The 8 Elements of Data Governance Framework

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Agenda

- Introduction
- Case Study Overview
- Challenges, Obstacles, Issues
- Outcome, Results
- Case Study Summary
Introduction
History of P-20 Connect in TN

- Know as the Statewide Longitudinal Data System (SLDS)

- P-20 Data Systems is data that states must collect, coordinate, and use **K-12 and postsecondary education data** to track and improve the readiness of graduates to succeed in college and the workplace.

- Tennessee’s Longitudinal Data System, P20 Connect TN, was developed under the Race to the Top Program.
The 8 Elements of Data Governance

Data Governance Framework

1. Organization
2. Policies
3. Procedures
4. Standards/Definitions
5. Architecture
6. Data Admin/Controls
7. Metrics/Reporting
8. Audits

Manage – Control - Sustain

Chances are you are already governing data informally.

This framework will streamline the data governance process for reuse and completeness.
Case Study Overview
1 Organization

Goals
- Define the scope of the data domain
- Assign ownership
- Define the business value and uses of the data
- Build plan for operationalizing data governance

Templates & Tools
- Organization Charts
- Responsibility Chart (RACI)
- SMART Goals for Roles

DATA GOVERNANCE
OPERATING MODEL
DATA STRATEGY

ROLES
COMMITTEES
RESPONSIBILITIES
DECISION RIGHTS
PRODUCERS & CONSUMERS
HIGH LEVEL BUSINESS NEEDS
ACTION PLAN
ENGAGEMENT PROCESSES
Goals

- Define/Update data policies to guide business conduct regarding the creation and use of data as an asset

Policies

- TERMS & DEFINITIONS
- DATA NAMING STANDARD
- BUSINESS RULES
- QUALITY STANDARDS
- INFORMATION SECURITY
- DATA POLICY
- ALIGNMENT WITH OTHER POLICIES
- COMMUNICATION PLAN

Templates & Tools

- Policy Template
- Enterprise Document Storage

✓ AUTHORING
✓ ACCESS
✓ USAGE
✓ MAINTENANCE
✓ RETENTION
✓ STORAGE
3 Procedures

**Goals**
- Define how data will be managed to meet requirements
- Ensure responsibility and steps for tasks are clear

**Templates & Tools**
- Procedure Template
- Process Swim Lane Chart
- Responsibility Chart (RACI)
4 Standards/Definitions

**Goals**
- Definitions & standards documented for all key or critical fields in a data set
- System of record & system of reference defined

**Templates & Tools**
- Business Glossary
- Data Dictionary
- Metadata Repository
- Data Models

**Standards/Definitions**
- DATA MODELS
- DATA SCHEMAS
- DATA NAMING RULES
- BUSINESS RULES

- TERMS & DEFINITIONS
- DATA QUALITY STANDARDS
- SAFE SOURCE IDENTIFIED
- DATA VALID VALUES
5 Architecture

Goals
- Define a conceptual data model that meets business needs
- Identify the critical or key fields that need to be governed and managed
- Document data flows & business processes
- Document reference architecture for data stores

Architecture
- Roles
- Responsibilities
- Decision Rights
- Producters & Consumers
- High Level Business Needs
- Action Plan
- Standard Methodology & Tools
- Data Modeling Guidelines
- Data Naming Guidelines
- Data Model
- Data Category Chart
- Alignment to Existing Data Models
- Key or Critical Data Fields
- Alignment to Business Processes
- Data Flow Diagrams

Templates & Tools
- Business process swim lane map
- Data model
- Data flow diagram
- System reference architecture diagram
6 Data Admin/Controls

**Goals**
- Understand the data risk for the entire lifecycle of the data and define a strategy to manage it
- Design and implement process controls where appropriate
- Define a privacy and confidentiality strategy end-to-end

**Templates & Tools**
- Control plan for data security
- Data security plan template

**PROCESS & DATA FLOWS**
- DATA REFERENCE ARCHITECTURE
- STANDARD WORK
- DATA PROCEDURES

**RISK MANAGEMENT STRATEGY**
- ALIGNMENT WITH OTHER CONTROLS
- DATA DOMAIN SPECIFIC CONTROLS
- STANDARD WORK
### 7 Metrics/Reporting

#### Goals
- Define the vital few metrics needed for continuous data improvement
- Ensure the measurement plan aligns with business needs
- Ensure the method for producing metrics is sustainable
- Establish a reliable and repeatable process for acting on metrics

#### Templates & Tools
- Data Quality metrics definition
- Root cause corrective action process
- Control charts
- Data audit template

#### Policies
- Procedures
- Standards
- Established controls

#### Data Quality
- Data Quality metrics
- Root cause corrective action process
- Control charts
- Data audit template

#### Monitoring & Management Process
- Monitoring & Management Process
- Policy/Controls Compliance Metrics
- Data Quality Certification

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8 Audits

Goals
- Continually improve the Data Governance operating model
- Identify new risks and opportunities as they emerge
- Identify and replicate best practices across data domains
- Self audit and external audit preparedness

Templates & Tools
- Maturity Assessment template
- Enterprise Data Governance documentation
- Evidence storage for audit purposes
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What is the purpose of this Data Governance Playbook template?
The purpose of this Data Governance Playbook template is to create a common framework for capturing information necessary for bringing data into the data governance framework/program.

When to use it?
This template can be used to manage data governance for a defined scope of data. It will capture all the relevant information needed to manage and practice data governance for that defined scope of data. It can be the source for internal and external audits.

How to use it?
Each tab in this spreadsheet starting with "Organization" represents one of the 8 Elements of Data Governance and will be completed based on the form of data governance deemed appropriate for the iteration of data governance.

Who will use it?
This template can be used by the Data Management Team, Data Owners, Data Stewards, Internal & External Auditors and anyone else interested in the specifics of a certain data category or domain. By referencing this playbook, a person can learn about who owns the data, how the data is defined and how it flows, the governing policies, procedures and standards related to the data, and what metrics are managing the data.
Data Governance Playbook Templates

What is the purpose of this Data Governance Playbook template?
The purpose of this Data Governance Playbook template is to create a common framework for capturing information necessary for bringing data into the data governance framework/terminology. This template is based off of the 8 Elements of Data Governance.

When to use it?
This template will be used to manage data governance for a defined scope of data. It will capture all of the relevant information needed to manage and practice data governance for that defined scope of data. It can also be used at time of internal or external audit.

How to use it?
The template will be used through facilitated sessions and project work in accordance with the Data Governance Committee. Each tab in this spreadsheet starting with "Organisation" represents one of the 8 Elements of Data Governance and will be completed based on the form of data governance deemed appropriate for the iteration of data governance.

Who will use it?
This template will be used by the Data Management Team, Data Owners, Data Stewards, Internal & External Auditors and anyone else interested in the specifics of a certain data category or domain. By referencing this spreadsheet, a person can learn about who owns the data, how the data is defined and how it flows, the governing policies.

How will it be retained?
This documentation will be versioned and stored in a central Data Governance location.

Who will own it?

Learn...Grow...Achieve!
Challenges, Obstacles, Issues
The goal of the P20 Connect TN Data Governance Pilot is to create a roadmap for other agencies to implement their own data governance programs. We began the work on this project in August and plan for the project to be complete by January 2021.

Goals:

- Complete Data Governance Framework & Playbook
- Upload Playbook into Data Catalog (Alation)
- Complete Data Governance Reference Document
- Create a roadmap for other state agencies
P20 Connect TN had a significant head start in the Data Governance Pilot work because we previously had data governance processes in place, in addition we also had documentation, a data dictionary, and an employee whose role is dedicated to data governance.

Existing Data Governance Documentation

✓ P20 Data Governance Policy
✓ P20 Data Governance Manual
✓ P20 Data Dictionary
Outcome, Results
Data Governance Pilot Progress

1. Organization
   - Outlined Roles & Responsibilities of Data Owners, Data Stewards, and Data Custodians
   - Determined internal and external producers of data

2. Policies
   - P20 Data Governance Policy
   - P20 Data Governance Manual
   - Applications for access
     - Access processes
     - Usage policies
     - Storage location policy

3. Procedures
   - Identify business processes that create/consume data
   - Document how access will be maintained
     - Approval workflows
     - Procedure communication and training plan

4. Standards/Definitions
   - Add to existing Data Dictionary
   - Document key/critical data fields
   - Identify valid values

5. Architecture
   - Add to existing Data Dictionary
   - Document key/critical data fields
   - Identify valid values
   - Risk Management Strategy
   - Data Flow Diagram
   - Business Rules
   - Data Stores, Integration, & Transport model
   - Retention Schedule
   - Applications

6. Data Admin/Controls
   - Capture Data Model
   - Data Quality Metrics
   - Policy/Controls Compliance Metrics
   - Maturity Assessment
   - Data Classification (Public, Private, Confidential, Restricted)

7. Metrics/Reporting
   - Data Quality Metrics
   - Risk Management Strategy
   - Data Classification (Public, Private, Confidential, Restricted)
   - Self audit
   - External audit preparedness

8. Audits
   - Maturity Assessment
   - Self audit
   - External audit preparedness
**Key Takeaway #1:** One of the most important aspects of data governance is the people involved. Without the proper people in place, the work is impossible to complete.

We identified three roles that needed to be filled at the agency level and scoped out responsibilities for each role. They are meant to work in tandem to build out governance and metadata.

- Data Owner
- Data Steward
- Data Custodian
Key Takeaway #2: A strong data governance model will be necessary to implement the work due to limited capacity at the agency level.

- To remedy this challenge, we determined that the Data Governance Coordinator should provide weekly assignments to Data Stewards that will allow the work to be managed and completed in bite-sized chunks.
- We recommend adding a Data Steward, Data Owner, and Data Custodian responsibility within roles of agency staff who will be involved in agency data governance and write these responsibilities into their IPPs.
**Key Takeaway #3: The importance of Executive Buy-In**

We realized early on that we would need Executive Buy-In to achieve the completion of all 8 steps of the data governance framework. Since this is a new initiative, we will need to go back to the Data Owners for status reports, questions, and requests for support.

Due to the limited capacity at the agency-level, it will be necessary to lean on Data Owners to ensure the work is being completed in a timely manner.
Chances are you are already governing data informally.

This framework will streamline the data governance process for reuse and completeness.
Questions & Answers

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