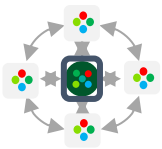
Driving DOE Forward: Scaling Data Governance & Stewardship for Strategic Success

Introduction: Key frameworks & methodologies outlined in the DOE Enterprise Data Strategy (EDS) Implementation Plan include data governance operating models, transparent communication, & scaling existing successes rather than reinventing the wheel across data communities. The role of technology, including automation & AI-driven solutions, & fostering a culture of data stewardship is important at all levels of DOE. Together, these practices ensure data quality, discoverability, & security—crucial elements for responsible downstream data use, which drive advanced insights forward & accelerate DOE's mission.

Foundations of Effective Data Governance

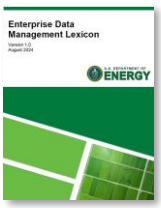
Federated Governance

- Retain **ownership & responsibility locally** while **enabling centralized governance**
- **Accommodates** the varying levels of reporting & insights maturity across enterprise
- **Standardized** tools & **sharing** of best practices



Data Lexicon

Serves as a common resource for **consistent use of terminology, ensuring we are all speaking the same language** when it comes to data. Standardized & regularly updated data term definitions will support evolving mission needs & regulatory changes.



Data Stewardship

Data Quality
Ensuring accuracy, consistency, & reliability of data.

Data Documentation
Maintaining clear & comprehensive records of data processes, lineage, & metadata.

Data Compliance
Enforcing adherence to data governance policies & regulations.

Collaboration
Working with data owners, custodians, & users to resolve data issues, & improve data management practices.

Distinct Functions of the Data Management Lifecycle

To best share the data value story, we can use analogies that drive fluency. The data management lifecycle covers data collection, processing, preparation, organization, & outputs.

Recipe: The Guidance & Knowledge of How Each Step Leads to the Other

1. GROCERIES

Data **Sources**

The raw data, ingredients to use

2. FRIDGE & PANTRY

Data **Stewardship, Management, & Governance**

Frameworks to ensure data is being stored, managed, & used appropriately

3. APPLIANCES

Infrastructure, Security, & IT **Capabilities**

To prepare, secure, process, & transform data

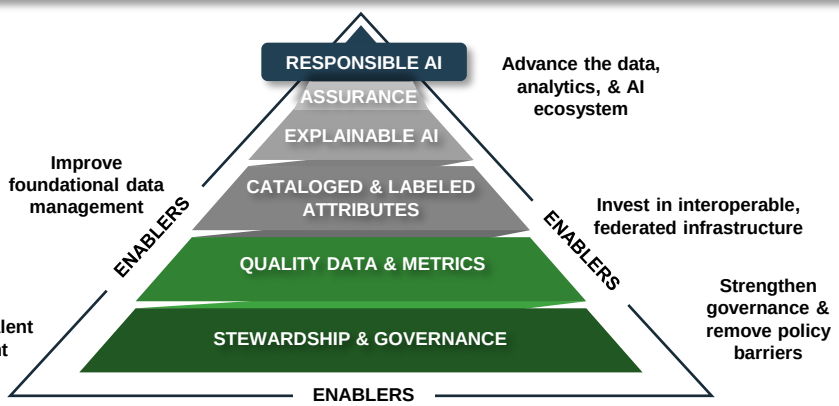
4. MEALS

Data **Consumption**: Analytics, AI, & BI Products

The pulling of data & the products for use after data preparation

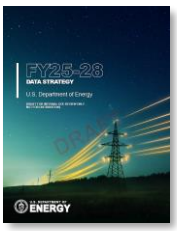
Building Scalable Growth: The AI Hierarchy of Needs

The AI Hierarchy of Needs is a pyramid with stewardship & governance as the foundation because all analytics & AI capabilities require trusted, high-quality data. The layers above enable a dynamic approach to the design, development, & use of AI capabilities. Around the pyramid are enablers, like data talent management, that help sustain the "Hierarchy of Needs."



Source: *DoD Accelerating Decision Advantage 2023 Data, Analytics, and AI Adoption Strategy*

Tying it All Together



Goal 1	Establish & scale federated data governance & stewardship
Goal 2	Build & maintain data architecture & infrastructure platform foundations
Goal 3	Strengthen capabilities that improve discoverability, usability, quality, & trustworthiness of our data
Goal 4	Foster & sustain our Next Generation data & analytics workforce
Goal 5	Ensure the responsible & sustainable use of data for AI

Do you want to learn more about data governance at DOE? Want to be involved in implementing the EDS? Reach out!

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