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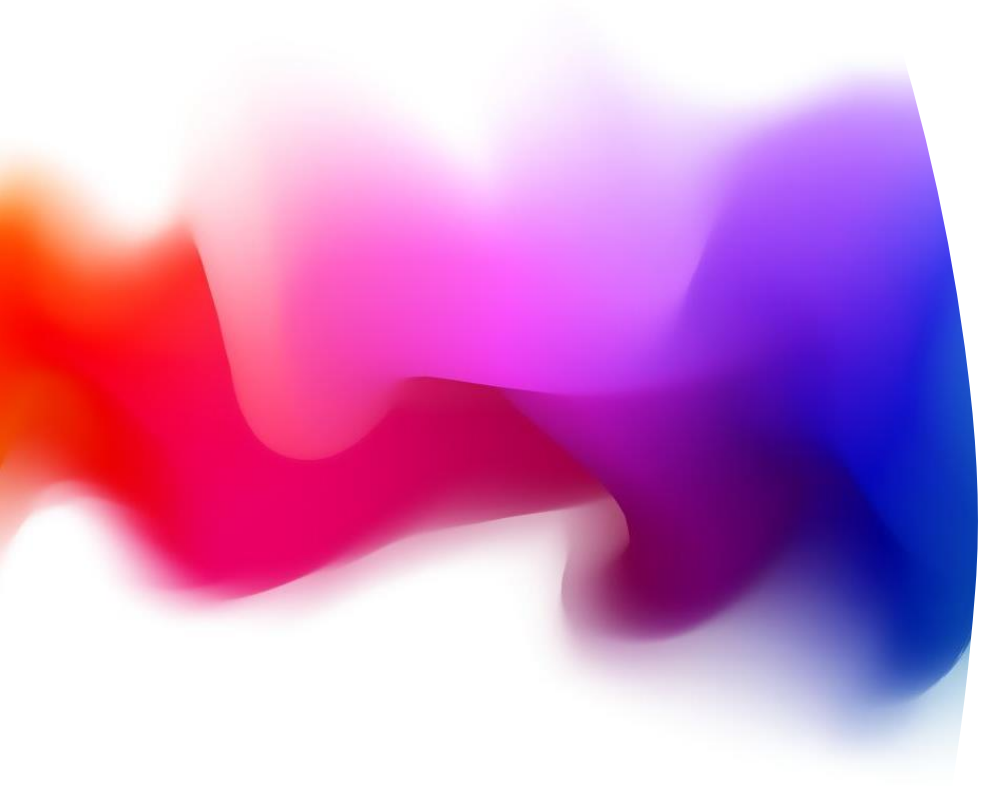


Data Governance for Information Professional

Research Data Governance by ARDC

Policy
Roles and Responsibilities
Procedures

DATA GOVERNANCE DEFINED

Data governance is an emerging, cross functional management program that treats data as an enterprise asset. A collection of corporate policies, standards, processes, people and technology essential to managing critical data to a set of goals.

Maria Villar & Theresa Kushner
Data Governance Fundamentals

WHAT IS DATA GOVERNANCE?

- Set of practical dan practice of managing the availability, usability, integrity and security of the data in enterprise systems.

Includes **standards**, **policies**, **people**, **processes** and **technologies** needed to manage and protect the company's data assets

DATA GOVERNANCE DEFINED

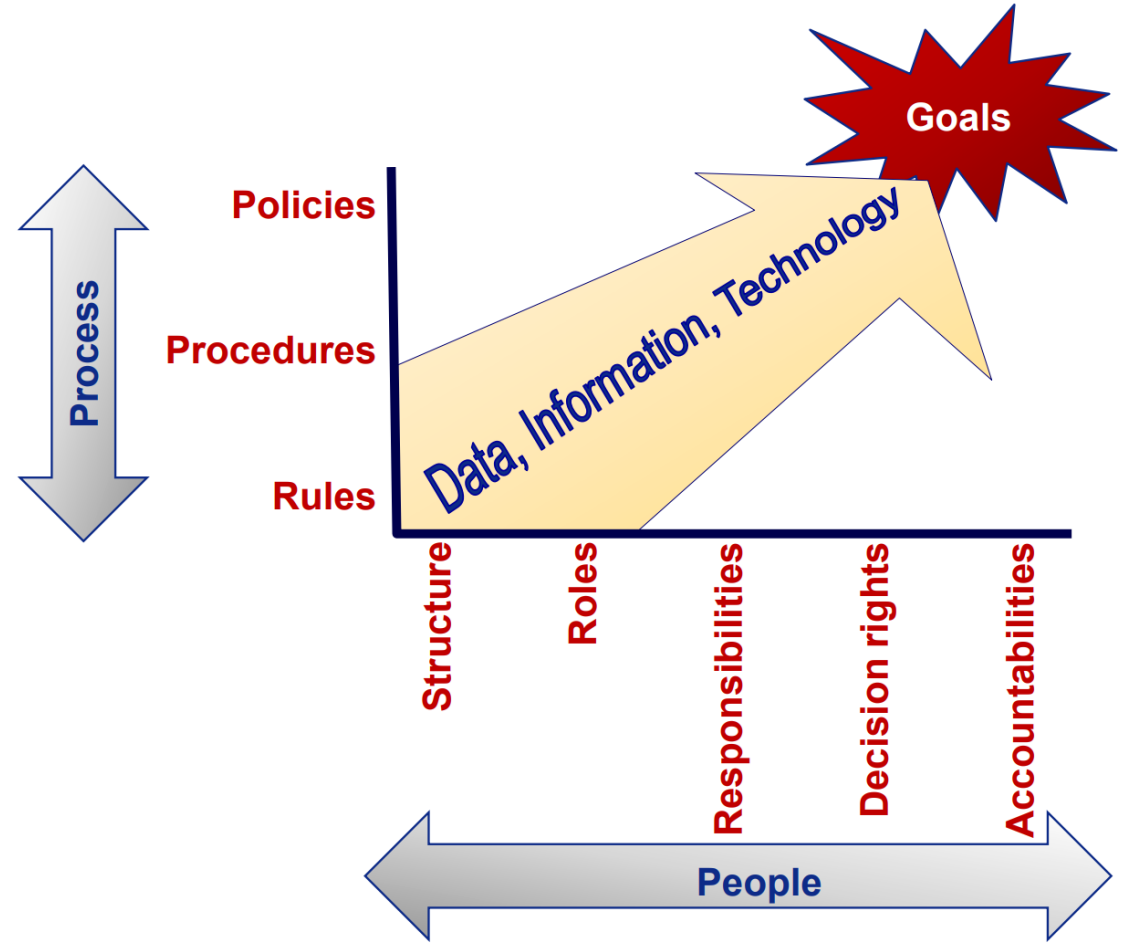
- Data governance is the organization and implementation of policies, procedures, structure, roles, and responsibilities which outline and enforce rules of engagement, decision rights, and accountabilities for the effective management of information assets.

- John Ladley
- *Data Governance for Business Leaders*

- *Keyword:*
- ***Procedures structure roles responsibilities rules***

Decision rights accountabilities

DATA GOVERNANCE DEFINED



- Data quality
- Standardization
- Consolidation
- Compliance
- Information utility
- IM maturity

Not a One Size Fits All Program

- A Data Governance program is tailored to match an organization's
  - Culture
  - Information management maturity
  - Priorities
  - Management sponsorship

POLICY

What is Data Governance Policy?

A data governance policy is a documented set of guidelines for ensuring that an organization's data and information assets are managed consistently and used properly.

For example, a data governance policy formally outlines how data processing and data management should be carried out to make sure that data is accurate, consistent and accessible throughout an organization's systems

Source: https://www.techtarget.com

Data governance committee or *Data governance council*

Group work

Process coordinated by data governance managers

The organization's data governance structure and a set of governance rules and procedures for the executive team, data stewards, data managers, data analysts and researchers to follow.

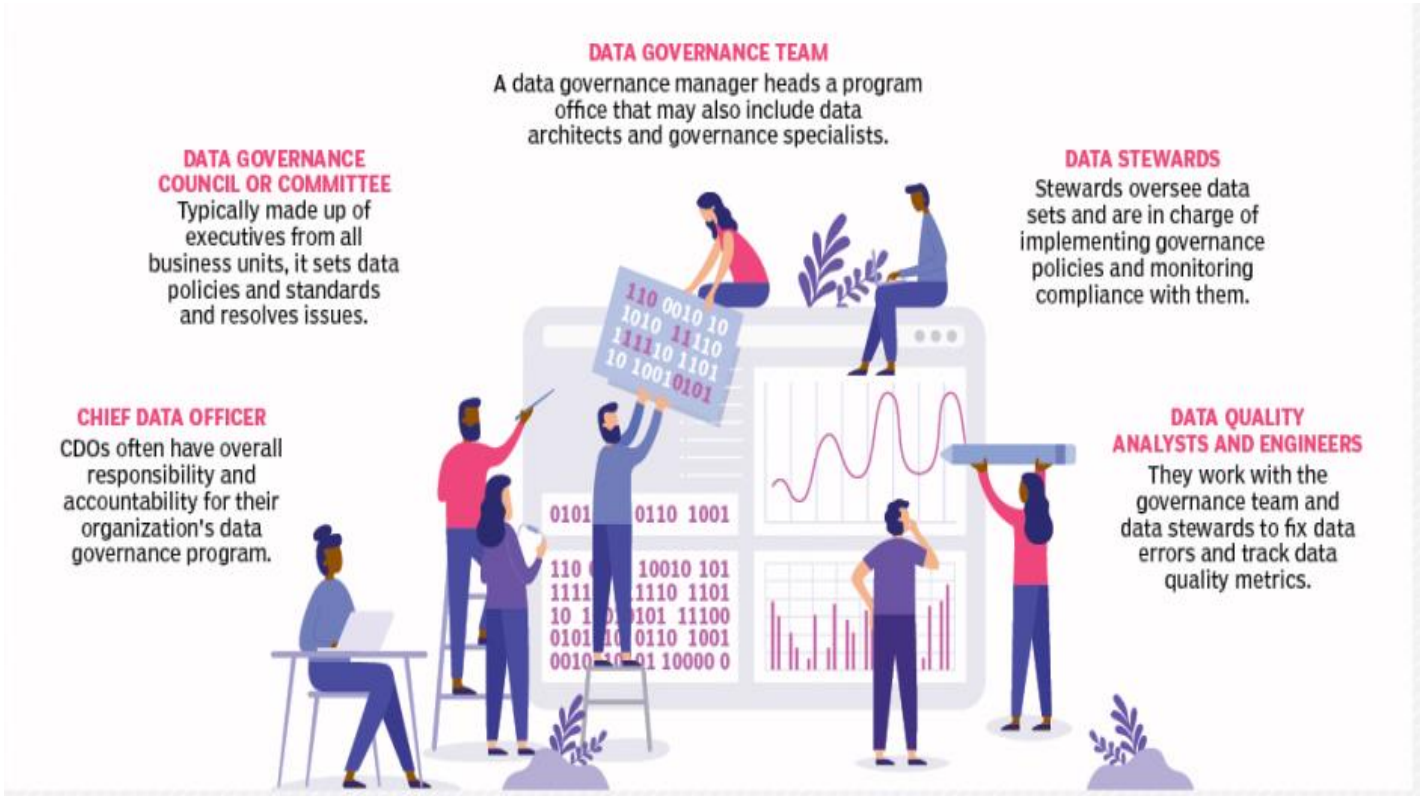
Data Governance Policy

- A data governance policy is a living document:
  - Flexible
  - ready to quickly modify it in response to changing organization or data needs

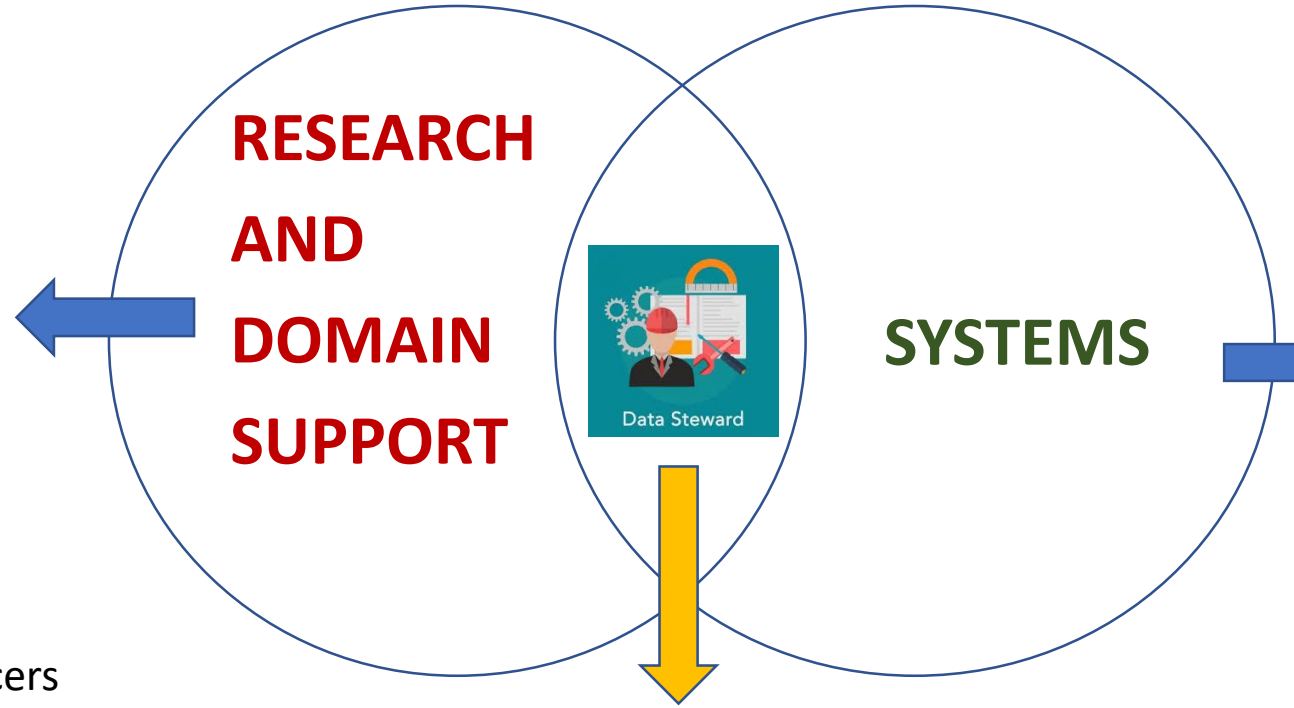
Types of data governance rules that a policy should include

Data quality and integrity	Data access	Data usage	Data integration	Data security.
• The data governance policy should include procedures for managing data quality and integrity to prevent data errors, inconsistencies and other issues and to find and fix problems that do occur.	• The governance policy may include role-based access controls with different accessibility privileges for separate groups of users.	• A data governance policy sets rules on appropriate and ethical uses of data.	• This involves rules designed to create common data definitions and avoid or eliminate data silos that are isolated from the rest of an organization's systems.	• A data governance policy typically also addresses data security and privacy protections, including end-user responsibilities for helping to keep data secure.

Roles and Responsibilities



WHO'S PART OF THE PROGRAM ON DATA GOVERNANCE?



- DG sponsors
- Manager
- Head of Research
- Researchers
- Compliance and risk officers

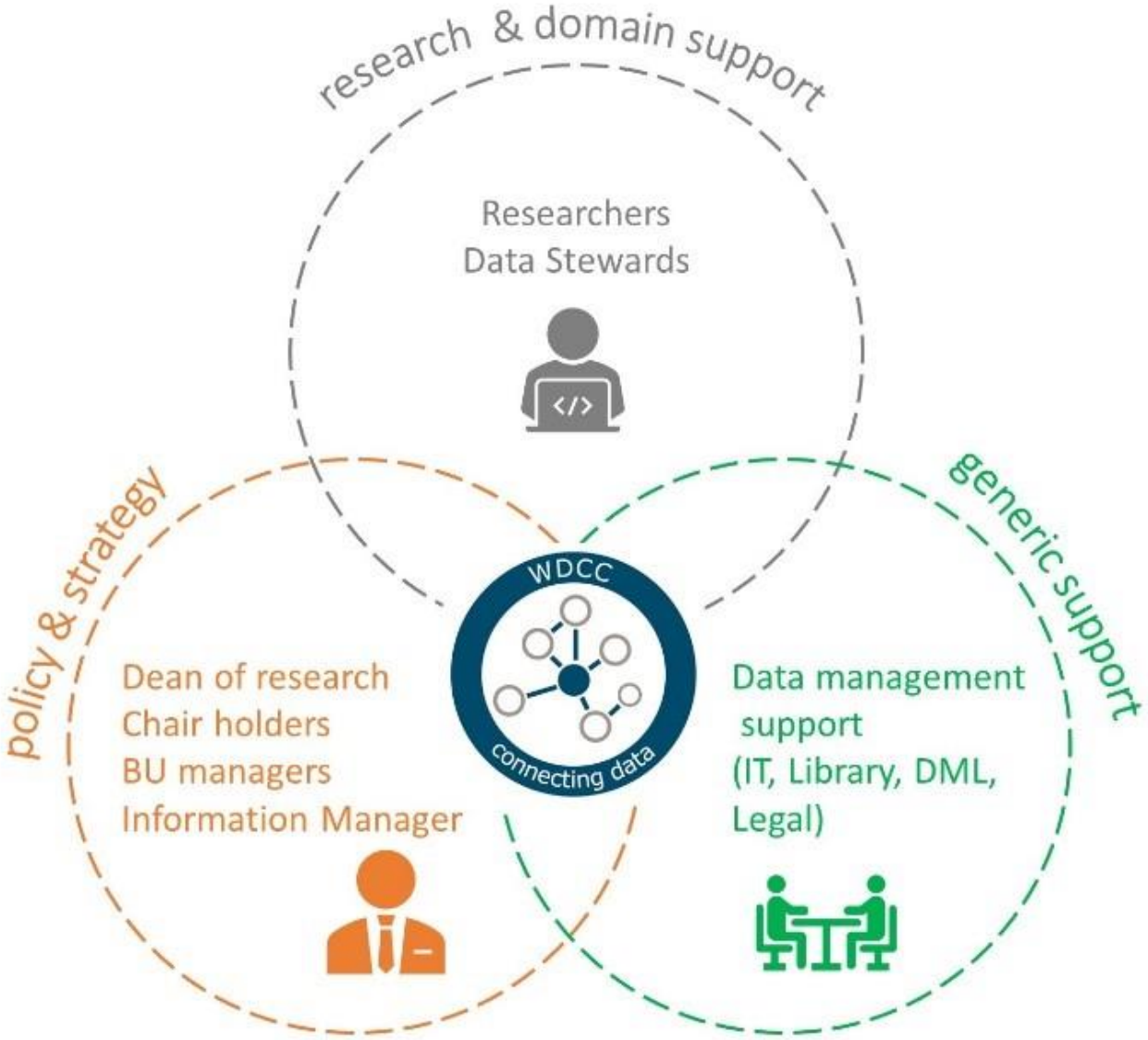
- Data architects
- Data modelers
- Database analysts and designers
- Information systems management

- Data stewards
- Data governance management

Data Governance and People

Data Stewardship in Data Governance

- Source:
- Wageningen University & Research (WUR)- Data Management Plan
- https://www.wur.nl/en/article/Data-Stewardship-1.htm



Data Stewardship and Data Governance

- A role in data standards and policies
- A role in defining and implementing data controls
- A role in monitoring compliance
- A role in representing data domains to enterprise data forums

Data Steward Roles

- New role in data governance
- Manages one or more domains of data
- Understanding the data management processes that create data
- Responsible for quality and management of data
- Custodian of the data definitions

FOUR PILLARS OF DATA GOVERNANCE

Data governance relies on **data stewards** to implement policies in organizations, a central goal being better **data quality**. Often, a key element in data governance implementations is **master data management**. Like data governance itself, MDM continues to encounter new **use cases** as data use widens.

PHOTO: ANTIQUEIMAGNET/GETTY IMAGES

TechTarget

Data Governance Role and Responsibilities Example

Role	Definition
Data Executive	Data Executives are members of the Senior Executive Group with strategic planning and decision-making authority for the University's data.
Data Guardian	Data Guardians are senior leadership with high-level knowledge, expertise and tactical decision making in data within their responsibility.
Data Steward	Data Stewards are Staff responsible for data quality, implementation and enforcement of data management within their organisational unit(s).
Data Specialist	Data Specialists are business and technical subject matter experts. They are typically Business or Information Technology specialists who provide ongoing technical support as a part of their day-to-day role.

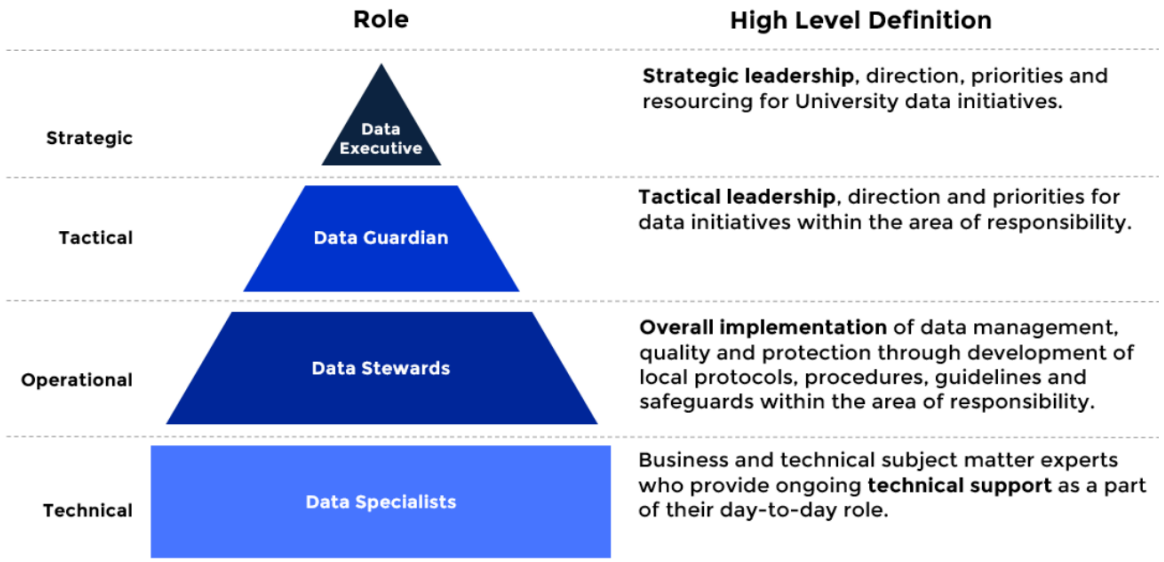


Figure 1 – Hierarchy of Data Governance Roles & Responsibilities

Source: https://documents.uow.edu.au/content/groups/public/@web/@gov/documents/doc/uow268801.pdf

Procedures

The procedures in research data governance

Planning: This involves defining the scope of the research, identifying the data that needs to be collected, and creating a plan for data management and governance.

Data collection: This involves collecting data according to the plan, ensuring the data is accurate, complete, and representative, and documenting the data collection process.

Data storage: This involves selecting an appropriate storage medium, ensuring the data is secure and backed up regularly, and documenting the storage process.

Data analysis: This involves performing statistical analysis on the data, ensuring the analysis is accurate and replicable, and documenting the analysis process.

The procedures in research data governance

Share: Determine which data can be shared, with whom, and under what conditions. Create a plan for data sharing, including data access and use agreements.

Preserve: Ensure the long-term preservation of the data, including choosing an appropriate archival format and ensuring the data remains accessible and usable.

Dispose: Determine when and how the data will be disposed of, and ensure that disposal is carried out in accordance with legal and ethical requirements.

Throughout these procedures, it is important to ensure that appropriate policies, standards, and guidelines are in place to govern the management and use of research data.

It is also important to ensure that researchers are trained in the proper handling and management of data, and that they adhere to the policies and procedures put in place.

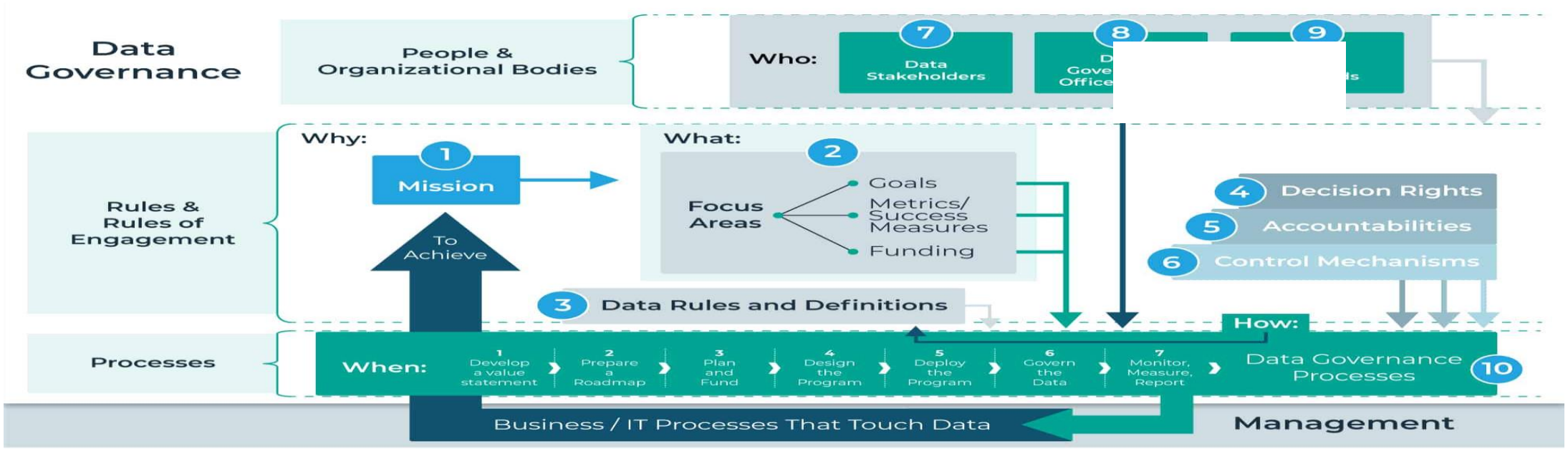
Policy vs Procedures

Procedures generally reflect governance or operational standards, provide a specific guide to decision making, and explain how policies are put into effect.

But sometimes the governing ‘policy’ and the ‘procedures’ are linked in a document, which will be described as a ‘policy’.

For example, there may be the expectation that some policies, such as those related to conflicts of interest, will include the relevant procedures to be followed to manage a conflict or potential conflict when it arises.

DATA GOVERNANCE FRAMEWORK



Definition:

Data Governance is the exercise of decision making and authority for data-related matters.

It's a system of decision rights and accountabilities for information-related processes, executed according to agreed upon models which describe who can take what actions with what information and under what circumstaces, using what methods.

Processes for governing how data is used, and when, and by whom

1. Aligning Policies, Requirements & Controls
2. Establishing Decision Rights
3. Establishing Accountability
4. Performing Stewardship
5. Managing Change
6. Defining Data
7. Issue Resolution
8. Specifying Data Quality Requirements
9. Building Governance into Technology
10. Stakeholder Care and Support
11. Stakeholder Communications
12. Measuring and Reporting Value

DATA GOVERNANCE FRAMEWORK

1. Designating data stewards:

To create a data governance framework, an organization must define the people who will be responsible for the data — the owners and custodians of its data assets. The organization must decide which teams will handle which dat [illegible] or individuals are called data stewards.

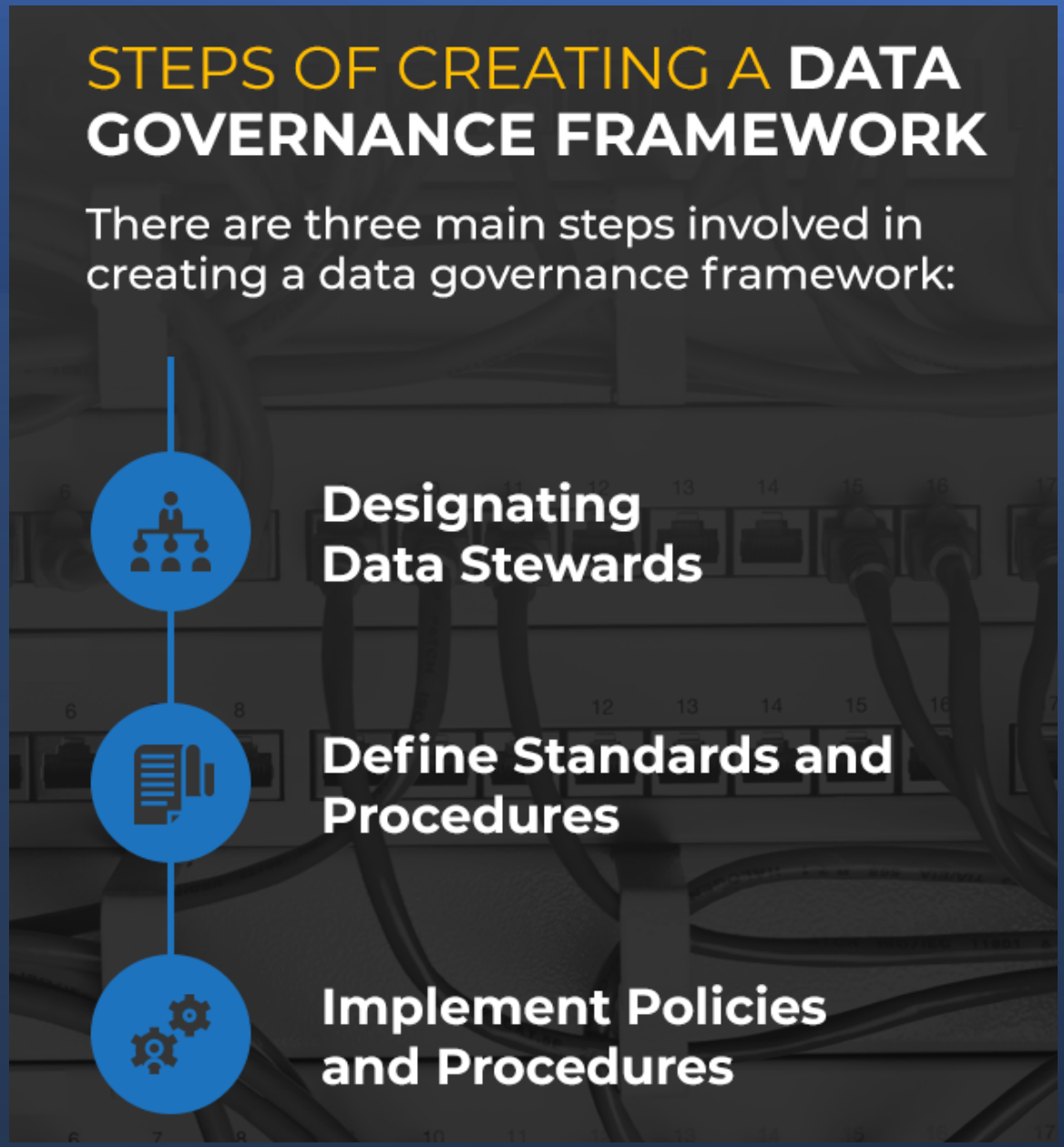
2. Define standards and procedures:

The organization will then establish standards and procedures for how the organization will manage its data, including storage, archiving, backup schedules and security. These procedures will include rules for how authorized personnel should use data. They'll also include controls and audit procedures to ensure compliance with the organization's data policies as well as applicable government regulations.

3. Implement policies and procedures:

Once the organization has defined its data stewards and created an overall strategy for managing its data, the various governance teams will decide how to implement the policies and procedures. This includes choosing the technologies that will be used to manage the data. The company should regularly review, update and improve its data governance framework.

Ref : Data Governance Best Practices, https://consoltech.com/blog/data-governance-best-practices/


STEPS OF CREATING A DATA GOVERNANCE FRAMEWORK
There are three main steps involved in creating a data governance framework:
Designating Data Stewards
Define Standards and Procedures
Implement Policies and Procedures

I. PLANNING

- Develop Data Management Pl
  researchers in their imple
- Develop and provide t
  management
- Help researche
  identifiers (O
- Provide int
  possibili

6. REUSING

- Raise awareness and provide training about reuse requirements
- Promote reuse with copyright and contract management, and through the use of Creative Commons licenses

5. ASSESSING

- Participate in projects and pilots to learn about next-generation metrics
- Advance the adoption of next-generation metrics

4. PUBLISHING

- Encourage researchers and students to use Institutional Repositories for publishing
- Provide training in Open Access publishing and the requirements of publishers

3. M

- Ensur
  by suppo
  identifiers,
- Provide traini
  programming lang
  and in using high comp
- Develop infrastructures: In
  Repositories for publications and
  ontologies and other tools to describe
  content

Cultural Change

advocating would be a giant cultural shift in
econd open science revolution extending
pen science revolution, of the 17th and
centuries.[4]

Reflecting a commitment to Open Science
cross all services. Provide a certified
ository. Create a data catalogue. Publish
tent with a machine-readable license.
pen APIs to provide access to library
ces. Develop intelligent tools to au-
te metadata production and support
data management during the entire
ife-cycle. Ensure that contracts with
hers are transparent.

ng inspiring examples. Highlight your
library's successes and those of Open
nce champions from across the com-
nity.

in-
your

[4] Bartling, S., & Friesike, S. (2014). *Towards Another Scientific Revolution.* Available at http://dx.doi.org/10.1007/978-3-319-00026-8_1

Libraries can **raise awareness**, provide **training**, open **research collections** to innovative research methods and develop **supportive policies** and **infrastructures**.

Conclusion

Build your own expertise

Be pioneering and thoughtful

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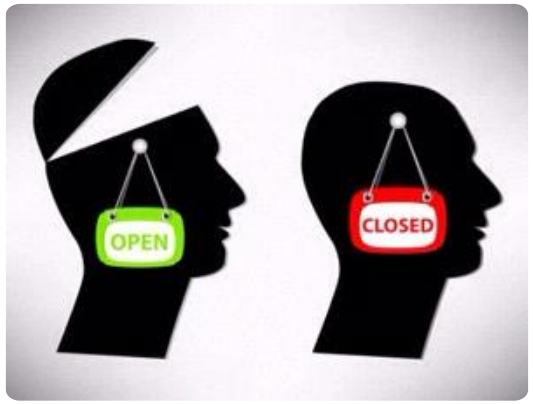

Open science needs open mind.

Thank You