


Arizona Department Of Administration	Statewide POLICY	 State of Arizona
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P4400: DATA GOVERNANCE ORGANIZATION POLICY

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1. AUTHORITY

To effectuate the mission and purposes of the Arizona Department of Administration (ADOA), the Agency shall establish a coordinated plan and program for information technology (IT) implemented and maintained through policies, standards and procedures as authorized by Arizona Revised Statutes (A.R.S.) § 18-104.

2. PURPOSE

Standard frameworks for establishing, monitoring and measuring an organization's data management capabilities form the basis for Arizona's data governance policies.

The purpose of this policy is to establish a sustainable Data Management Function (DMF) within each State Budget Unit (BU) based on their size, mission and business needs.

These frameworks recommend that organizations establish a DMF, the goals of which are:

- *Establish and follow role definitions, responsibilities, authorities, and accountability to provide consistency in decisions and interactions related to data management.*
- *Institutionalize the process for executive oversight of data management, to ensure the adoption of consistent policies, processes, and standards.*
- *Align data governance with data management priorities and decisions.*
- *Develop, evaluate, and reward data management staff based on organization-wide criteria.*

3. SCOPE AND APPLICABILITY

- 3.1. This policy applies to all employees and contractors within State Budget Units (BUs) who work with data or repositories of data while executing business functions, activities or services for or on behalf of the BU or its customers.
- 3.2. Applicability of this policy to specific information systems shall be determined by the Data Governance Council as defined below. Budget units may implement additional controls, roles or organizational structures as they deem necessary to suit their business or project needs.

4. ROLES AND RESPONSIBILITIES

- 4.1. The Director, Commissioner, Executive Director or other Chief Executive Officer of the BU (referred to herein as “Director”) shall be responsible for ensuring the effective implementation of Information Technology Policies, Standards, and Procedures (PSPs) within the BU.
- 4.2. BU Supervisors shall ensure that employees and contractors are appropriately trained and educated on this Policy and shall monitor employee and contractor activities to ensure compliance.
- 4.3. Employees and contractors shall adhere to all State policies, standards and procedures.
- 4.4. Subject Matter Experts (SMEs) shall ensure that this policy is referenced in project documents and that parties are contractually obligated to follow this policy [DMM-DMS 3.5, 3.6].

5. POLICY

- 5.1. BUs should use the following guidelines to determine the extent to which they should implement the roles defined in this policy.

Criteria	Tier	EDMO	CDO or Equivalent	DGC	DMC	Data Stewards
Fewer than 25 FTEs	3	No	No	No	No	Yes
25-149 FTEs and/or operating budget exceeds \$15 million	2	Depends on mission, criticality of mission data, existing data management issues, major upgrade projects	Evaluate need based on mission, criticality of mission data, existing issues	Recommended	Recommended, may be combined with DGC	Yes
150 or more FTEs and/or appropriated budget exceeds \$30 million	1	Required	Required	Required	Required if there is high development or system change activity; may be combined with DGC in smaller agencies	Yes

- 5.2. Each BU shall establish the following Data Management roles [DMM-DMF 2.3, 3.1, 3.3, 3.5]. If the size of the BU does not warrant the creation of multiple roles, the Director at his or her discretion may combine roles to meet the business needs provided that the responsibilities defined below are designated to those roles.
 - 5.2.1. **Enterprise Data Management Office** - The Enterprise Data Management Office (EDMO) is a business unit within an agency whose primary function is to establish management and governance practices over the agency's data assets. BUs shall establish an EDMO based on the guidelines in Section 5.1.
 - 5.2.1.1. The EDMO shall be headed up by the BU's Enterprise Data Management Officer, Chief Data Officer (CDO) or equivalent. All, or substantially all, of the CDO's duties are to lead the EDMO.
 - 5.2.1.2. The responsibilities of the EDMO include, but are not limited to the following:
 - 5.2.1.2.1. Champion data management best practices in the agency.
 - 5.2.1.2.2. Convene and provide leadership to the Data Governance Council. [DMM-DMF 3.2; DMM-GM 2.1]
 - 5.2.1.2.3. Represent the Agency at the State Data Management Steering Committee.
 - 5.2.1.2.4. Oversee and coordinate the adoption of data governance and data management policies. [DMM-DMF 3.4]
 - 5.2.1.2.5. Ensure that the Agency's data meets its business needs in all respects. [DMM-DMF 3.5]
 - 5.2.1.2.6. Ensure that sound data management practices are incorporated into all system development and procurement activities. [DMM-DMF 3.5]
 - 5.2.1.2.7. Coordinate and approve the purchase of data management tools.
 - 5.2.1.2.8. Ensure that sound, high-quality data is made available within the organization for data analysis and business intelligence activities.
 - 5.2.1.2.9. Establish and maintain the agency's data classification, data catalog and metadata repositories.
 - 5.2.2. **Data Governance Council (DGC)** - The Director or his/her designee shall appoint a DGC. The DGC shall report to and advise the Director or his/her designee on matters related to Data Governance. [DMM-GM 2.2, 2.3, 3.1]
 - 5.2.2.1. The DGC is a combined business and technology function, and should include representatives from both areas of the enterprise. [DMM-GM 3.2, 3.3]

5.2.2.2. The DGC shall be chaired by the Chief Data Officer (CDO) or equivalent role, if one has been appointed. If none has been appointed then the Director or his/her designee shall appoint a chairperson. [DMM-DMS 3.3].

5.2.2.3. The DGC shall undertake at a minimum the following responsibilities:

5.2.2.3.1. Designate Information Systems as Data Governance Covered Information Systems as described in Section 5.5;

5.2.2.3.2. Ensure that data management objectives, priorities and scope are defined and approved and that they reflect BU business objectives [DMM-DMS 2.1, 2.2, 3.1, DMM-DMF 2.5, 3.3; DMM-GM 3.6, 3.8];

5.2.2.3.3. Maintain and monitor compliance with data governance policies, standards and procedures [DMM-DMS 2.4, 3.7; DMM-GM 3.8];

5.2.2.3.4. Recommend solutions to issues relating to data governance;

5.2.2.3.5. Maintain a Center of Excellence for Data Governance as a resource where developers and stakeholders within the BU can find information about data governance policies, standards and procedures, best practices, tools, interpretations and training support [DMM-COM 2.2, 3.1,3.3; DMM-GM 3.7];

5.2.2.3.6. Support the Data Management Committee(s);

5.2.2.3.7. Collaborate with the DGCs and DMCs at other BUs to establish data governance and management on joint projects and initiatives [DMM-GM 3.4];

5.2.2.3.8. Provide for education, training and awareness of Data Governance within the BU. [DMM-DMS 3.5, DMM-DMF 3.5]

5.2.3. **Data Management Committee (DMC)** - Each BU shall establish a DMC. The DMC should include individuals representing both business and technology roles, including Data Architects, Business Data Owners, Data Stewards, Enterprise Architects, Database Administrators, Infrastructure, especially storage architecture, Security and Networking.

5.2.3.1. The DMC shall undertake the following responsibilities:

5.2.3.1.1. Recommend, periodically review and monitor compliance with data governance policies, standards and procedures [DMM-COM 2.2, 3.1, 3.3];

5.2.3.1.2. Establish and maintain data management procedures for the BU [DMM-DMS 3.5, 3.4];

5.2.3.1.3. Ensure that a data requirements definition process is documented and followed. The process should align with the BU's strategic goals and business needs, and the requirements should be traceable to business requirements and objectives. [DMM-DRD 2.1, 2.2, 2.3, 3.1];

- 5.2.3.1.4. Maintain a knowledge base about Data Management in the BU in alignment with the Center of Excellence [DMM-DMS 3.5];
- 5.2.3.1.5. Define metrics to be used to measure and assess the achievement of objectives for EDM [DMM-DMS 2.5];
- 5.2.3.1.6. Train, advise and mentor staff on the Data Governance Policies, Standards and Procedures;
- 5.2.3.1.7. Ensure that Data Governance Policies, Standards and Procedures are considered in procurement documents, business requirements, technical design, project plans, budgets and operations plans and documents for all Information Systems [DMM-DMF-2.1];
- 5.2.3.1.8. Review and approve in a timely manner, Information System designs, architecture, requirements, release and operations plans received for compliance with Data Governance Policies, Standards and Procedures; [DMM-DMS 3.6, DMM-DMF2.2];
- 5.2.3.1.9. Respond to and assist with resolving questions, conflicts and decisions about data;
- 5.2.3.1.10. Undertake additional responsibilities as may be specified and authorized in the Policies, Standards and Procedures for Data Governance.
- 5.2.3.1.11. Convene as needed and render decisions in a timely manner such that it does not impede the progress of any project.

5.2.4. Data Owners - The BU shall designate a Data Owner for each Business Domain for the purpose of assigning decision-making authority and accountability for monitoring and enforcing policies. Examples of Business Domains are accounting, purchasing, procurement, asset management, case management or health care claims.

- 5.2.4.1. Data Owners shall undertake the following responsibilities:
 - 5.2.4.1.1. Complete Data Stewardship Training course ADASETDS05 Advanced Data Stewardship for Data Owners on the State's learning management system;
 - 5.2.4.1.2. Designate, train and monitor performance of the Data Stewards.
 - 5.2.4.1.3. Actively participate in the established data requirements definition process on development and upgrade projects. [DMM-DRD 1.1, 2.2, 2.3, 2.4, 3.1, 3.3]
 - 5.2.4.1.4. Ensure that logical data models correspond to the data requirements on development and upgrade projects. [DMM-DRD 2.3, 2.4, 3.4]
 - 5.2.4.1.5. Ensure that data requirements and logical data models reflect the data requirements throughout the data's life cycle,

commencing with data creation, extending through the processes that alter data and processes that are triggered by data, reporting an analytics needs, sharing to and from third parties, and eventual archival and/or destruction in accordance with records retention rules. [DMM-DLM 1.1, 1.2, 2.5, 3.1, 3.2, 3.3]

- 5.2.4.1.6. Establish and document a business glossary of terms relating to the data, communicate them to the Data Management Committee and/or other stakeholders, and ensure they are used and referenced in development, upgrade and business intelligence projects; [DMM-DRD 1.2; DMM-BG 1.1, 1.2, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2]
- 5.2.4.1.7. Support and/or participate in the DGC;
- 5.2.4.1.8. Ensure that business requirements are established, documented and communicated;
- 5.2.4.1.9. Make and provide for the enforcement of all decisions about the data, including assigning authority to share, exchange, modify, define, delete and use the data. [CMMI GP2.7];
- 5.2.4.1.10. Designate one or more Data Stewards, or take the role of Data Steward. Depending on the budget unit's business needs, there may be more than one level of data steward, at the Data Domain, Tactical or Operational levels. In general, Data Stewards are designated from existing employees, however, if the BU's business needs warrant it, full-time Data Stewards may be needed. [DMM-DQS 2.3, 3.2]

5.2.5. **Data Stewards** - Data Stewardship is the formalization of accountability for the management of data and data-related assets.

- 5.2.5.1. Data Stewards may be assigned to data subdomains and to multiple data domains if warranted by the BU's business needs and approved by the Data Owner.
- 5.2.5.2. Data Stewards shall carry out their day-to-day processes and procedures in a manner that maintains data quality, usability and fitness for use.
- 5.2.5.3. Performance measures and supervision of Data Stewards shall be put in place in accordance with industry best practices and BU procedures;
- 5.2.5.4. The BU shall provide appropriate tools and training to designated Data Stewards to enable them to carry out their responsibilities effectively.
- 5.2.5.5. Data Stewards shall be required to complete data stewardship training courses provided on the State's Learning Management System at a frequency to be determined by the BU EDMO.
- 5.2.5.6. Data Stewards shall undertake the following responsibilities as designated or assigned by the Data Owner:

- 5.2.5.6.1. Be accountable to data owners for the quality of the data under their stewardship;
 - 5.2.5.6.2. Define data used by their job function, how the data will be used and how it will be managed;
 - 5.2.5.6.3. Produce, create, update, delete, retire or archive data;
 - 5.2.5.6.4. Maintain documentation and metadata;
 - 5.2.5.6.5. Create or review data definitions;
 - 5.2.5.6.6. Ensure that data is used within the established rules;
 - 5.2.5.6.7. Ensure integrity and quality of data is maintained;
 - 5.2.5.6.8. Communicate new and changed business requirements to impacted stakeholders;
 - 5.2.5.6.9. Communicate concerns, issues and problems to Data Owners and/or other stakeholders who can effect corrections; and
 - 5.2.5.6.10. Support and collaborate with other data stewards.
 - 5.2.5.6.11. Facilitate resolution of issues pertaining to their data domain;
 - 5.2.5.6.12. Responsible for enterprise level management of a data domain;
 - 5.2.5.6.13. Initiate, facilitate and participate in cross-business unit resolution of data definition, production and usage issues;
 - 5.2.5.6.14. Escalate documented issues to those who can effect corrections;
 - 5.2.5.6.15. Document data classification rules, compliance and business rules and ensure the rules are communicated to all stakeholders and data stewards in their domain; and
 - 5.2.5.6.16. Participate in tactical groups with other data stewards and with the DMC to address and resolve issues and projects within their domain and business unit.
 - 5.2.5.6.17. Communicate data policies, standards and procedures to other data stewards in their business unit, train them and ensure they understand the rules and risks;
 - 5.2.5.6.18. Document and communicate issues pertaining to specific domains to the Data Owner;
 - 5.2.5.6.19. Participate in the organization's change control process.
- 5.2.6. **Data Custodians** - A Data Custodian is a person or group who has physical or operational control of a data repository. It includes, without limitation, roles such as database administrators, system or server administrators, backup operators and storage server administrators. A person need not be explicitly designated as a Data Custodian. If their duties with respect to a given data set include the

foregoing responsibilities, they are implicitly deemed to be Data Custodians and have the responsibilities designated in this policy.

- 5.2.6.1. A Data Custodian may have custody of data that belongs to the BU, a customer or some other entity.
- 5.2.6.2. Data Custodian is primarily an Information Technology function. Data Custodians shall not be designated as Data Owners except in relation to data specifically related to business processes they manage. Data Custodians are not considered "Custodians of Records" unless they are explicitly designated as such.
- 5.2.6.3. Data Custodians are responsible and accountable for performing their duties with respect to data in their custody in accordance with BU Policies, Standards and Procedures, the policies, standards and procedures of the owner of that data and to such other policies, standards and procedures as may be designated in an agreement between the BU and the customer or owner.

5.3. **Technology, tools and enablement.** The BU shall:

- 5.3.1. Provide the technology and tools needed by the Data Owners, DMCs and Data Stewards to carry out their responsibilities and shall train the Data Stewards on their usage. The purpose of these tools is to facilitate the definition, production and usage of data in a consistent manner across the enterprise. Such tools may include data catalog, metadata repository, automated data classification, data modeling, data classification, data profiling and quality management;
- 5.3.2. Put procedures in place to ensure that best practices are enforced for the selection, design, implementation and management of systems that facilitate or automate the detection, prevention and correction of errors;
- 5.3.3. Ensure that the role of Data Steward is well understood within the organization; that Data Stewards are accountable for data under their stewardship and that Data Stewards are empowered to communicate effectively and drive change when needed to resolve and prevent issues, problems and errors with data;
- 5.3.4. Document the roles of the Data Steward, DMC and Data Owner in the Responsibility Assignment Matrix (RACI) of a Project; and
- 5.3.5. Ensure that documentation is maintained and that cross-training is provided for all business-critical data management roles.

5.4. **Training** - Data Stewards shall receive specific training and be responsible for the following topics:

- 5.4.1. Awareness of the points at which their job functions have an impact on data definition, production and usage;
- 5.4.2. The business rules, policies and regulations surrounding the data they define, produce and use;
- 5.4.3. Awareness of the impact of failing to follow the business rules, policies and regulations;

- 5.4.4. The procedures for resolving errors, issues, problems that affect data;
 - 5.4.5. Awareness that they will be accountable for following the business rules, policies and regulations.
 - 5.4.6. Data Domain Stewards shall receive specific training covering all the topics of the Data Steward training plus the topics listed below:
 - 5.4.7. Awareness of all the points at which their data domain impacts or is used by other business units;
 - 5.4.8. Contact information and introductions to all Data Stewards within the BU and other business or budget units that impact their data domain;
 - 5.4.9. Procedures for resolving issues, problems and errors that affect their data domain;
 - 5.4.10. The use of enterprise data management tools including those for analyzing data quality, data modeling and data classification;
 - 5.4.11. Strategic changes to data domains such as migration to new systems, databases, cloud servers, implementation of data warehouses, publication of data via services or APIs, additional consumers of data from their domain, master data management and all similar initiatives that may have an impact on the data domain;
 - 5.4.12. Training required by this policy shall be given at the time of hiring or on-boarding of employees or contractors. Training shall be repeated when significant changes are made to systems, procedures or job functions. If no such changes are made within a given year, refresher training shall be repeated on a frequency to be established by the EDMO.
 - 5.4.13. Training should stress that when positions or roles impact the definition, production or usage of data, the employee, contractor or service provider will be accountable for the quality of that data.
- 5.5. **Data Governance Covered Information Systems** - The DGC shall review all Information Systems in use within the BU, whether developed internally or by contracted parties or acquired as off-the-shelf software, with or without modifications, from third parties and determine whether each Information System shall be covered by the Data Governance Policies. Each Information System designated as such by the DGC shall be referred to as a Data Governance Covered Information System (DGCIS). The DGC shall use the following minimum guidelines in determining whether a particular entity should be designated as a DGCIS:
- 5.5.1. Information Systems procured, specified, implemented, developed, acquired or undergoing modifications, enhancements or upgrades after the effective date are DGCIS when one or more of the following is true:
 - 5.5.1.1. The cost of the Information System exceeds \$1,000,000;
 - 5.5.1.2. The Information System provides a critical business function;
 - 5.5.1.3. The Information System provides data or data services to external applications or systems;

- 5.5.1.4. The Information System consumes data or data services from external applications or systems;
 - 5.5.1.5. The data includes sensitive, private or confidential data as defined in Statewide Policy P8110 or Statewide Standard **S7410** – Classification of Data;
 - 5.5.1.6. The data is published for consumption by the public;
 - 5.5.1.7. A process to access the data exists or is being developed and requires a level of security equivalent to SICAM Assurance Model Level 2 or higher. (See NIST Special Publication 800-63).
- 5.6. This Policy shall be referenced in Business Requirements Documents, Requests for Proposal, Statements of Work and other documents that specify the business and technical specifications of Information Systems being developed, procured or acquired.
- 5.7. Third parties supplying Information Systems to the BU, developing information systems on behalf of the BU or providing Information System related services to the BU shall be required to comply with this Policy.

6. IMPLEMENTATION

- 6.1. BUs should have this policy fully implemented by December 31, 2022.
- 6.2. BUs may request an extension of time to implement Section 5.2.1 of this policy by following the instructions in Statewide Standard P4400 - Data Governance Policy Exception Request Standard.

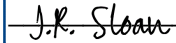
7. DEFINITIONS AND ABBREVIATIONS

- 7.1. Data stores, applications, information systems and data exchanges are all designated as Information Systems for the purposes of this policy.
- 7.2. Refer to the [PSP Glossary of Terms](#) located on the ADOA-ASET website.

8. REFERENCES

- 8.1. Text in brackets [] refers to sections of the [Data Management Maturity Model V 1.1](#)

9. REVISION HISTORY

Date	Change	Rev	Signature
12/1/2021	New requirements to establish an EDMO and EDMO officer Updated per new PSP standard layout and content Added exception process §6.2	2.0	State CIO J. R. Sloan DocuSigned by:  9AF7C2A7FCFB4963/31/2022