Conduct data training  
                      • Suggest policies, business rules, processes for each Governance Pillar, to the Data Governance Board  
                      • Participate in tool selection processes  
                      • Communicate concerns, issues, and problems with data to the individuals who can influence change. |
Step 4: Workgroups in Pillars

• Based on decision by Data Governance Committees, spin up workgroups to address critical need areas

• Tips for focus areas:
  – Quick wins
  – Pressure points
  – Highest Risks
Data Quality Workgroup Suggestions

1. Evaluate data for:
   a) Accuracy
   b) Uniqueness or duplication
   c) Consistency
   d) Conformed to standards
   e) Timeliness

2. Conduct Data Profiling using a robust data profiling tool

3. Set up continuous improvement projects to bridge the gap between current state and desired state.

4. Make changes to avoid using data that is not meeting the accuracy standards as determined by the Governance Committee
Data Analytics Workgroup Suggestions

- How many reports do we create, in what areas, and how often?
- How long does it take to produce each report?
- What is the time/cost of producing a new report?
- Are there canned reports we could create to serve multiple purposes?

- Something to Consider:
  - Business Intelligence Competency Center (BICCC) to educate users, evangelize business intelligence, and develop reports. Having a robust Data Warehouse becomes a key deliverable.
Data Privacy and Security Workgroup Suggestions

• Where is our sensitive data?

• Has the organization masked its sensitive data in production and non-production environments (development, testing, and training) to comply with privacy regulations?

• Are database audit controls in place to prevent privileged users, such as DBAs, from accessing private data, such as employee salaries?

• Set policy and processes to protect sensitive data.
Information Lifecycle Workgroup

Suggestions

• What is our policy regarding digitizing paper documents? Identify critical documents and set policy to store in proper systems.
• What is our data archival strategy in all databases and applications?
• How do we archive structured data (data in databases) to reduce storage costs and improve performance?
• Something to consider:
  – Store all archive data on a separate machine so the existing production servers are freed up. This eliminates the lengthy process of data restoration from tapes.
Metadata Management Workgroup

Suggestions

• Create a data dictionary
  – Chief Data Stewards and teams to develop and maintain key business terms.
  – Identify critical data elements.
  – Link business terms with technical artifacts. (e.g., “Vendor” refers to the Supplier table in XYZ database).
  – Tag each business term with its definition, alias/synonyms/homonyms, link to related business terms, Data Steward/Owner, business policy, privacy and security indicators
  – Create technical data dictionary, led by the Chief Data Stewards

• Create operational metadata
  – Whether the job run failed or had warnings
  – Which database tables or files were read from, written to, or referenced
  – How many rows were read, written to, or referenced
  – When the job started and finished

Something to consider:
  – Make this central Metadata repository of Business glossary, technical data dictionary, operational data dictionary easily queryable and available to all users. A good Metadata tool is a great investment for this.
Masterdata Management Workgroup Suggestions

• Identify all your Masterdata

• What is the single version of truth for each master data, its attributes and relationships between data entities?

• Determine what changes in history will be captured (versioning)

• Identify what databases and applications currently or should pull from this central source so there is data consistency across systems in naming, relationships and values.
Conclusions and Wrap-Up
Risks and Pitfalls to Avoid

• Lack of interest or knowledge
  – Disinterested or disengaged executive sponsorship
  – Members of the data governance council who don't care
  – Resistance to change
  – Ignorance about data governance

• Getting everyone on the same bus
  – Limited authority/power of the data governance council
  – Poor communications through the organizational hierarchy

• Taking the right approach
  – Scope is too wide ("big bang") or too narrow
  – Piecemeal execution without a clear road map and defined release cycles

• Not showing the value
  – No measurable deliverables
  – Lack of or a poor reporting framework
  – Low value due to incorrect priorities
Recommendations

Things you should do:

- Obtain solid leadership sponsorship
- Tie benefits to real goals
- Obtain stakeholder buy-in
- Focus on governance and process
- Continuous improvement

Things to Avoid:

- Lack of shared vision and commitment
- Viewed purely as an IT effort
- Separate data quality efforts
- Weak or disjointed metrics
- Don’t boil the ocean
- Technical goals masquerading as business goals
Putting it into Action

Monday Morning
- Identify your champions
- Conduct maturity assessment to identify critical needs
- Develop your roadmap

Next 90 Days
- Form workgroups to focus on your organization’s top 3 critical data governance needs
- Establish a system to measure the benefits of data governance (e.g. time savings, number of duplicates or errors)

Next 12 Months
- Reevaluate maturity
- Measure and communicate benefits and successes of governance across the organization
- Evolve your strategy to address new issues or tackle the next in line
Recommended Resources

- EdFacts data collection process [www2.ed.gov/about/inits/ed/edfacts](http://www2.ed.gov/about/inits/ed/edfacts)
- [www.DataGovernance.com](http://www.DataGovernance.com)
- [www.DMPL.com](http://www.DMPL.com)
- “IBM Data Governance Unified Process” by Sunil Soares
Thank You

Rebecca Bolnick
Chief Data Officer
Rebecca.Bolnick@azed.Gov

Maya Vidhyadharan
Data Governance Manager
Maya.Vidhyadharan@azed.Gov