



# Data Management Maturity - NDMO

# Content

1.	Introduction	03
2.	NDMO – Compliance and Enforcement	03
3.	NDMO – Domains	03
4.	Control Structure	05
	a) Format	05
	b) Example	05
5	Specifications Priorities	06
6.	Implementation Plan	06
7.	Implementation Approach	07
8.	Key Success Factors	08
9.	Mitigate Risk	09

## Introduction

Saudi Arabia has launched an ambitious digital transformation under Vision 2030, where data is seen as a national asset, a driver of innovation, and a key to economic diversification. However, as the Kingdom advances in data use, it recognizes the importance of protecting citizens’ privacy and security, and has launched the National Data Management Office (NDMO) for public entities and trusted business partners to implement.

The NDMO’s mandate is to create and enforce national standards for data management and personal data protection, ensuring the responsible, secure, and ethical handling of data. These regulations apply to all government data, including paper records, emails, stored data, voice recordings, videos, maps, photographs, scripts, handwritten documents, and any other recorded information.

In this white paper, we will explore the NDMO framework, standards, and adoption roadmaps to contribute to the data-powered future of the Kingdom.

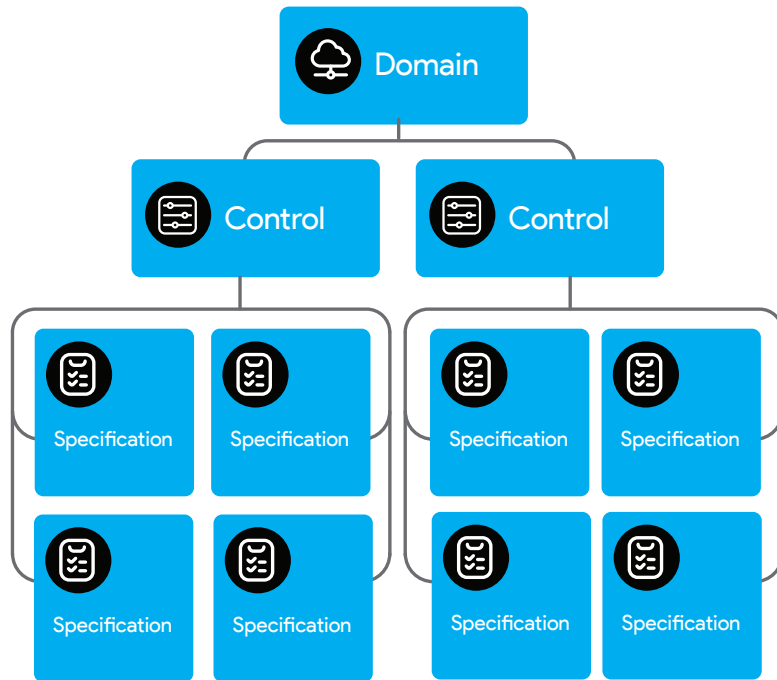
## NDMO – Compliance and Enforcement

The NDMO framework emphasizes compliance and enforcement to ensure data management and protection standards are practiced across all entities. Organizations must conduct a compliance audit annually and submit the report to NDMO by the third quarter of each year.

- NDMO will review, consolidate, and release the annual compliance results to stakeholders, covering individual entities, sectors, and the entire government spectrum.
- Entities will conduct compliance assessments for each specification, assigning a binary value of 100% to fully implemented specifications and 0% to those that are partially or not implemented.
- Each specification’s compliance score will be cascaded up to the control, domain, and overall entity level.
- The annual compliance report will also include supporting evidence for the implementation of each specification (where

applicable).

- The compliance exercise will be led by the Chief Data Officer, with support from other Data Management and Personal Data Protection Office roles.
- Building upon the findings from the submitted Entity Compliance Reports, NDMO reserves the right to conduct selective ad-hoc Compliance Audits on chosen entities for a more comprehensive review and validation of the results.



## NDMO – Domains

The National Data Management Office (NDMO) has identified 15 domains that form the foundation of Saudi Arabia’s national data governance and protection standards. These domains provide a comprehensive framework that covers the entire data lifecycle, ensuring organizations handle data responsibly, securely, and in line with Vision 2030 goals. The domains are:

### 1. Data Governance:

Data governance provides the authority and control over planning and implementing the organization’s data management practices through people, processes, and technologies. It ensures the consistent and proper handling of the organization’s data assets in line with its Data Management and Personal Data Protection Strategy.

**2. Data Catalog and Metadata:**

Data catalogs and metadata facilitate easy access to high-quality, integrated metadata, utilizing the data catalog's automated tools. This serves as the single point of reference to the organization's metadata.

**3. Data Quality:**

Data quality improves the quality of the organization's data, making sure it meets consumer needs.

**4. Data Operations:**

Data operations focus on design, implementation, and support for data storage, maximizing data value throughout its lifecycle from creation or acquisition to disposal.

**5. Document and Content Management:**

Document and content management controls the capture, storage, access, and use of documents and content stored outside of relational databases.

**6. Data Architecture and Modelling:**

Data architecture and modelling establish formal data structures and data flow channels, enabling end-to-end data processing across and within entities.

**7. Reference and Master Data Management:**

Reference and master data management enables connecting all vital data to a single master file, providing a unified reference point for key information.

**8. Business Intelligence and Analytics:**

Business intelligence and analytics analyze an organization's data records to extract insights and draw conclusions.

**9. Data Sharing and Interoperability:**

Data sharing and interoperability involve gathering data from different sources and integrating solutions to create a smooth

communication channel between various IT components. It also covers a process for organized and standardized data exchange between entities.

**10. Data Value Realization:**

Data value realization consistently assesses data assets to identify potential data-driven use cases that generate revenue or reduce operational costs for the organization.

**11. Open Data:**

Open data refers to an organization's information that can be shared with the public to enhance transparency, accelerate innovation, and promote economic growth.

**12. Freedom of Information:**

Freedom of information allows Saudi citizens to access government data, understand the procedures for obtaining it, and learn about the appeals process if disputes arise.

**13. Data Classification:**

Data classification involves categorizing data to enable efficient use and protection. The classification levels are determined through an impact assessment that determines the potential damage caused by mishandling or unauthorized access to data.

**14. Personal Data Protection:**

Personal data protection protects an individual's right to secure and confidentially manage their personal information.

**15. Data Security and Protection:**

Data security and protection focus on safeguarding the entity's data through processes, people, and technology. It includes, but is not limited to, authorized data access, preventing spoliation, and protecting against unauthorized data disclosure.

## Control Structure

Each of the 15 data management & privacy domains includes a set of controls, which are further broken down into a list of related specifications to define the essential outcomes that must be achieved to be compliant with the data management & privacy standards.



### Domain Level

The domain is a knowledge area defined by the KSA data management & privacy framework.



### Control Level

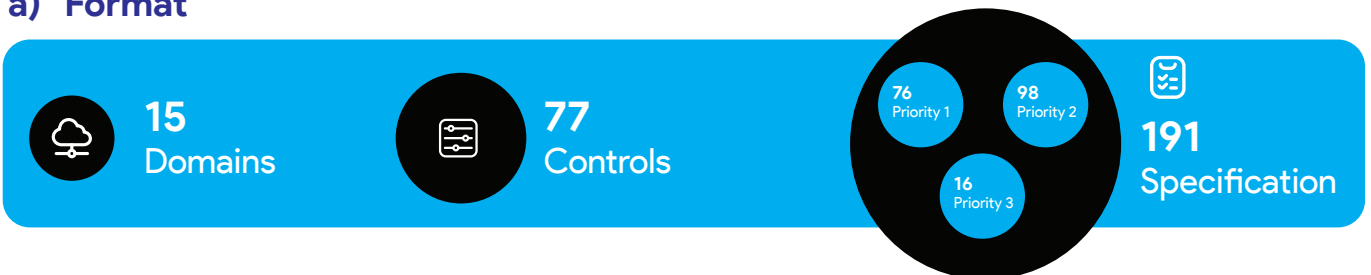
The control is a collection of specifications that address a common area within the domain.



### Specification Level

The specification defines the required outcomes that must be achieved to be compliant with data management & privacy standards.

## a) Format



## b) Example

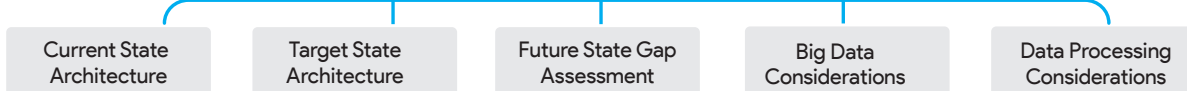
Domain

Data Architecture and Modeling

Control

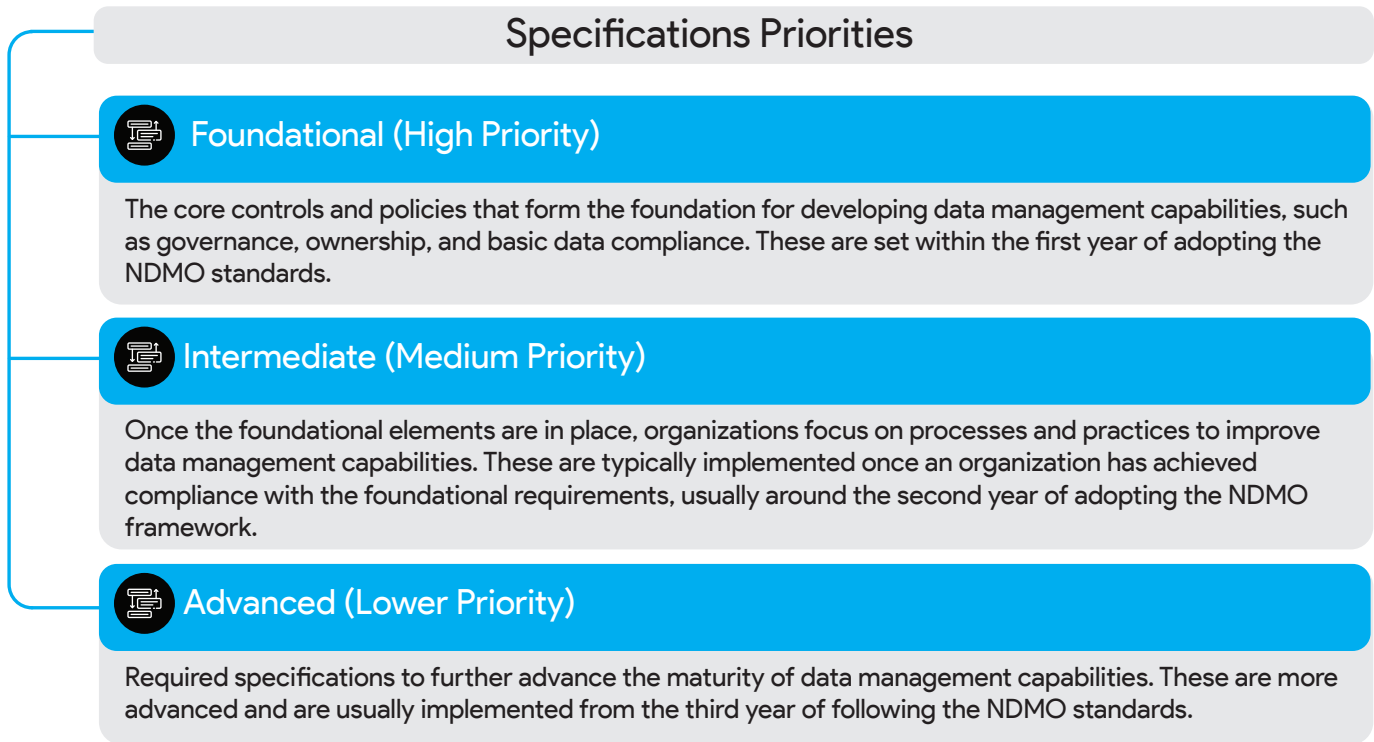
Data Architecture Framework Definition

Specifications



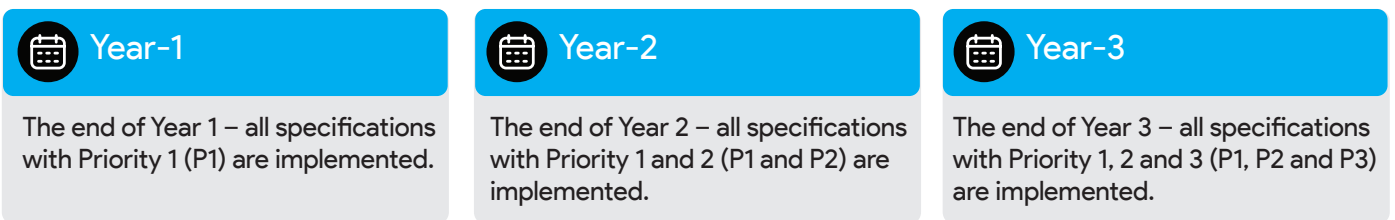
## Specifications Priorities

NDMO’s specification priorities serve as a structured implementation guide to help organizations align with national data standards, without compromising essential controls.





## Implementation Plan

Specification priorities serve as an input for developing a phased implementation plan in compliance with the KSA Data Management and Personal Data Protection Standards. The plan will be structured around a three-year roadmap encompassing all necessary specifications, anchored by three key milestones.



## Implementation Approach

Drawing on our team’s expertise and experience in national data governance programs that support large-scale regulatory initiatives across the Kingdom, our approach combines insights from similar regional projects with globally recognized best practices, ensuring a smooth, context-sensitive framework for successful implementation.

Streams	 Review and Plan	 Implement & Document	 Handover
Key Activities	<ul style="list-style-type: none"> <li>Define key stakeholders and develop communication plan</li> <li>Create implementation plan for control’s implementations</li> </ul>	<ul style="list-style-type: none"> <li>Engage with stakeholders to review and gather the evidence of all controls</li> <li>Review the current processes and documentation for controls</li> <li>Develop and document the methodology and process for controls</li> </ul>	<ul style="list-style-type: none"> <li>Share relevant deliverables and artifacts</li> <li>Conduct Walkthrough sessions and training to relevant stakeholders</li> <li>Request stakeholders to formally provide their sign-off, indicating their acceptance and satisfaction with the project’s outcomes, deliverables, and overall performance</li> </ul>
Deliverables	<ul style="list-style-type: none"> <li>Stakeholder Matrix and Communication Plan</li> <li>Implementation plan for controls</li> </ul>	<ul style="list-style-type: none"> <li>Implementation of controls</li> <li>Documentation of implementation</li> </ul>	<ul style="list-style-type: none"> <li>Knowledge transfer &amp; training documents</li> <li>Project closure document</li> </ul>

## Key Success Factors

We will define a set of guidelines and principles to follow throughout the project:



### Scope Clarity

Understanding the project's scope is essential. It involves defining and understanding the boundaries, objectives, deliverables, and prerequisites. Clear scope helps prevent scope creep, align expectations, and keep the project on track.



### Stakeholder Alignment and Sponsorship

Ensuring that key stakeholders share a common understanding of the project's importance and goals, and that their support remains consistent throughout the project, is extremely important.



### Team Availability

The customer will designate a team responsible for actively supporting the project's progress. This team will engage in discussions, attend regular progress meetings, and participate actively in steering committees and other related activities.



### Data Availability

Data plays a pivotal role in the project, and it is assumed that the customer will prioritize fulfilling any data requests to ensure adherence to the project's timeline.



Mitigate Risk

Risks	Probability	Impact	Mitigation
Insufficiently explained specifications in the NDMO can lead to a lack of clarity regarding the precise requirements. This lack of clarity can result in several challenges, including unfinished tasks, modifications to deliverables, adjustments to the project schedule.	Medium	High	To mitigate scope challenges, it is advisable to establish clearly defined focus areas related to NDMO specifications during the initial stages of project implementation. These focused areas should be documented and shared with the customer for their formal approval and signoff. This proactive approach can help prevent potential scope-related issues from arising later in the project.
It is important to ensure that key stakeholders share a common understanding of the project's importance and goals, and are committed to providing adequate support throughout the life of the project.	Low	High	To mitigate such risks, we recommend involving all key stakeholders from the beginning of the project to ensure that their perspectives, requirements, and concerns are addressed. This fosters collaboration, promotes a better understanding, and helps align project goals and expectations among all stakeholders.
Involving the customer team is necessary for the project's success. The absence or unavailability of stakeholders, both from the vendor and customer side, can significantly impact the project and cause delays in multiple deliverables, especially if their participation is critical for specific tasks or the decision-making process.	Medium	High	It is advisable to launch an expectation setting workshop prior to the launch of the project to introduce the project team members to each other for coordination, including strategically coordinating their leaves. By knowing the team composition and their availability, it becomes easier to allocate responsibilities, manage workloads, and plan project timelines effectively.
Data and documents are a crucial aspect of any project, and customers must prioritize data and document requests in alignment with project plans and schedules. By recognizing the significance of timely data and document provision, customers can ensure that project activities progress smoothly and efficiently.	Medium	High	To avoid delays the vendor will compile a proposal with the necessary information and share it with the customer in a timely manner. This includes relevant documents, roles and responsibilities, escalation matrix, service level agreements, reports, updates, and any other vital data required for the decision-making process or project progression. The proposal will be finalized prior to the expectation setting workshop.



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