



National Data Management Guidelines

Data Catalog & Metadata Management



Table of Contents

1. Data Catalog and Metadata Management Domain Introduction

- 1.1 Domain Overview
- 1.2 Target Audience
- 1.3 Abbreviations and Glossary
- 1.4 Readability Guide
- 1.5 Stakeholders Involved
- 1.6 Key Success Factors
- 1.7 Compliance with National Data Standards
- 1.8 Domain Level Process Map

2. Data Catalog & Metadata Management Policy

- Overview
- 2.1 Data Catalog & Metadata Management Policy Creation
- 2.2 Data Catalog & Metadata Management Policy Publication

3. Data Catalog & Metadata Management Planning

- Overview
- 3.1 Data Catalog & Metadata Management Plan

4. Metadata Management Assessment & Design

- Overview
- 4.1 Metamodel Design

5. Metadata Lifecycle Management

- Overview
- 5.1 Define Business Glossary
- 5.2 Metadata Standardization
- 5.3 Dataset Identification & Prioritization
- 5.4 Metadata Management Processes

6. Data Catalog Implementation

- Overview
- 6.1 Data Catalog Tool Implementation

7. Metadata & Data Catalog Performance Management

Overview

7.1 Data Catalog KPIs

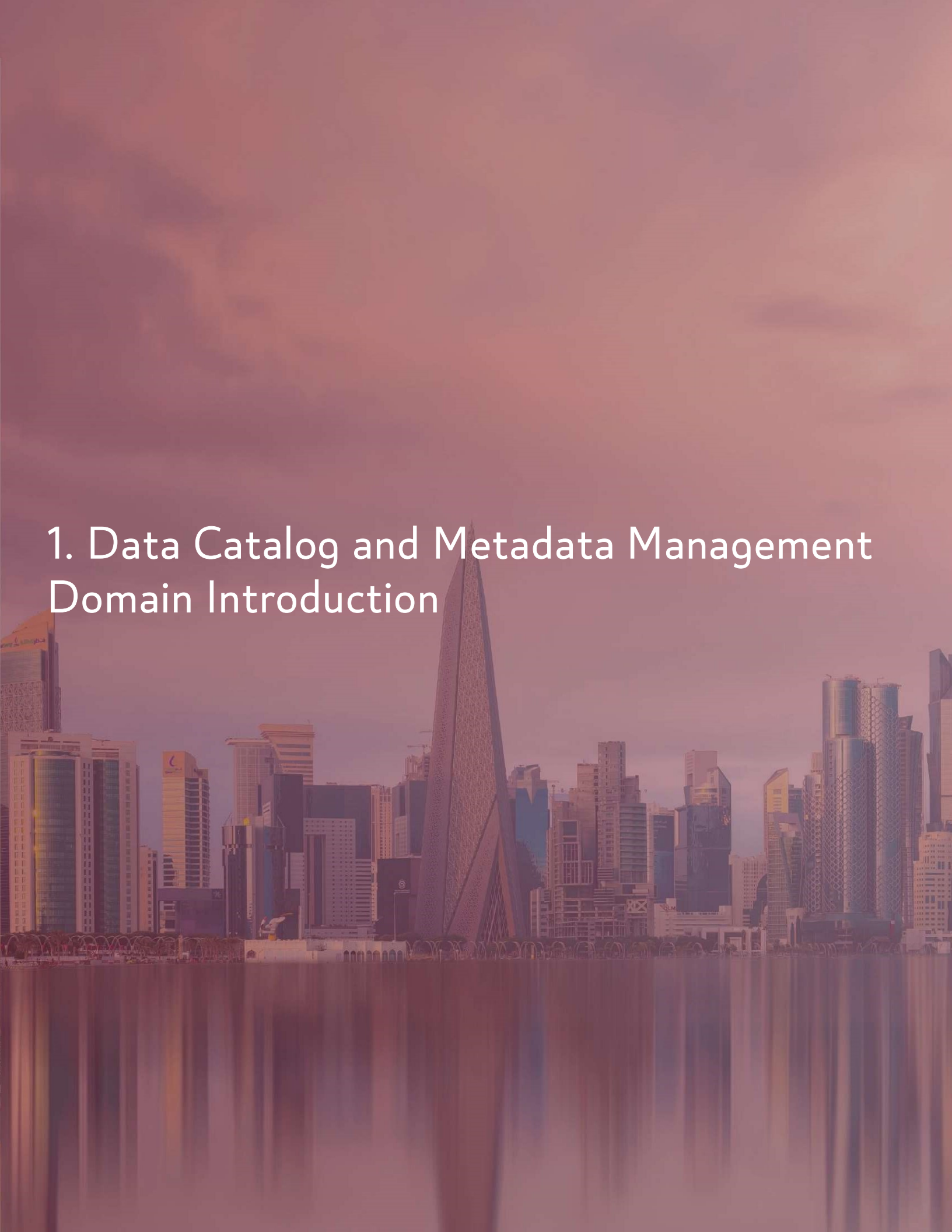
7.2 Metadata Quality KPIs

7.3 Data Catalog & Metadata Monitoring & Reporting

7.4 QDTI

8. Appendix

8.1 Templates & Frameworks

A photograph of the Dubai skyline at sunset, featuring the Burj Khalifa and other skyscrapers reflected in the water. The sky is a mix of orange, pink, and purple hues.

1. Data Catalog and Metadata Management Domain Introduction

1.1 Domain Overview

As data becomes an increasingly vital resource for entities, effectively managing the metadata that describes these data assets is crucial. The Data Catalog & Metadata Management helps entities ensure that their data is discoverable, well-documented, and aligned with both operational and strategic objectives. Through proper cataloging and management of metadata, entities can enhance data quality, ensure compliance with national standards, and improve interoperability between systems.

The purpose of this Data Catalog & Metadata Management Knowledge Case is to guide the Entity in implementing a structured, sustainable approach to managing metadata and populating its data catalog.

Key Components of the Data Catalog & Metadata Management Domain

2. Data Catalog & Metadata Management Policy

It is important to first establish and publish a Data Catalog & Metadata Management Policy that governs the creation, operation, maintenance, and dissemination of metadata across the Entity.

- **Data Catalog & Metadata Management Policy Creation:** The Entity's leadership, along with stakeholders, collaborate to develop a Data Catalog & Metadata Management Policy. This policy governs the creation, operation, maintenance, and governance of metadata across the Entity.
- **Data Catalog & Metadata Management Policy Publication:** After incorporating all necessary feedback and ensuring the policy aligns with audit and regulatory standards, the policy is published on the Entity's centralized repository.

3. Data Catalog & Metadata Management Planning

After establishing and publishing the Data Catalog & Metadata Management Policy, it is important to develop a plan that operationalizes the implementation of the policy.

- **Data Catalog & Metadata Management Plan:** Evaluates the Entity's current capabilities across metadata governance, catalog processes, and tooling using the data maturity model. Additionally, this activity guides the Entity to validate and, if necessary, refreshes the inventory of systems, datasets, and attributes to identify catalog-ready content and critical gaps. Lastly, this activity guides the Entity to develop a detailed Data Catalog & Metadata Management Plan in alignment with the Entity's broader data strategy. This plan outlines the key activities, milestones, stakeholders, and resources necessary to implement and activate data catalog and metadata management initiatives.

4. Metadata Management Assessment & Design

The next step is the design of an Entity-wide Metamodel. This metamodel will act as the structural blueprint for managing metadata across the Entity.

- **Metamodel Design:** Design a comprehensive Entity-wide metamodel that adheres to the national data architecture standards and aligns with organizational goals. This metamodel will standardize how metadata is structured, ensuring consistency across the Entity.

5. Metadata Lifecycle Management

The next step is to establish standardized Data Catalog & Metadata Management Processes, which will ensure that metadata is governed effectively throughout its lifecycle, from creation to maintenance and updates.

- **Define Business Glossary:** Populate the Business Glossary to establish a standardized vocabulary across the Entity
- **Metadata Standardization:** Achieve consistency in how metadata is created, defined, and used across the Entity.
- **Dataset Identification & Prioritization:** Identify and prioritize the datasets that need to be populated in the Data Catalog, with a focus on capturing business-level metadata first, followed by technical and other types of metadata.
- **Metadata Management Processes:** Govern the metadata lifecycle, ensuring that metadata is managed effectively when populating the data catalog.

6. Data Catalog Implementation

The next step is to implement a Data Catalog Tool. This tool will act as the central inventory for the Entity's metadata

- **Data Catalog Tool Implementation:** Implement a Data Catalog Tool to serve as a centralized inventory for the Entity's metadata.

7. Metadata & Data Catalog Performance Management

Finally, establish Key Performance Indicators (KPIs) for data catalog adoption and metadata quality to ensure that metadata management practices are continuously optimized

- **Data Catalog KPIs:** Establish Key Performance Indicators (KPIs) to measure and track the adoption and usage of the data catalog.
- **Metadata Quality KPIs:** Establish KPIs to measure the effectiveness of metadata management practices.
- **Metadata & Data Catalog Monitoring & Reporting:** Monitor and report on the Entity's metadata data management efforts based on the defined KPIs.
- **QDTI:** Evaluating the Entity's adherence to the National Data Catalog & Metadata Management Standards.

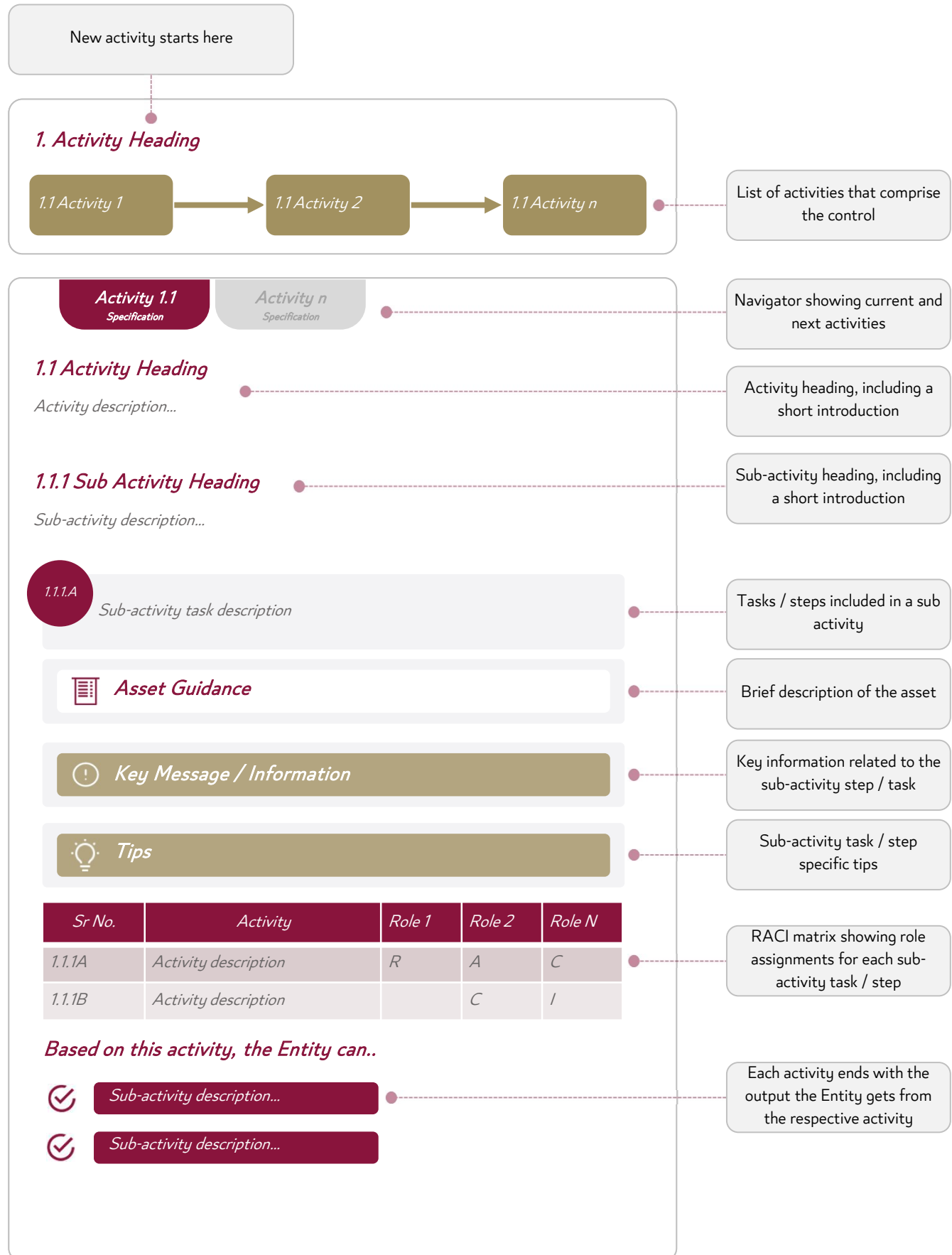
1.2 Target Audience

The Data Catalog & Metadata Management domain handbook is designed for leaders of the data sector, decision support office heads, or equivalent roles, depending on the size and organizational structure of the Entity. It is also relevant for team leads and any other roles responsible for data catalog and metadata management. This handbook serves as a comprehensive resource, offering practical guidance to ensure that the foundational and advanced elements of data catalog and metadata management are in place, supporting the successful implementation and ongoing management of metadata initiatives across the Entity.

1.3 Abbreviations and Glossary

Abbreviation/Term	Definition / Long Name
IT	Information Technology
KPI	Key Performance Indicator
NPC	National Planning Council
QDKC	Qatar Data Knowledge Case
QGE	Qatar Government Entity
CDE	Critical Data Element
Business Metadata	Metadata that provides business context, such as data definitions, descriptions, and usage guidelines, to help users understand the purpose of data elements
CDE (Prioritized Attribute)	A data attribute deemed essential for the Entity's operations, governance, or regulatory compliance and given priority in cataloging and quality monitoring are identified in the data strategy and throughout the other data management domains
Data Catalog	A centralized repository that serves as an inventory of an Entity's data assets and metadata, making data discoverable and accessible to users
Data Attribute	The core unit of data within a dataset, representing a single type of information (e.g., "Employee ID" or "Transaction Date")
Data Governance	The overall management and oversight of data to ensure its quality, security, privacy, and compliance within the Entity
Metamodel	A structural blueprint that organizes metadata across the Entity, ensuring it aligns with data architecture standards and supports data governance
Metadata	Data that provides information about other data, describing its characteristics, origin, and usage to aid in data discovery and governance
Metadata Annotation	Additional context or notes added to metadata entries, such as usage examples or explanations, to help users understand and use the metadata
Metadata Lifecycle Management	The process of overseeing metadata from creation through updates to retirement, ensuring metadata remains accurate, relevant, and secure
Metadata Standardization	Establishing consistent definitions, naming conventions, and practices for metadata, ensuring interoperability and clarity across the Entity
Metadata Quality	The measure of metadata's accuracy, completeness, consistency, and other factors in alignment with Data Quality Management Standards, ensuring it is reliable and fit for use
Ontology	A structured framework that defines the relationships between data elements, enhancing metadata by mapping its connections and context within the Entity
Data Consumers	Employees who use the data catalog to find and explore datasets and attributes relevant to their business needs.

1.4 Readability Guide



Note: Should an activity only contain one sub activity, this sub activity will be in the format of "1.1.A" instead of "1.1.1.A"

1.5 Stakeholders Involved

Below are the stakeholders and actors who contribute to the different processes outlined in the upcoming chapters.

Stakeholder	Role Description
Data Governance Office (DGO)	A Data Governance Office (DGO) is the centralized national body in the National Planning Council responsible for facilitating and coordinating data governance efforts within all associated government entities. It serves as the principal body overseeing the management of data as a strategic asset, ensuring that data-related processes align with the national objectives and comply with relevant policies and regulations.
Data Management and Security Director	The Data Management and Security Director is responsible for leading and overseeing the development and implementation of the data agenda within the government entity, ensuring alignment with strategic objectives and compliance with security regulations. This role promotes best practices in data management while ensuring robust security measures are in place to safeguard the Entity's data assets. The director bridges business and IT to support data-driven decision-making, elevate data as a strategic asset, and ensure data is managed and secured across its lifecycle. Additionally, the director fosters a culture of data security and literacy within the entity, supervises the value realization agenda for data, and ensures alignment with national security policies and standards, as well as the vision of executive leadership.
Data Management and Governance Section Head	The Data Management and Governance Section Head is responsible for leading, managing, and overseeing both data management and governance initiatives within the government entity. This role focuses on establishing and implementing best practices to ensure data governance and management align with the Entity's business requirements, strategic objectives, and compliance with national data standards. The Section Head collaborates with various teams across the Entity to develop and operationalize frameworks, policies, and processes for data governance and management. This includes improving data quality, accessibility, and protection, while also ensuring data lifecycle management practices are in place. The Section Head fosters a data-driven culture and ensures that data is treated as a strategic asset to drive decision-making and operational excellence.
Data Governance Specialist	The Data Governance Specialist oversees the frameworks, policies, and procedures of governance and ensures their implementation to guarantee the effective management and utilization of data and resources within the Entity. This role includes developing and maintaining governance structures, leading compliance initiatives, and fostering a culture of accountability and transparency.

Stakeholder	Role Description
Data Architecture and Analytics Section Head	The Data Architecture and Analytics Section Head oversees the data architecture and analytics agenda/initiatives within the government entity, ensuring alignment with strategic objectives and national data management standards. This role is responsible for designing and maintaining a secure, scalable data infrastructure that supports data integration, management, and accessibility, as well as Overseeing data modeling, database design, and system integration, developing advanced analytics, data visualization, and reporting solutions to enable informed decision-making. The Section Head collaborates with departments to identify key performance indicators (KPIs), analyze trends, and provide actionable insights that optimize processes, enhance service delivery, and support policy-making. By combining expertise in data architecture and analytics, this role drives a culture of data-driven innovation and operational excellence across the Entity.
Data Compliance Specialist	The Data Compliance Specialist ensures the Entity's data practices comply with national regulations, organizational policies, and international standards. This role manages data privacy, security, and governance compliance, conducts audits, mitigates non-compliance risks, and promotes awareness of regulatory requirements. The specialist works with stakeholders to embed compliance controls into data processes, ensuring adherence to legal and ethical standards.
Data Quality Specialist	The Data Quality Specialist is responsible for overseeing data quality management processes within the entity. This role involves implementing data quality standards, monitoring data quality, and ensuring data consistency and effective usage across the Entity. The Data Quality Specialist collaborates with various teams to address data issues and enhance overall data quality.
Metadata Specialist	The Metadata Specialist is responsible for managing the Entity's data catalog and metadata assets to enhance data visibility, accessibility, and governance. This role focuses on developing and maintaining metadata standards, ensuring metadata quality, and supporting integration with the data catalog. The specialist plays a key role in enabling data discovery, supporting data-driven initiatives, and ensuring alignment with the Entity's data governance and management strategies.

Stakeholder	Role Description
Data Architect	The Data Architect is responsible for designing and implementing the Entity's overall data architecture, including logical and physical data models. This involves creating secure, scalable data structures that align with business needs, security requirements, and national and international data management and governance standards. The Architect ensures proper data integration, quality, and accessibility across systems, working with teams to maintain consistency and accuracy, and support data-driven decision-making to optimize data as a strategic asset.
Business Data Analyst	The Business Data Analyst is responsible for analyzing data from multiple sources to provide actionable insights that drive strategic and operational decisions within the Entity. This role involves designing reports and dashboards to effectively communicate findings, collaborating with cross-functional teams to ensure data accuracy and relevance, and aligning analytics with business objectives. The Analyst plays a key role in enabling data-driven decision-making and identifying opportunities to improve processes and outcomes.
Data Visualization Officer	The Data Visualization Officer is responsible for building dashboards and visual reports based on data, which are used to provide insights to leadership for decision-making.
Data Strategy Expert	The Data Strategy Expert is tasked with developing and promoting a data management and analytics strategy to achieve broad acceptance across the government entity. The expert identifies innovative ways to utilize data to achieve strategic objectives and enhance effective decision-making. Additionally, they introduce frameworks and practices to deliver accurate, reliable, and actionable data insights.
Data Owners	Data Owners are responsible for their department's (or sub-department's) data and its quality throughout its lifecycle across systems and ownership boundaries. They are accountable for supporting, guiding, reviewing, correcting, and/or approving the work of the data stewards managing their data to ensure their datasets are maintained to the highest possible standards.
Data Stewards	Data Stewards are responsible for identifying datasets related to relevant subdomains for inventory purposes and monitoring data quality metrics within and across entities. They are nominated as a business representative with a deep understanding of a specific data subdomain and can identify functional data requirements and needs.

1.6 Key Success Factors

Executive Sponsorship: Strong executive sponsorship is essential for the successful implementation of a data catalog and metadata management program. Leadership must provide the necessary direction, support, and oversight to ensure that metadata practices are aligned with organizational goals. Ongoing engagement from executives ensures that any issues are promptly addressed and that the program remains on track to meet strategic objectives.

Robust Governance and Stewardship: Effective governance and stewardship are key to maintaining the quality, integrity, and security of metadata across the Entity. Clearly defined roles and responsibilities for metadata stewards ensure that metadata is properly managed and that all stakeholders are held accountable for metadata quality and accuracy.

Structured Implementation Plan: A well-structured implementation plan, complete with realistic timelines, milestones, and resource allocation, is essential for achieving success. The plan should account for both quick wins and longer-term strategic initiatives, with flexibility to adjust based on organizational readiness and data maturity levels. Proper planning also ensures that resource constraints, such as funding or staff availability, are addressed early on.

Metadata Quality Focus: Ensuring the quality of metadata is fundamental to the success of the data catalog. The Entity must follow rigorous quality standards and ensure continuous monitoring to prevent metadata inconsistencies, inaccuracies, or outdated entries. A proactive approach to metadata quality, including regular profiling and validation, will help maintain the accuracy and relevance of the data catalog over time.

Integration with Existing Systems: The data catalog and metadata management program should be fully integrated with existing systems and workflows. Seamless integration ensures that metadata is not managed in isolation but is embedded within the Entity's broader data architecture and systems, promoting interoperability and ease of use across departments and platforms.

Organizational Change Management: As with any data management initiative, implementing a data catalog and metadata management program will likely require changes in processes, responsibilities, and workflows. A proactive approach to organizational change management, including clear communication and training, is crucial for gaining stakeholder buy-in and ensuring smooth adoption. Change management efforts should focus on educating teams on the data catalog, and the importance of metadata management and how it supports the Entity's strategic goals.

The following chapters provide detailed guidance in each of these areas, offering step-by-step instructions to establish a strong data catalog and metadata management program and advance data maturity within the Entity.

1.7 Compliance with National Data Standards

National Data Standards		QDKC
Control	Specification	Activity
DCMM.1.1 Data Catalog & Metadata Management Policy	DCMM.1.1.1 Data Catalog & Metadata Management Policy Creation F	2.1 Data Catalog & Metadata Management Policy Creation
	DCMM.1.1.2 Data Catalog & Metadata Management Policy Publication F	2.2 Data Catalog & Metadata Management Policy Publication
DCMM.1.2 Data Catalog & Metadata Management Planning	DCMM.1.2.1 Data Catalog & Metadata Management Plan F	3.1 Data Catalog & Metadata Management Plan
DCMM.2.1 Metadata Management Assessment & Design	DCMM.2.1.1 Metamodel Design F	4.1 Metamodel Design
DCMM.2.2 Metadata Lifecycle Management	DCMM.2.2.1 Metadata Standardization F	5.1 Define Business Glossary
	DCMM.2.2.1 Metadata Standardization F	5.2 Metadata Standardization
	DCMM.2.2.2 Datasets Identification & Prioritization F	5.3 Dataset Identification & Prioritization
	DCMM.2.2.3 Metadata Management Processes F	5.4 Metadata Management Processes
DCMM.2.3 Data Catalog Implementation	DCMM.2.3.1 Data Catalog Tool Implementation F	6.1 Data Catalog Tool Implementation
DCMM.3.1 Metadata & Data Catalog Performance Management	DCMM.3.1.1 Data Catalog KPIs F	7.1 Data Catalog KPIs
	DCMM.3.1.2 Metadata Quality KPIs F	7.2 Metadata Quality KPIs
	DCMM.3.1.3 Metadata & Data Catalog Monitoring & Reporting F	7.3 Metadata & Data Catalog Monitoring & Reporting
	DCMM.3.1.4 Metadata & Data Catalog Monitoring & Reporting A	

Legend: Capability Level



Foundational

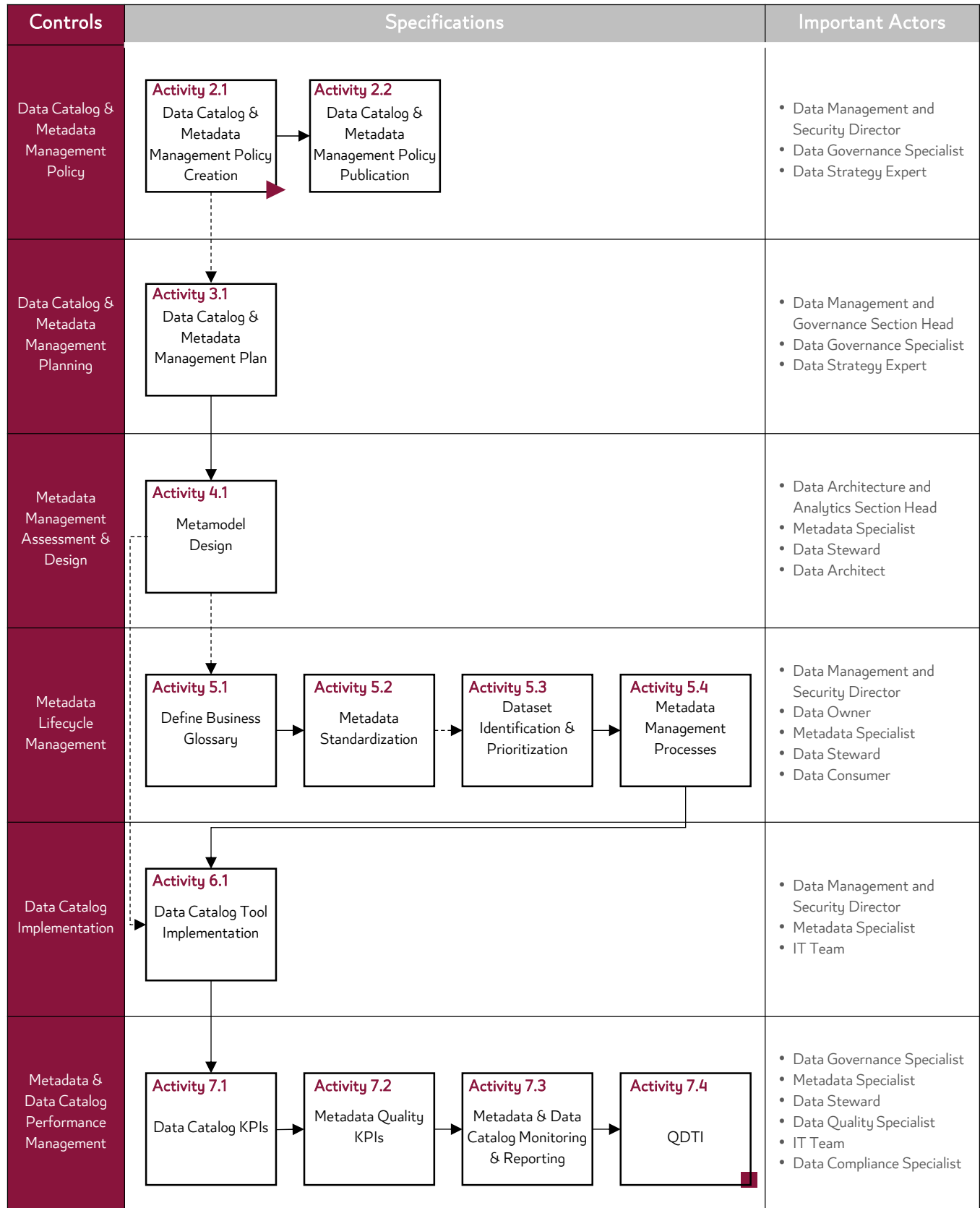


Advanced

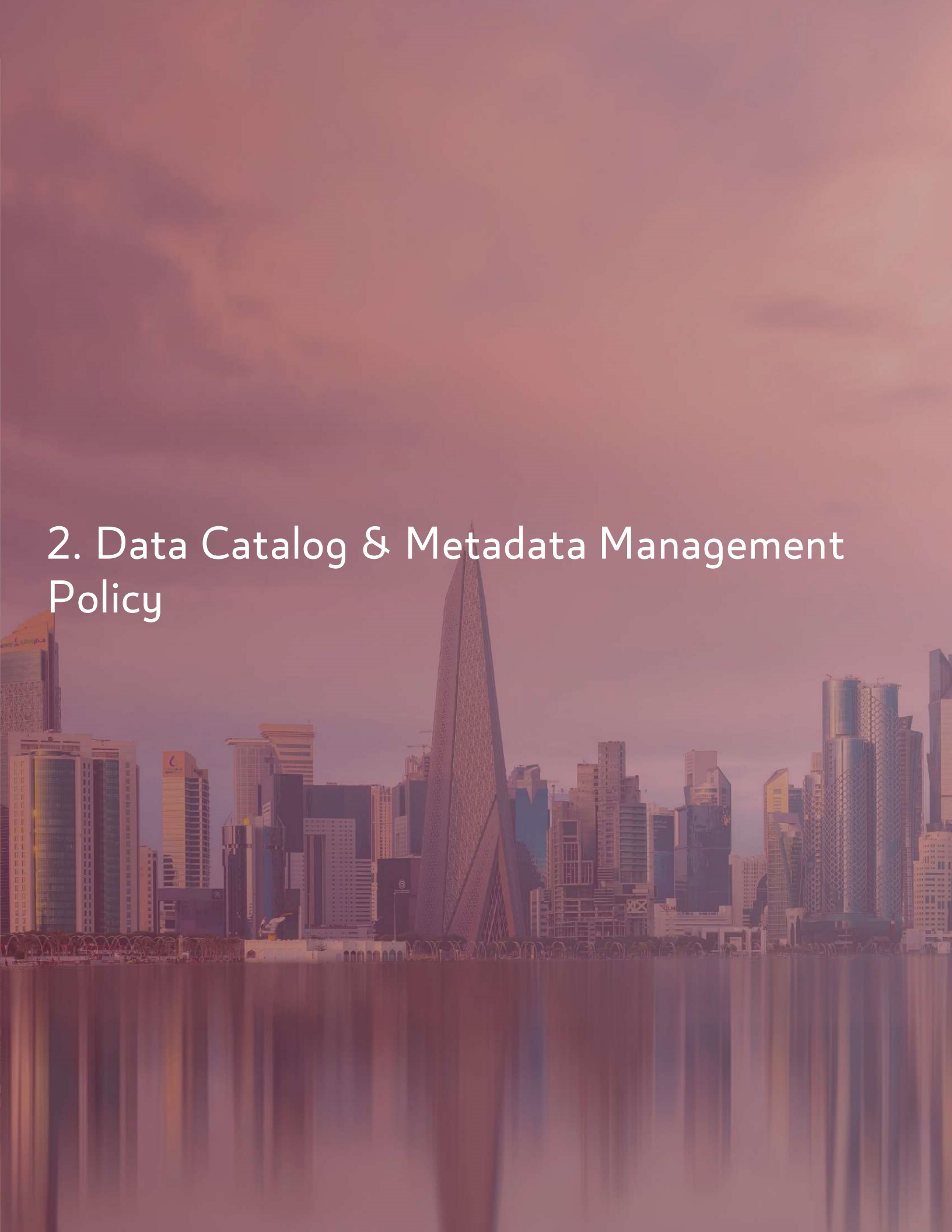


Very Advanced

1.8 Domain Level Process Map



2. Data Catalog & Metadata Management Policy



2. Data Catalog & Metadata Management Policy

What is a Data Catalog & Metadata Management Policy and why does the Entity need it?

A Data Catalog & Metadata Management Policy is a set of executive-level statements designed to guide and necessitate the creation, operation, maintenance, and governance of the Data Catalog and Metadata across the Entity. This policy plays a role in ensuring that metadata management practices are aligned with the Entity's broader data strategy and the National Data Management Policy and Standards. It governs various aspects of metadata, including quality management, versioning, integration, and security.

The policy provides strategic direction and sets control objectives to ensure that metadata is consistently managed throughout its lifecycle. It also ensures that metadata remains interoperable, discoverable, and compliant with privacy and security requirements. By standardizing metadata management, the policy mitigates risks such as poor metadata quality, lack of interoperability, and security breaches.

A robust metadata management policy reinforces the Entity's commitment to treating metadata as a critical resource, ensuring that it is well-maintained and aligned with organizational goals. The policy requires periodic reviews and updates to remain relevant and effective, while continuous performance monitoring ensures that key indicators are tracked to improve metadata practices.

The remaining sections of this chapter will detail the activities of the below process that will guide the Entity on executing the Data Catalog & Metadata Management Policy:



Guiding Principles for Data Catalog & Metadata Management Policy

1. **Appoint a Single Owner:** Designate a single owner for data policies to ensure accountability and clear leadership in data governance.
2. **Maintain a Data Policy Repository:** Publish and maintain a centralized repository of data policies that is easily accessible to all employees, promoting transparency and awareness.
3. **Annual Review and Updates:** Review data policies at least annually to ensure they remain valid and relevant, using disciplined version control to track changes and updates.
4. **Stakeholder Engagement:** Involve key stakeholders from different departments in the policy development and review process to ensure diverse perspectives and needs are considered.
5. **Training and Awareness:** Implement regular training sessions to educate employees about data policies and their importance, fostering a culture of data quality.
6. **Compliance and Standards:** Ensure that data policies align with relevant regulatory requirements and industry standards, facilitating compliance and risk management.

2.1 Data Catalog & Metadata Management Policy Creation

The Entity should develop a Data Catalog & Metadata Management Policy to ensure metadata is managed effectively, securely, and efficiently throughout its lifecycle.

Process - Data Catalog & Metadata Management Policy Creation

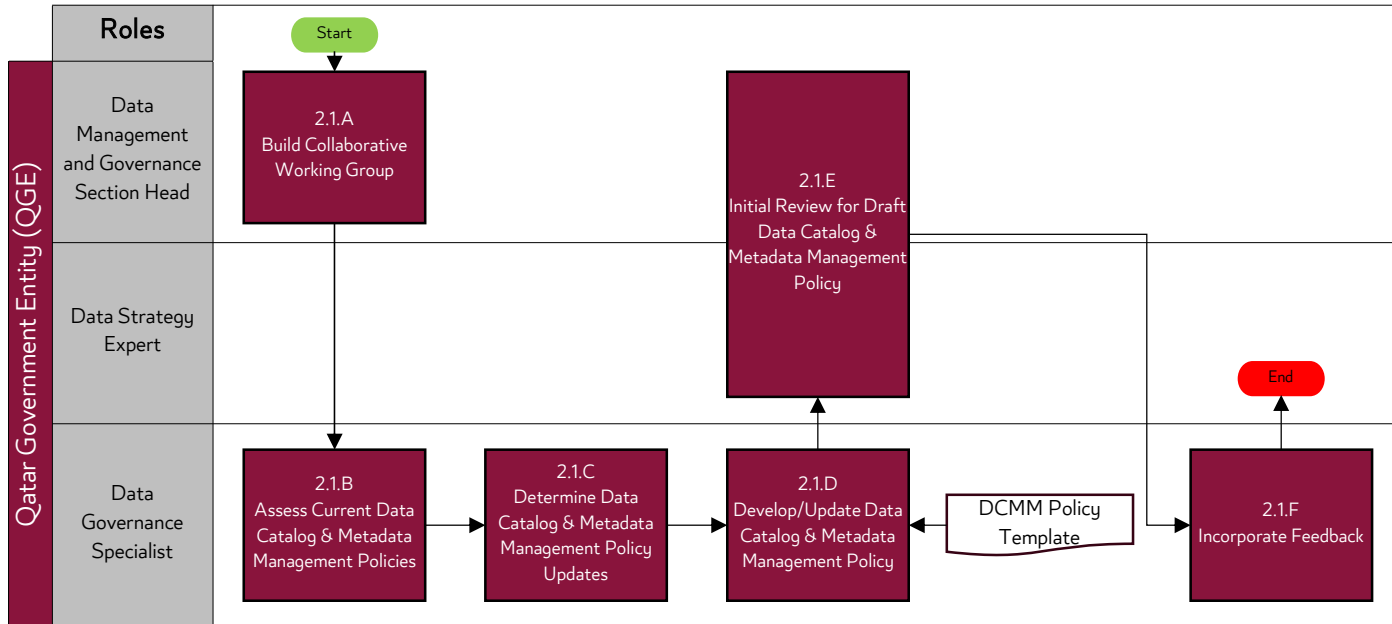


Figure 1: Data Catalog & Metadata Management Policy Creation Process Map

Legend: ■ Process Step ◆ Decision ● Process Start ● Process End □ Document ■ Off-Page Reference

2.1.A

Build Collaborative Working Group: To ensure the policy reflects operational realities, governance needs, and is not developed in isolation, the Entity must establish a collaborative working group of internal stakeholders and subject matter experts. This working group supports policy drafting by providing feedback, identifying operational considerations, and aligning the policy with Entity-specific contexts.

- i. **Establish the Collaborative Working Group:** Form a core team responsible for developing and reviewing the policy.
 - a. Led by the Data Governance Specialist, with oversight from the Data Management & Governance Section Head.
 - b. Include members from Data Governance, Data Quality, Metadata, Strategy, IT, compliance, and stewardship roles.
- ii. **Define Scope and Responsibilities of the Working Group:** Ensure the group's role is clear and time-bound.
 - a. Review proposed policy topics and structure.
 - b. Provide inputs during each phase of policy drafting and review.
 - c. Participate in validation and ensure alignment with Entity needs.
- iii. **Schedule Working Sessions:** Create a structured timeline for engagement.
 - a. Schedule policy drafting workshops and checkpoint reviews.
 - b. Ensure participation is documented and inputs are logged.

2.1.B

Assess Current Data Catalog & Metadata Management Policies: Before developing or updating the Data Catalog & Metadata Management Policy, the Entity must assess its current state. This includes reviewing any existing policies to identify gaps, overlaps, and misalignment with the Entity's data strategy, operational practices, and the National Data Standards. This assessment forms the foundation for effective and relevant policy development.

- i. **Conduct a Structured Policy Review:** Identify and evaluate any existing policies related to data catalog and metadata management.
 - a. If exists, review current documentation for:
 - Data catalog and metadata management policy overview, purpose, scope, objectives, applicability, validity, policy statements, roles and responsibilities
 - Supporting catalog and metadata management standards or procedures that may inform or support future policy development
 - b. Assess whether the policy content is outdated, incomplete, duplicated, or missing.
- ii. **Evaluate Alignment with Strategic and National Requirements:** Assess how well the current policy (if exists) supports key governance needs. Review for:
 - **Relevance to Strategic Objectives:** Does the policy align with the Entity's data strategy?
 - **Compliance with National Standards:** Does it reflect alignment with the current National Data Policy and National Data Standards?
 - **Clarity and Accessibility:** Is the policy easy to read, use, and apply?
- iii. **Document Findings and Key Gaps:** Summarize the outcomes of the assessment in preparation for step 2.1.C.
 - a. List key areas where new or updated policy content is needed.
 - b. Identify risks or inconsistencies that should be addressed (e.g., lack of version control, no update schedule).
 - c. Share findings with the collaborative working group for validation.



Key Message / Information

Building a working group ensures the policy is not developed in isolation but reflects the real governance needs of the Entity.

2.1.C
(1/2)

Determine Data Catalog & Metadata Management Policy Updates: Based on the findings from the policy assessment and input from the working group, the Entity must outline the specific updates or new content areas required in the Data Catalog & Metadata Management Policy. This step ensures that policy development is focused, complete, and responsive to both internal and national governance requirements.

2.1.C
Cont.
(2/2)

- i. **Define the Scope of Policy Creation/Update:** Translate assessment findings into a structured update plan.
 - a. Identify sections of the policy that need to be:
 - Created from scratch
 - Updated for alignment with strategy or standards
 - Removed due to redundancy or irrelevance
 - b. Determine whether the update (if any) qualifies as a major revision (e.g., structural change, expanded scope) or minor revision (e.g., wording adjustments).
- ii. **Prioritize Content Areas for Inclusion:** Ensure the policy covers all required data catalog and metadata management topics.
 - a. Reference the Data Catalog and Metadata Management domain within the National Data Policy and National Data Standards to prioritize content including but not limited to:
 - Metadata quality, profiling, and remediation
 - Stewardship roles and governance structures
 - Catalog integration, classification, and security
 - Performance monitoring and version control
 - b. Map these areas against identified gaps and stakeholder feedback.
- iii. **Create a Policy Update Action Plan:** Develop a high-level roadmap for the policy drafting process.
 - a. Outline key tasks, responsible roles, and delivery timelines.
 - b. Align this plan with the collaborative working group's availability and input schedule.
 - c. Use the action plan to guide coordination with stakeholders and support tracking of progress throughout the development cycle.

2.1.D
(1/3)

Develop/Update Data Catalog & Metadata Management Policy: Using the agreed-upon creation/update scope and structure, the Entity must develop or revise the Data Catalog & Metadata Management Policy to ensure it effectively governs metadata throughout its lifecycle. The policy must be clear, actionable, aligned with strategic objectives, and compliant with the national data standards.

- i. **Draft Policy Content Using Approved Structure:** The Data Governance Specialist leads the drafting exercise using the standard data catalog & metadata management policy template.
 - a. Use the Data Catalog & Metadata Management Policy Template to structure the document.
 - b. The policy should include, at a minimum:
 - Overview, purpose, scope, and objectives
 - Policy applicability, validity, and review process
 - Guidelines aligned with the National Data Management Policy and Standards
 - Detailed policy statements covering:
 - Metadata quality dimensions – refer to DQM.1.1.1.SS1
 - Critical metadata attributes (CMAs) identification

- Developing Metadata Guidelines and Standards
- Metadata Profiling and Quality Assessment
- Metadata Quality Escalations and Issue Management
- Metadata Quality Remediation Process
- Metadata governance framework and stewardship
- Metadata Integration and Interoperability
- Metadata Cataloging and Classification
- Metadata Versioning and Change Management
- Metadata Security and Privacy
- Performance management and monitoring
- Periodic policy review and updates
- Key policy performance indicators

- Roles and responsibilities
- References

Asset Guidance

The **Data Catalog & Metadata Management Policy Template** is a sample table of contents the Entity can refer to when drafting its policy. It includes the topics required by the standards, as well as additional recommended topics to consider. It also gives a sample of policy statements for one topic from the table of content to help entities draft the policy document.

Illustrative

Table of Contents

1	Introduction.....#
1.1	Overview.....#
1.2	Purpose.....#
1.3	Scope & Applicability.....#
1.4	Objectives.....#
2	Data Catalog & Metadata Management Policies.....#
2.1	Metadata Standards Conformance.....#
2.2	Metadata Management Program.....#
2.3	Metadata Architecture.....#
2.4	Data Catalog Principles.....#
2.5	Data Catalog Requirements.....#
2.6	Data Catalog Population.....#
2.7	Data Catalog Adoption and Usage.....#
2.8	Training and Awareness.....#
2.9	Data Catalog Automation.....#
2.10	Metadata Governance Framework and Stewardship.....#
2.11	Metadata Access Management.....#
2.12	Add/Modify Business Metadata.....#
2.13	Add/Modify Technical Metadata.....#
2.14	Add/Modify Data Lineage.....#
2.15	Metadata Quality Dimensions.....#
2.16	Critical Metadata Attributes (CMAs) Identification.....#
2.17	Developing Metadata Guidelines and Standards.....#
2.18	Metadata Profiling and Quality Assessment.....#
2.19	Metadata Quality Escalations and Issue Management.....#
2.20	Metadata Quality Remediation Process.....#
2.21	Metadata Integration and Interoperability.....#
2.22	Metadata Cataloging and Classification.....#
2.23	Metadata Versioning and Change Management.....#
2.24	Metadata Security and Privacy.....#
2.25	Performance Management and Monitoring.....#
3	Periodic policy review and updates.....#
3.1	Revision Frequency.....#
3.2	Revisions.....#
3.3	Archival Procedure.....#
4	Roles within the Scope of this Policy.....#
5	Related Legislation, References, and Documents.....#
6	Document Control.....#

2 Data Catalog & Metadata Management Policies

2.1 Metadata Standards Conformance

1. All metadata assets within the organization shall adhere to internationally recognized metadata standards (e.g., ISO 11179, Dublin Core) to ensure consistency, interoperability, and scalability across systems.
2. The organization shall establish and enforce standardized metadata definitions, structures, and formats for all data assets to ensure uniformity and alignment with business and regulatory requirements.
3. Metadata shall be validated against defined standards before inclusion in the data catalog to maintain accuracy, completeness, and quality.
4. All metadata changes or updates must follow a structured review and approval process to ensure they conform to organizational metadata standards and avoid discrepancies.
5. The organization shall implement automated tools to monitor metadata conformance with standards, generating reports on compliance levels and identifying deviations for corrective action.
6. Training programs shall be conducted regularly to educate data stewards, custodians, and users on metadata standards, ensuring consistent understanding and application across the organization.
7. Regular audits of metadata assets shall be conducted to assess conformance to established standards, with findings documented and remediated as needed to maintain governance compliance.
8. Metadata attributes critical for data discovery, lineage, and classification (e.g., data owner, creation date, sensitivity level) shall be mandatory and standardized across all datasets.
9. The organization shall promote the use of metadata standards to enhance data catalog usability, improve discoverability, and enable efficient data governance practices.

*** (Sample policy statements for a topic) ***

2.1.D
Cont.
(3/3)

- ii. **Apply Clear and Actionable Language:** Ensure the policy is practical, enforceable, and accessible to all stakeholders.
 - a. Use direct, concise language tailored to the Entity's context.
 - b. Ensure each policy statement is tied to a strategic or operational outcome.
 - c. Emphasize responsibilities, process expectations, and compliance triggers.
- iii. **Prepare the Draft for Preliminary Review:** Finalize the draft as a working version for internal feedback.
 - a. Share with the collaborative working group.
 - b. Confirm the draft addresses all previously identified policy gaps.
 - c. Prepare a feedback summary log for tracking suggestions in the next step.



Key Message / Information

Draft the policy using clear and concise language that reflects the Entity's specific needs while accommodating diverse operational scenarios. Each policy statement should be directly tied to broader business objectives, demonstrating how it supports strategic goals and organizational priorities. Emphasize actionable and enforceable language to enable consistent implementation and ensure compliance.

2.1.E
(1/2)

Initial Review for Draft Data Catalog & Metadata Management Policy: Once the policy draft is complete, the Entity must conduct an internal review to validate alignment with the National Data Standards, legal and regulatory obligations, and strategic objectives. This review ensures the policy is robust, compliant, and ready for broader publication steps.

- i. **Conduct Governance and Strategy Review:** The draft is reviewed by key stakeholders for policy integrity and relevance.
 - a. The Data Management & Governance Section Head and Data Strategy Expert assess the draft for:
 - Strategic alignment with the Entity's data governance objectives
 - Compliance with National Data Policy and Standards
 - Consistency with related internal policies (e.g., data privacy, quality)
 - b. Confirm the policy structure follows the approved template and includes all required content areas.
- ii. **Validate Legal, Regulatory, and Operational Compliance:** Ensure the policy supports risk management and audit readiness.
 - a. Identify any areas requiring clarification or legal alignment.
 - b. Ensure the policy does not conflict with regulatory or operational obligations.
 - c. Highlight areas where governance enforcement or change management will be required.

2.1.E
Cont.
(2/2)

- iii. **Capture and Document Feedback:** Record feedback from reviewers in a structured format to inform final refinements.
 - a. Document all comments and suggestions in a feedback log.
 - b. Prioritize revisions based on severity (e.g., compliance issues vs. language improvement).
 - c. Share the feedback log with the Data Governance Specialist for implementation in 2.1.F.

**Key Message / Information**

This review phase ensures the draft policy is credible, compliant, and strategically sound—before formalization or publication.

2.1.F

Incorporate Feedback: Following the internal review, the Entity must revise the draft Data Catalog & Metadata Management Policy to reflect feedback received from governance, strategy, legal, and operational stakeholders. This step ensures the final version is complete, accurate, and ready for formal approval and publication.

- i. **Review and Prioritize Feedback Log:** Work through the feedback log collected in 2.1.E in a structured and transparent way.
 - a. Categorize feedback by type (e.g., compliance, structure, clarity, alignment).
 - b. Prioritize revisions based on criticality, starting with compliance and strategy gaps.
 - c. Flag any unresolved or disputed comments for follow-up discussion with the Data Management & Governance Section Head.
- ii. **Apply Revisions to the Draft Policy:** Update the policy draft to reflect accepted changes.
 - a. Revise content in the official policy document, maintaining formatting consistency.
 - b. Track major changes using version control or change highlights.
 - c. Ensure all policy components (e.g., roles, responsibilities, review cycle) are fully addressed.
- iii. **Finalize the Policy Document for Approval:** Prepare the updated policy for formal submission.
 - a. Confirm that all feedback has been addressed or closed.
 - b. Update metadata such as version number, revision date, and approval status.
 - c. Share the final version with the Data Management & Governance Section Head for submission into the Entity's governance approval workflow.

RACI Matrix - Data Catalog & Metadata Management Policy Creation

Indicative

Sr No.	Activity	Data Management & Security Director	Data Management and Governance Section Head	Data Governance Specialist	Collaborative Working Group	Data Strategy Expert	Legal Team
2.1.A	Build Collaborative Working Group	A	R	C	I	I	
2.1.B	Assess Current Data Catalog & Metadata Management Policies		A	R	C	C	
2.1.C	Determine Data Catalog & Metadata Management Policy Updates		A	R	C	C	
2.1.D	Develop/Update Data Catalog & Metadata Management Policy		A	R	C	C	C
2.1.E	Initial Review for Draft Data Catalog & Metadata Management Policy	A	R	I	C	R	C
2.1.F	Incorporate Feedback		A	R	C		

RACI Matrix Legend: **R:** Responsible **A:** Accountable **C:** Consulted **I:** Informed

Based on this Activity, the Entity can



Build Collaborative Working Group of SMEs



Draft Data Catalog & Metadata Management Policy

2.2 Data Catalog & Metadata Management Policy Publication

This activity will guide the Entity on the steps to publish its data policies.

Process – Data Catalog & Metadata Management Policy Publication

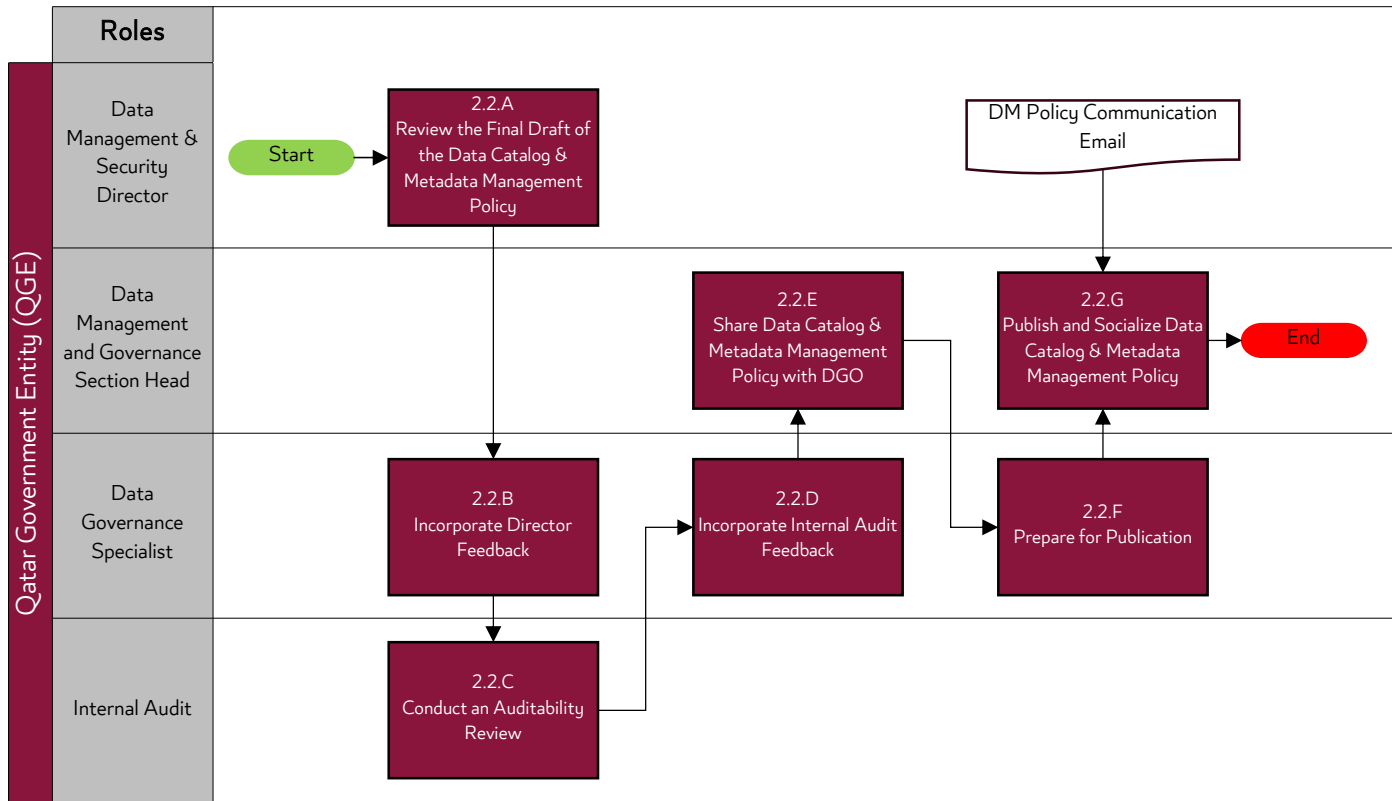


Figure 2: Data Catalog & Metadata Management Policy Publication Process Map

Legend: Process Step Decision Process Start Process End Document Off-Page Reference

2.2.A
(1/2)

Review the Final Draft of the Data Catalog & Metadata Management Policy: Before proceeding to formal approval and publication, the Entity must conduct a final review of the completed Data Catalog & Metadata Management Policy. This step ensures that the policy aligns with the Entity’s data management strategy, governance principles, and business objectives, and that any remaining gaps are identified and addressed.

- i. **Confirm Strategic and Operational Alignment:** The Data Management & Security Director reviews the final draft to ensure policy alignment with enterprise priorities. Assess whether the policy:
 - Reflects the Entity’s data governance framework and strategic direction
 - Supports operational effectiveness and clear role accountability
 - Aligns with internal governance principles (e.g., privacy, quality, integration)
- ii. **Identify Gaps, Misalignments, or Ambiguities:** Ensure the policy content is comprehensive and implementation-ready.
 - a. Flag missing elements, conflicting statements, or unclear policy language.
 - b. Identify any inconsistencies with related documents (e.g., Metadata Standards).
 - c. Provide written feedback on areas requiring revision or clarification.

2.2.A
Cont.
(2/2)

- iii. **Document Review Outcome and Next Steps:** Ensure feedback is structured and ready for incorporation in the next phase.
 - a. Share feedback with the Data Governance Specialist in a structured format.
 - b. Record major comments for traceability (e.g., in a review tracker or comment log).
 - c. Confirm that feedback will be addressed in 2.2.B before publication proceeds.



Key Message / Information

This review step ensures the policy is accurate, aligned, and strategically sound before it enters the final approval and publication process.

2.2.B

Incorporate Director Feedback: Following the strategic review by the Data Management & Security Director, the Data Governance Specialist must revise the draft policy to reflect the provided feedback. This step ensures the policy addresses all strategic and governance-related concerns before moving into auditability review.

- i. **Review and Categorize Feedback:** Organize the feedback received from the director review for systematic implementation.
 - Categorize comments (e.g., structural, content, compliance-related)
 - Prioritize critical feedback, especially those that impact alignment with strategic direction or compliance.
 - Clarify ambiguous feedback, if needed, through direct engagement with the reviewer.
- ii. **Apply Revisions to the Policy Draft:** Update the policy content to incorporate accepted feedback.
 - a. Edit the draft to address feedback while preserving clarity and consistency.
 - b. Ensure changes strengthen strategic alignment, enforceability, and policy coherence.
 - c. Update document versioning and maintain a changelog of revisions made.
- iii. **Prepare the Policy for Auditability Review:** Ready the revised document for submission into the internal review and audit process.
 - a. Confirm that all priority feedback has been addressed and documented.
 - b. Finalize the revised version for handover to the next stage.
 - c. Maintain a summary of revisions to support auditability and approval traceability.

2.2.C

Conduct an Auditability Review: Before final approval, the Entity must ensure the policy meets audit readiness criteria. This includes confirming that the policy is version-controlled, aligned with internal regulatory and operational standards and procedures, and compliant with documentation standards required for future audits and inspections. Feedback is gathered to address gaps in accountability, compliance, or performance tracking, if necessary.

2.2.D

Incorporate Internal Audit Feedback: Integrate feedback and recommendations from the internal audit review to address any remaining compliance, accountability, or documentation gaps. This step ensures the policy meets all auditability requirements and is fully prepared for final approval and formal publication.

2.2.E

Share Data Catalog & Metadata Management Policy with DGO: The Entity must submit the finalized draft of the Data Catalog & Metadata Management Policy to the DGO for formal review and feedback. This step ensures the policy aligns with national governance frameworks, regulatory expectations, and recognized data management best practices.

- i. **Submit the Finalized Policy to the DGO:** The policy is formally submitted through the appropriate channel for DGO review.
 - a. Send the finalized draft via the designated email or submission platform (as required at the respective point in time).
 - b. Confirm version number, submission date, and the responsible point of contact.
- ii. **Provide Supporting Context and Summary:** The submission must include a brief explanation to facilitate DGO review.
 - a. Summarize the policy scope, purpose, and any recent updates.
 - b. Highlight key areas where the policy aligns with national standards or fills previously identified governance gaps.
- iii. **Track the Submission and Prepare for Follow-Up:** Maintain traceability and readiness to act on feedback.
 - a. Log the submission in the Entity's governance repository or tracking system.
 - b. Note expected response timelines and plan for feedback incorporation in Step 2.2.F.



Key Message / Information

Engaging the DGO in the policy review process reinforces national alignment and promotes consistency across government-wide metadata governance initiatives.

2.2.F
(1/2)

Prepare for Publication: Once all feedback has been incorporated, the Entity must finalize the policy for formal publication. This step ensures the document is properly versioned, archived, and ready to be communicated and distributed across the organization.

- i. **Finalize Policy Content and Format:** Ensure the policy is complete and ready for publishing.
 - a. Confirm all internal and DGO feedback has been fully addressed.
 - b. Apply final formatting, ensure clarity and consistency, and validate that the structure follows the approved policy template.
 - c. Update metadata fields including version number, status, effective date, and next review cycle.

2.2.F
Cont.
(2/2)

- ii. **Archive and Register the Final Version:** Secure the policy in Entity records and ensure traceability.
 - a. Save the finalized document in the Entity's governance repository or policy management system.
 - b. Maintain version history and a changelog, including approval and feedback documentation.
 - c. Confirm access permissions are in place ahead of publication and communication.
- iii. **Notify Stakeholders of Upcoming Publication:** Alert relevant teams that the policy is finalized and will be published in 2.2.G.
 - a. Share a summary message with data owners, stewards, and governance leads.
 - b. Prepare communication materials (e.g., email, announcement note) for rollout.



Key Message / Information

Preparing the policy for publication ensures it is complete, traceable, and properly maintained, enabling a smooth transition to Entity-wide communication and adoption.

2.2.G
(1/2)

Publish and Socialize the Data Catalog & Metadata Management Policy: Once finalized, the Entity must publish the policy in an accessible location and actively communicate its purpose, scope, and expectations to relevant stakeholders. This step ensures the policy is not only available, but also understood, adopted, and applied consistently across the organization.

- i. **Publish the Policy in the Official Repository:** Ensure centralized access and version control.
 - a. Upload the final policy to the Entity's internal policy repository or governance portal.
 - b. Tag the document with metadata such as owner, version, status, effective date, and next review date.
 - c. Confirm appropriate access permissions are configured.
- ii. **Communicate Policy Availability and Key Messages:** Promote awareness and usage of the policy across roles and departments.
 - a. Use the Policy Communication Email Template to inform staff of the policy release.
 - b. Include the policy's purpose, scope, and summary of key expectations.
 - c. Tailor communications by role if necessary (e.g., Stewards, Data Owners, IT, Legal).
- iii. **Reinforce Policy Adoption Through Awareness Channels:** Ensure the policy is understood and referenced in practice.
 - a. Present the policy in onboarding, training sessions, or governance briefings.
 - b. Link the policy in supporting materials such as guidelines, templates, or dashboards.
 - c. Gather informal feedback or usage indicators to monitor engagement.

 Asset Guidance

The **Data Management Policy Communication Email Template** is a sample announcement email the Entity can use to notify staff about the publication of the policy and provide key information.

Illustrative

Subject: [IMPORTANT] New [Domain Name] Policy Published – Please Review

Dear [Recipient Name/Team],

We are pleased to announce the publication of the new [Domain Name] Policy, which is now in effect as of [Date]. This policy is designed to [briefly explain the purpose, e.g., "ensure the effective management of metadata and data catalog operations across the entity"] and aligns with the National Data Standards.

What is the Policy About?

The [Domain Name] Policy governs the management, oversight, and compliance of [specific domain] activities across the entity. It outlines critical guidelines and procedures, including:

- [Key Point 1, e.g., "Data Management and Organizational Structure"]
- [Key Point 2, e.g., "Version control and security measures"]
- [Key Point 3, e.g., "Metadata quality and governance"]

This policy has been developed in collaboration with the Data Committee and relevant stakeholders, ensuring compliance with the national data management standards.

How Does This Affect You?

- **Action Required:** Please review the policy and ensure that your team is aligned with its requirements. The policy affects [mention departments or roles impacted, e.g., "all data stewards, IT staff, and department heads"]. Compliance with this policy is essential to ensure adherence to the National Data Management Standards, which are critical to the entity's data governance and operational success.
- **Changes to Processes:** [If applicable, briefly describe any changes to current workflows or responsibilities as outlined by the policy.]

Where Can You Access the Policy?

The policy is available on our internal [intranet/portal] and can be accessed through the following link:
[Link to Policy Document]

Next Steps

- **Review Deadline:** Please ensure that you and your team have reviewed the policy by [Date].
- **Training/Workshops:** [If applicable] We will be hosting a [training/workshop] on [Date] to assist teams in understanding and applying the new policy.
- **Ongoing Support:** For questions, feedback, or support, please contact [Support Contact] at [email/phone number].

Thank you for your attention to this important matter and for your cooperation in ensuring compliance with the new policy. Together, we can maintain a strong framework for [mention domain, e.g., "data catalog and metadata management"] across the entity.

Best regards,
[Your Name]
[Your Position]
[Your Department]
[Contact Information]



Key Message / Information

Publishing the policy is not the end of the process. It must be socialized effectively so that stakeholders understand how it applies to their roles and responsibilities.

Process Risks: Develop and Publish Data Catalog & Metadata Management Policy

Risk	Severity	Mitigation
1. Lack of engagement from business SMEs due to other demanding responsibilities.	High	Data Management and Governance Section Head to secure management commitment for the key SMEs required to develop the data catalog & metadata management policy.
2. No standardized or existing process to publish the policy.	Medium	Data Management and Governance Section Head to coordinate with the compliance office to establish a centralized process and repository for the publication and maintenance of the data catalog & metadata management policy.

RACI Matrix - Data Catalog & Metadata Management Policy Publication

Indicative

Sr No.	Activity	DGO	Data Management & Security Director	Data Management and Governance Section Head	Data Governance Specialist	Data Strategy Expert	Internal Audit
2.2.A	Review the Final Draft of the Data Catalog & Metadata Management Policy		A/R	C			
2.2.B	Incorporate Director Feedback		C	A	R		
2.2.C	Conduct an Auditability Review			I	I		A/R
2.2.D	Incorporate Internal Audit Feedback			A	R	C	
2.2.E	Share Data Catalog & Metadata Management Policy with DGO	I	A	R			
2.2.F	Prepare for Publication			A	R	C	
2.2.G	Publish and Socialize Data Catalog & Metadata Management Policy		A	R		C	

RACI Matrix Legend: **R:** Responsible **A:** Accountable **C:** Consulted **I:** Informed

Based on this Activity, the Entity can



Publish Data Catalog & Metadata Management Policy

3. Data Catalog & Metadata Management Planning



3 Data Catalog & Metadata Management Planning

What is a Data Catalog & Metadata Management Plan and why does the Entity need it?

Data Catalog & Metadata Management Planning is a foundational activity that enables the Entity to operationalize its metadata strategy through a structured, phased, and insight-driven approach. It combines maturity assessment, system and dataset discovery, and formal implementation planning to ensure that metadata and catalog-related initiatives are actionable, prioritized, and aligned with the Entity's strategic and regulatory context.

This activity is necessary because implementing metadata governance is not just a technical exercise, it requires understanding the current state of readiness, identifying critical data assets, aligning with national standards, and sequencing improvement initiatives in a way that is feasible and sustainable across business and technical teams.

The planning process includes three key components:

- **Maturity Assessment:** Evaluates the Entity's current capabilities across metadata governance, catalog processes, and tooling using the data maturity model.
- **Data Discovery Assessment:** Validates and, if necessary, refreshes the inventory of systems, datasets, and attributes to identify catalog-ready content and critical gaps.
- **Plan and Roadmap:** Translates insights from the above into a detailed roadmap of initiatives, key activities, responsibilities, risks, dependencies, timelines and milestones.

Together, these activities ensure that the Entity's metadata and catalog efforts are not only compliant and strategic but also rooted in operational reality, supporting high-value data assets, addressing governance gaps, and enabling successful tool implementation and metadata lifecycle adoption. The remaining sections of this chapter will detail the activities that will guide the Entity on executing the below:

3.1 Data Catalog & Metadata Management Plan

Guiding Principles for Data Catalog & Metadata Management Planning

1. **Ground the Plan in Assessment and Discovery:** All planning should be based on a current understanding of metadata maturity and system-level realities, not assumptions or ideal states.
2. **Align with Strategy, Standards, and Governance Structures:** Ensure all initiatives support the Entity's data strategy, comply with the National Data Standards, and reinforce internal governance processes.
3. **Prioritize Critical Systems Regardless of Metadata Readiness:** Systems deemed business-critical or high-impact must be included in the plan, even if they require significant metadata enrichment.
4. **Balance Short-Term Wins with Long-Term Scalability:** Include initiatives that demonstrate early progress while also building toward a sustainable, enterprise-wide metadata foundation.
5. **Ensure Role Clarity and Accountability:** Clearly define and assign roles for initiative leadership, stewardship, and metadata ownership to avoid ambiguity and delays.
6. **Embed Risk Awareness and Monitoring:** Anticipate risks and dependencies from the outset and design initiatives with built-in mechanisms for progress tracking and course correction.

3.1 Data Catalog & Metadata Management Plan

The Data Catalog & Metadata Plan consist of the maturity assessment, data discovery assessment, as well as the actual plan and roadmap.

3.1.1 Data Catalog & Metadata Management Maturity Assessment

To build an effective roadmap, the Entity must first assess its current state. This activity guides the Entity in retrieving or refreshing its maturity assessment for the Data Catalog & Metadata Management (DCMM) domain using the Data Management Current Maturity Assessment Framework and Data Management Maturity Model. The assessment identifies current strengths, gaps, and improvement priorities across governance, processes, and tools, and serves as the foundation for roadmap planning.

Process – Data Catalog & Metadata Management Maturity Assessment

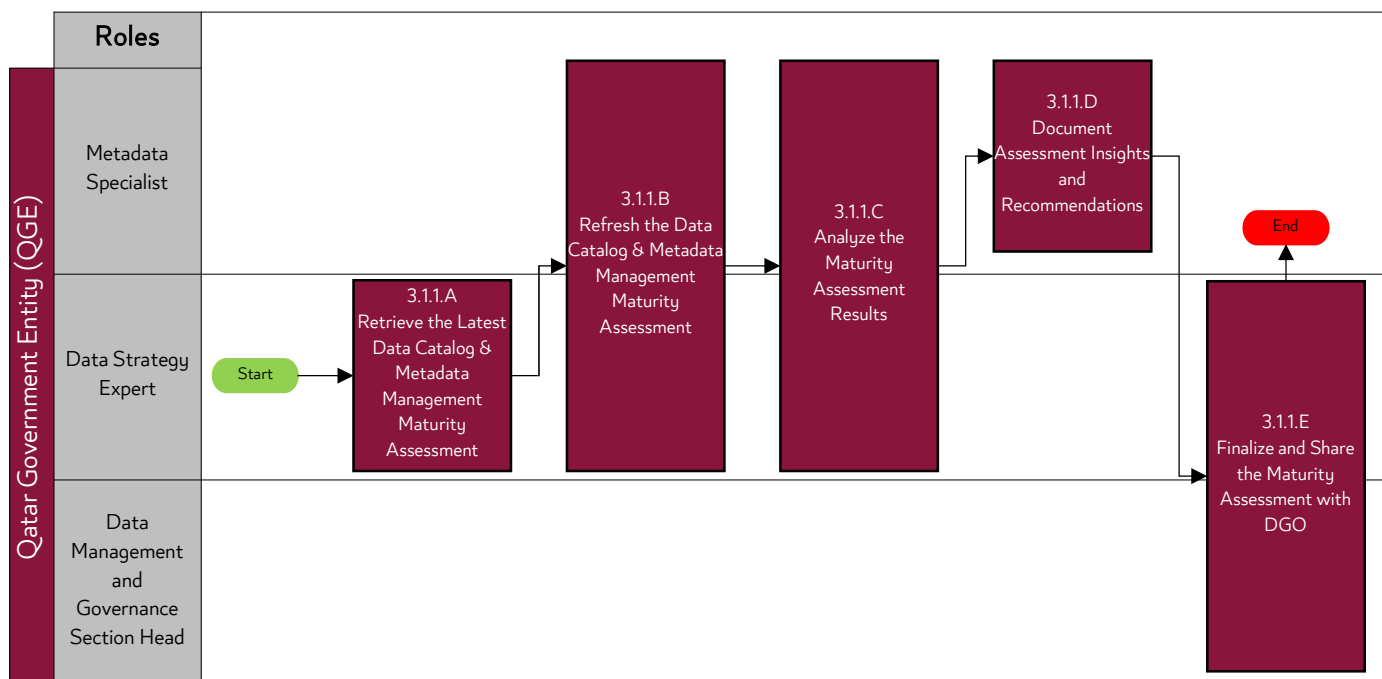


Figure 3: Data Catalog & Metadata Management Maturity Assessment Process Map

Legend: Process Step Decision Process Start Process End Document Off-Page Reference

3.1.1.A (1/2)

Retrieve the Latest Data Catalog & Metadata Management Maturity Assessment. The Entity must retrieve its most recent maturity assessment to establish a baseline understanding of current capabilities across the DCMM domain. This step is essential for determining whether an update or reassessment is required and provides the foundation for roadmap planning.

- i. **Request Existing Assessment Report:** The Metadata Specialist collaborates with the Data Strategy Expert to locate and retrieve the latest data catalog and metadata management maturity assessment.
 - Engage the Data Governance Specialist to obtain the most recent maturity assessment report.
 - Confirm that the report includes maturity ratings across all DCMM dimensions.
 - Validate that the report was formally conducted and documented using the approved Data Management Current Maturity Assessment Framework.

3.1.1.A
Cont.
(2/2)

- ii. **Validate the Currency of the Assessment:** The Metadata Specialist and Data Strategy Expert jointly evaluate whether the existing assessment is still valid and representative of current capabilities.
- Confirm that the assessment was completed within the past 12 months.
 - Assess whether any significant organizational, tooling, or process changes have occurred since the report.
 - If the report is outdated or misaligned with the Entity's current state, outline that a refresh will be required.
 - Note any open or unaddressed recommendations that may still be relevant and require integration into the new roadmap.



Key Message / Information

Ensure that the maturity assessment covers both business and technical metadata dimensions, as well as catalog adoption and tooling. If the assessment is fragmented or was conducted informally, treat it as insufficient and proceed to a formal refresh.

A current and validated maturity assessment is essential to building a grounded and targeted improvement roadmap. Without it, any planning activity risks being disconnected from the entity's operational reality and compliance posture.

3.1.1.B
(1/2)

Refresh the Data Catalog & Metadata Management Maturity Assessment (If Required): If the Entity's existing DCMM maturity assessment is outdated, incomplete, or unavailable, a full reassessment must be conducted using the **Data Management Current Maturity Assessment Framework** and the supporting **Data Management Maturity Model** (referenced in Activity 2.2 within the Data Management Strategy and Governance domain guidelines). This ensures that the planning efforts in the roadmap are grounded in an accurate and current view of the Entity's metadata and cataloging capabilities.

- i. **Initiate the Refresh Process:** The Data Management and Governance Section Head triggers the reassessment and mobilizes key stakeholders.
- Formally launch the maturity refresh process by assigning ownership to the Metadata Specialist.
 - Confirm participation of relevant stakeholders including Data Stewards, Data Owners, IT, and business users.
 - Communicate the scope and purpose of the reassessment to all contributors.
- ii. **Apply the Data Management Current Maturity Assessment Framework:** The Entity must use the **Data Management Maturity Model** to evaluate DCMM current-state capabilities.
- Review and respond to each of the assessment dimensions (Organization, Technical Metadata, Business Metadata, etc.) using the 1–5 scale.
 - Ensure contributors refer to actual practices, tools, and governance documentation, and not perceived maturity.
 - Encourage team discussions and workshops to calibrate responses and promote honest evaluation.

3.1.1.B
Cont.
(2/2)

- iii. **Consolidate Input and Finalize Scores.** Leveraging the **Data Management Current Maturity Assessment Framework**, the Metadata Specialist consolidates all responses, supporting evidence, and justifications.

- Validate consistency across responses and resolve conflicting input where necessary.
- Assign a final maturity level (1–5) for each dimension, including rationale.
- Prepare or update the maturity heatmap for the DCMM domain, and document relevant observations.



Key Message / Information

Encourage transparency and use collaborative working sessions to resolve subjectivity and misalignment between technical and business contributors.

3.1.1.C
(1/2)

Analyze the Maturity Assessment Results: Once the DCMM maturity assessment has been completed or refreshed, the Entity must analyze the results to understand current strengths, weaknesses, and capability gaps. This analysis forms the foundation for identifying high-priority improvement areas and preparing a focused roadmap.

- i. **Review Maturity Scores Across the DCMM Dimensions:** The Metadata Specialist and Data Strategy Expert jointly evaluate the final maturity scores to identify trends and performance patterns.

- Review assigned maturity levels for all DCMM dimensions using the 1–5 scale.
- Identify areas of high maturity that reflect institutionalized and standardized practices.
- Identify low-performing areas (e.g., metadata coverage, catalog maintenance, automation) that could hinder effective governance or interoperability.

- ii. **Conduct Thematic Gap Analysis:** Group maturity results into logical clusters (e.g., governance, tooling, processes) to derive broader insights.

- Categorize assessment results by functional theme:
 - Governance and ownership
 - Metadata processes (technical/business)
 - Catalog processes and tools
 - Performance monitoring and KPIs
- Identify cross-cutting gaps that appear across multiple dimensions (e.g., lack of automation affecting both catalog population and metadata lineage tracking).
- Highlight dependencies. For example, weak role clarity (low score in “Organization”) may contribute to poor maintenance (low score in “Catalog Maintenance”).

- iii. **Identify Quick Wins and Structural Gaps:** Segment findings based on the level of effort and impact to prioritize next steps.

3.1.1.C
Cont.
(2/2)

- **Quick wins:** improvements that can be implemented with minimal effort (e.g., assigning metadata stewards, implementing glossary templates).
- **Structural gaps:** issues that require strategic investment or change management (e.g., tool implementation, entity-wide policy enforcement).
- Recommend areas that should be prioritized in the roadmap due to compliance implications or high strategic value (e.g., improving metadata access or catalog KPIs).



Key Message / Information

This analysis step is critical in converting maturity data into actionable insight. The quality of the roadmap depends on how well the Entity understands the underlying causes and impacts of its current maturity gaps.

3.1.1.D
(1/2)

Document Assessment Insights and Recommendations: The Entity must consolidate the results of the DCMM maturity assessment into a structured executive-level slide. This summary is intended to present a high-level overview of the current maturity state, key findings, and prioritized opportunities for improvement. It will serve as a key input for roadmap planning and internal/external alignment.

- i. **Populate the Data Maturity Summary Slide:** The Metadata Specialist prepares a summary slide (as referenced in the Data Management Current Maturity Assessment Framework in Activity 2.2 within the Data Management Strategy and Governance domain guidelines) that captures the summary maturity of the DCMM domain.
 - a. **Maturity Score (Gauge):**
 - Calculate the overall average maturity score across all DCMM dimensions.
 - Use the 1–5 scale and visually represent the result in the dial/gauge format.
 - Select the appropriate maturity level label (Initial, Limited, Evolving, etc.).
 - b. **People, Process, Technology Ratings:**
 - Assign indicative scores across People, Process, and Technology based on maturity dimension grouping:
 - People: e.g., Organization, Ownership, Stewardship
 - Process: e.g., Metadata Lifecycle, Catalog Maintenance, Lineage
 - Technology: e.g., Tool usage, Automation, Access
 - c. **Key Insights & Findings:**
 - Summarize major pain points or maturity gaps discovered.
 - Highlight inconsistencies in governance, lack of tooling, low coverage, or siloed practices.
 - Use brief, high-impact bullet points appropriate for leadership-level review.
- ii. **Identify Key Improvement Opportunities:** This section translates findings into action-oriented strategic recommendations.

3.1.1.D
Cont.
(2/2)

- Define the (e.g., 2-4) highest-value opportunities for improvement.
- Ensure these align with major maturity gaps (e.g., introducing stewardship, adopting a tool, formalizing change control).
- Frame opportunities in language suited for executive endorsement and roadmap alignment.

iii. **Validate with Key Stakeholders:** Before finalization, the summary slide must be reviewed by the Governance Section Head and Data Strategy Expert.

- Circulate the draft slide for review and feedback.
- Confirm that insights and opportunities are clearly and accurately captured.
- Refine language and formatting to ensure clarity, precision, and alignment with the rest of the Data Management Current Maturity Assessment Framework reporting pack.



Key Message / Information

Use concise, action-oriented phrasing; each bullet point should communicate a real insight or decision driver. Avoid vague recommendations and tie each suggestion to a specific weakness and pathway to resolution.

3.1.1.E

Finalize and Share the Maturity Assessment with DGO: If the DCMM maturity assessment was refreshed, then the Entity must consolidate the findings and formally share the updated assessment (as part of the broader data management maturity assessment) with the DGO for alignment.

i. **Consolidate DCMM Final Materials for Submission:** The Data Strategy Expert prepares the formal assessment package for DGO review.

- DCMM domain level maturity scores
- DCMM maturity heatmap
- DCMM assessment insights and recommendations

ii. **Submit Assessment Package to the DGO:** The Data Management & Governance Section Head oversees submission and initiates engagement with the DGO.

- Send the materials to the official DGO point-of-contact through the designated submission channel.
- Request a formal review and optionally ask for advisory feedback or validation of scoring.

iii. **Incorporate DGO Feedback and Finalize Record:** Once the DGO has reviewed the submission, incorporate any clarifications or adjustments required.

- Address DGO comments or requested edits in the assessment summary slide or supporting documents.
- Finalize all materials and archive the submission internally.
- Ensure the validated version is reflected in the Entity's central data governance records.

RACI Matrix – Data Catalog & Metadata Management Maturity Assessment

Indicative

Sr No.	Activity	DGO	Data Management and Security Director	Data Management and Governance Section Head	Data Strategy Expert	Data Governance Specialist	Metadata Specialist	Data Owner
3.1.1.A	Retrieve the Latest Data Catalog & Metadata Management Maturity Assessment		A	I	R	C	C	I
3.1.1.B	Refresh the Data Catalog & Metadata Management Maturity Assessment (If Required)		A	C	R	C	R	C
3.1.1.C	Analyze the Maturity Assessment Results		A	C	R	C	R	C
3.1.1.D	Document Assessment Insights and Recommendations		A	C	C		R	
3.1.1.E	Finalize and Share the Maturity Assessment with DGO	I/C	A	R	R	C	C	

RACI Matrix Legend: **R:** Responsible **A:** Accountable **C:** Consulted **I:** Informed

Based on this Activity, the Entity can



Refresh the Data Management Maturity Assessment



Analyze the Maturity Assessment Results

3.1.2 Data Discovery Assessment

This activity enables the Entity to establish a clear and current inventory of source systems and datasets to support metadata capture and catalog implementation. It leverages the Source System Analysis Template developed in Activity 2.3 of the Data Management Strategy & Governance domain guidelines. If the template has not been previously completed, or is outdated or incomplete, the Entity must refresh it as part of this activity. The insights from this assessment will directly inform catalog population and metadata lifecycle activities.

Process – Data Discovery Assessment

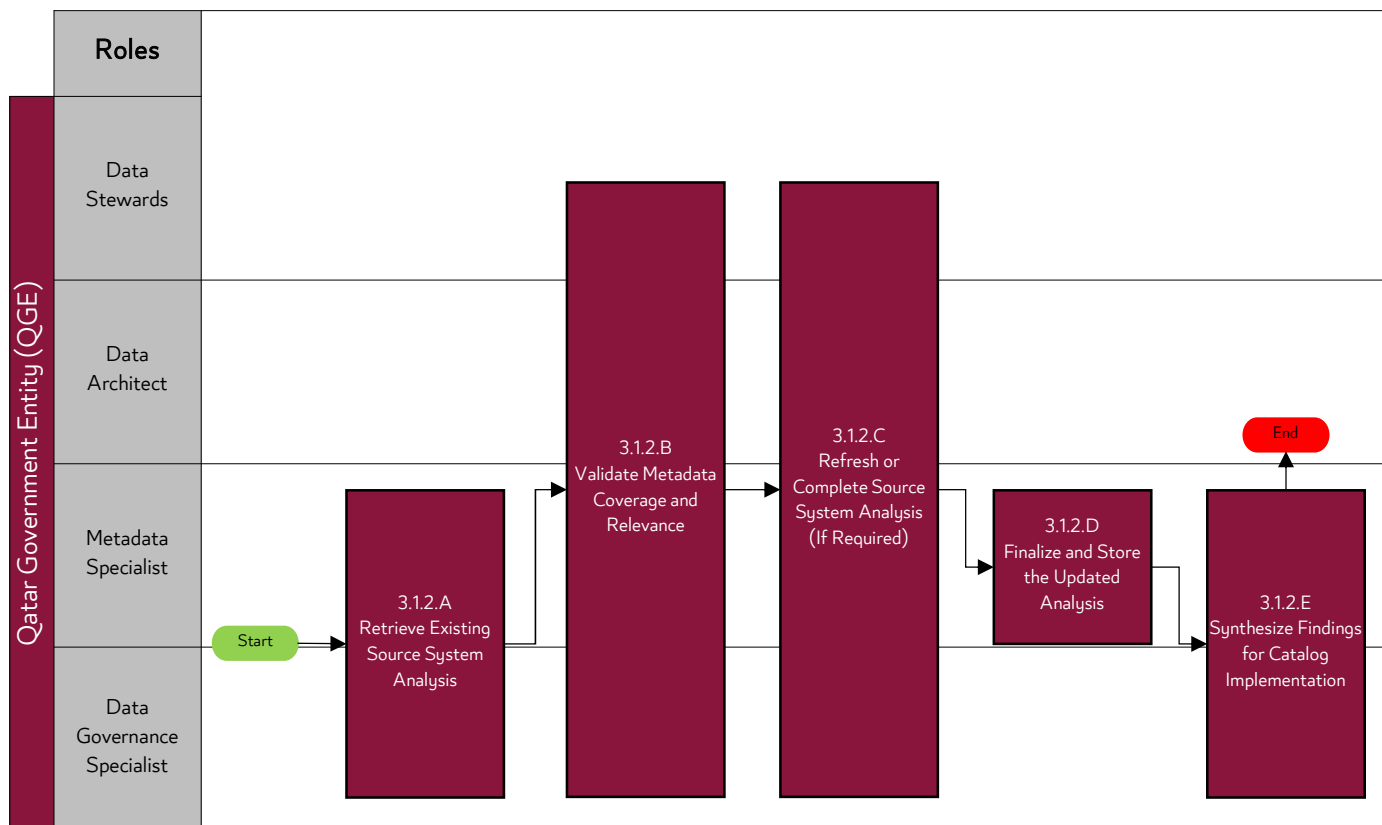


Figure 4: Data Discovery Assessment Process Map

Legend: Process Step (Maroon rectangle), Decision (Maroon diamond), Process Start (Green oval), Process End (Red oval), Document (White rectangle with black border), Off-Page Reference (Maroon rectangle with white border).

3.1.2.A
(1/2)

Retrieve Existing Source System Analysis: The Entity must begin by locating and reviewing the most recent version of its Source System Analysis, previously conducted under Activity 2.3 of the Data Management Strategy & Governance domain guidelines. This step is essential to ensure that metadata discovery efforts for data catalog implementation are built upon an accurate, structured, and complete inventory of systems and datasets.

- i. **Locate the Most Recent Version of the Template:** The Metadata Specialist, in coordination with the Data Governance Specialist, identifies the most recent submission or working draft of the Source System Analysis Template.
 - a. Retrieve the file from the centralized data management repository or relevant storage location.
 - b. Confirm that the file is consistent with the NPC-defined structure, which must include all five mandatory sheets:

3.1.2.A
Cont.
(2/2)

- Source Systems
- Source System Details
- Source System Environments
- Key Dataset Inventory
- Preliminary DQ Checks

ii. **Confirm Recency and Usefulness of the Data:** The Data Governance Specialist evaluates whether the content is recent, relevant, and usable.

- Confirm that the file was last updated within the past 12 months.
- Ensure it reflects the current system landscape (i.e., no major upgrades or decommissions since completion).
- Validate that the inventory includes all major production systems (e.g., core applications, registries, APIs, enterprise databases).
- Ensure the Preliminary DQ Checks sheet is included, as it provides useful attribute-level indicators for later catalog enrichment (e.g., completeness, uniqueness). While full DQ profiling is not required, the sheet supports attribute metadata readiness.

iii. **Flag Gaps for Validation or Refresh:** If any of the following issues are observed, flag the file as requiring partial or full refresh (see 3.1.2.C):

- One or more of the five required sheets is missing or blank.
- Major systems or datasets are absent.
- The template lacks metadata coverage flags (e.g., business metadata = Y/N).
- It contains outdated ownership/stewardship assignments or domain mappings.



Tip

Always confirm whether the “Key Dataset Inventory” sheet contains structured information at the dataset/table level, as this will directly feed into catalog population later. Look for the presence of flags such as:

- “Is master source?”
- “Has business metadata?”
- “System of record?”

These indicators are important for catalog prioritization and metadata lineage capture.



Key Message / Information

This step is not just about locating a file. It is about confirming the foundational readiness of metadata discovery across the Entity’s data landscape. A complete, current, and structured source system analysis is essential to support downstream metadata activities in this domain.

3.1.2.B
(1/2)

Validate Metadata Coverage and Relevance: Once the Source System Analysis template has been retrieved, the Entity must validate whether the information contained across its five sheets is sufficiently complete, accurate, and relevant to support data catalog and metadata management planning. This ensures that the dataset and system metadata is fit-for-purpose and aligned with the requirements of catalog onboarding, glossary enrichment, and stewardship assignment.

- i. **Review Metadata Fields Across Sheets.** The Metadata Specialist, in coordination with the Data Architect and Data Stewards, validates the completeness of metadata across all five sheets:
 - **Source Systems:** Confirm each system has a defined name, business domain, owner/steward, and indicators for metadata presence (technical, business).
 - **Source System Details:** Check for information on technology platform, data volume, access model, criticality, master/reference flags, and metadata readiness.
 - **Source System Environments:** Ensure the production, test, and dev environments are correctly specified and mapped to source systems (for awareness, not for catalog use).
 - **Key Dataset Inventory:** Validate dataset entries include schema/table names, dataset descriptions, volume indicators, system linkage, and domain classification.
 - **Preliminary DQ Checks:** Confirm presence of, for example, completeness and uniqueness scores at the attribute level, to support attribute inventory readiness.
- ii. **Validate Metadata Coverage for Business and Technical Readiness.** The Data Governance Specialist assesses whether metadata coverage is sufficient to support catalog onboarding:
 - Confirm that major production systems and high-value datasets are represented.
 - Check that metadata fields required for catalog population (e.g., descriptions, domain mappings, ownership) are adequately filled.
 - Identify where metadata is missing, vague, or inconsistent (e.g., missing owners, empty descriptions, placeholder names like “TBD”).
 - Identify datasets that lack business metadata
- iii. **Assess Attribute Metadata Readiness Using Preliminary DQ Checks:** The Metadata Specialist reviews the Preliminary DQ Checks sheet to evaluate whether attribute-level metadata is sufficient to support population of the Attribute Inventory in the data catalog.
 - Confirm that key attributes for each dataset are listed, including:
 - Source System Name
 - Dataset Name and Schema
 - Attribute Name
 - Review the presence of business metadata indicators (Y/N), master source flags, and Internal/External classification, which will support metadata tagging in the catalog.
 - Evaluate the availability of preliminary quality dimension scores. These values will not be used for DQ monitoring but can be referenced to enrich attribute descriptions or identify high-priority fields for stewardship.
 - Flag any attributes where metadata is missing or inconsistent (e.g., missing attribute names, blank completeness fields), which may require enrichment prior to catalog ingestion.

3.1.2.B
Cont.
(2/2)

Tip

Focus your validation efforts on systems and datasets likely to be cataloged first, such as core applications, registries, and master data sources. Use this validation to begin building an internal readiness score or confidence level per dataset or system. Incomplete fields now will lead to rework during catalog implementation—flag them early.

3.1.2.C

Refresh or Complete Source System Analysis (If Required): If the Source System Analysis template is incomplete, outdated, or missing critical systems or datasets, the Entity must initiate a structured refresh. This ensures the metadata discovery baseline is accurate, complete, and aligned with catalog implementation needs.

- i. **Identify and Scope Required Updates:** The Metadata Specialist, in collaboration with the Data Architect and Data Governance Specialist, determines which sheets require partial or full refresh.
 - Focus on major production systems, key datasets, and high-priority domains.
 - Prioritize systems and datasets that will be part of the initial catalog rollout.
 - Use validation findings from Step 3.1.2.B to guide the refresh scope.
- ii. **Update the Source System Analysis Template:**
 - Complete or refresh the five sheets including:
 - Source Systems
 - Source System Details
 - Source System Environments
 - Key Dataset Inventory
 - Preliminary DQ Checks
 - Work with system owners, stewards, and technical teams to populate all required metadata fields.
- iii. **Review and Validate with Stakeholders:** Conduct working sessions to ensure accuracy and completeness of the source system analysis template.
 - Validate newly added systems and datasets.
 - Confirm metadata coverage indicators (e.g., business metadata, master source, ownership) are consistently captured.
 - Resolve any missing or conflicting information before finalizing.



Key Message / Information

This refresh is a one-time foundational task that enables the Entity to proceed confidently into catalog population, glossary development, and metadata lifecycle activities.

3.1.2.D

Finalize and Store the Updated Analysis: Once the Source System Analysis has been validated and, if needed, refreshed, the Entity must finalize and securely store the updated version. This ensures that a complete and metadata-ready view of systems and datasets is available for use in business glossary development, dataset inventory creation, and attribute catalog implementation.

- i. **Review the Updated Template for Completion and Consistency:** The Metadata Specialist conducts a final quality check across all five sheets.
 - Confirm that all key systems and datasets are included.
 - Verify that metadata coverage flags (e.g., business metadata, master source, ownership) are consistently applied.
 - Ensure attribute-level records in the Preliminary DQ Checks sheet are present for critical datasets.
- ii. **Conduct Final Review with Stakeholders:** Engage the Data Architect, Data Stewards, also The Data Management and Governance Section Head for sign-off.
 - Review any remaining open questions or flagged entries.
 - Confirm that all required metadata fields are filled for priority systems and domains.
 - Validate that the version reflects the most current and agreed-upon structure of the Entity's data landscape.
- iii. **Store the Approved Version in a centralized Metadata Repository:** The finalized file must be made accessible to the teams responsible for catalog and metadata implementation.
 - Save the file in a central metadata repository or designated secure location.
 - Use clear version control and naming conventions (e.g., "Source System Inventory_Q2_2025_Final").
 - Notify relevant stakeholders of its availability.

3.1.2.E
(1/2)

Synthesize Findings for Catalog Implementation: With the Source System Analysis finalized, the Entity must now extract actionable insights to guide the planning and execution of catalog onboarding. This includes identifying catalog-ready systems, prioritizing critical datasets, and highlighting gaps that must be addressed to enable successful metadata capture, enrichment, and governance.

- i. **Identify Catalog-Ready and Critical Systems/Datasets:** The Metadata Specialist and Data Governance Specialist assess all systems and datasets in the inventory to prioritize onboarding.
 - a. Prioritize based on two key criteria:
 - **Metadata readiness:** Clear ownership, domain mapping, business metadata presence, and dataset-level descriptions
 - **Strategic/operational criticality:** Include systems marked as critical in the inventory even if metadata is incomplete
 - b. Classify systems into three tiers:

3.1.2.E
Cont.
(2/2)

- Tier 1: Catalog-Ready & Critical
- Tier 2: Critical but Metadata-Deficient
- Tier 3: Lower Priority / Non-Critical Systems

c. Use this tiering to inform the sequencing of catalog population and enrichment efforts in future activities.

ii. **Highlight Metadata Gaps and Enrichment Needs:** Identify where additional metadata capture or improvement is needed to enable onboarding.

- Flag datasets missing business definitions, domain classification, or ownership.
- Identify datasets where the “Business Metadata Captured” field is marked as “No.”
- Note systems with inconsistent or missing stewardship coverage.

iii. **Assess Stewardship and Governance Coverage:** Ensure there are responsible roles in place to support metadata lifecycle management.

- Identify systems or domains without assigned Data Stewards or Data Owners.
- Confirm alignment between data domains and existing governance structures.
- Flag any misalignments or role gaps that may delay catalog implementation.

iv. **Derive Inputs for Catalog Tool Configuration:** Translate metadata discovery findings into technical inputs for catalog tool setup.

- Capture system access types (e.g., direct query, API, external interface).
- Record metadata visibility requirements (e.g., internal vs. external system classification).
- Identify systems with multiple environments that may require scoped ingestion or tagging.



Tip

Consider preparing a “Catalog Readiness Summary” sheet that aggregates Tier 1 and Tier 2 systems for onboarding planning.

Engage IT and governance leaders early with these findings to align on sequencing, expectations, and support needed.

This synthesis should directly inform the roadmap and catalog implementation activities in subsequent sections.



Key Message / Information

Synthesizing the source system analysis results ensures that catalog onboarding is realistic, prioritized, and aligned with both business value and operational feasibility. Critical systems must be addressed early, even if metadata is incomplete, to enable visibility and governance over core data assets.

RACI Matrix – Data Discovery Assessment

Indicative

Sr No.	Activity	Data Management and Security Director	Data Management and Governance Section Head	Data Governance Specialist	Metadata Specialist	Data Architect	System Owners	Data Stewards	Data Quality Specialist	Technical Team
3.1.2.A	Retrieve Existing Source System Analysis	I	A	R	R	I	I	I	C	I
3.1.2.B	Validate Metadata Coverage and Relevance		A	R	R	R	C	R	C	
3.1.2.C	Refresh or Complete Source System Analysis (If Required)		A	R	R	R	C	R	C	C
3.1.2.D	Finalize and Store the Updated Analysis	I	A	C	R	C		C		
3.1.2.E	Synthesize Findings for Catalog Implementation		A	R	R					

RACI Matrix Legend: **R:** Responsible **A:** Accountable **C:** Consulted **I:** Informed

Based on this Activity, the Entity can



Prioritize systems and datasets for catalog onboarding



Identify metadata and stewardship gaps



Establish a metadata-ready foundation for catalog and glossary planning

3.1.3 Data Catalog & Metadata Management Plan and Roadmap

With a clear understanding of current maturity (3.1.1) and a validated source system and dataset inventory (3.1.2), the Entity must now develop a structured implementation plan for data catalog and metadata management. This activity guides the Entity in defining prioritized initiatives, owners, stakeholders, dependencies, assumptions, risks, costs timelines and milestones required to operationalize its metadata strategy. The resulting plan will serve as the foundation for executing catalog onboarding, metadata lifecycle processes, and governance alignment in subsequent phases.

Process – Data Catalog & Metadata Management Plan

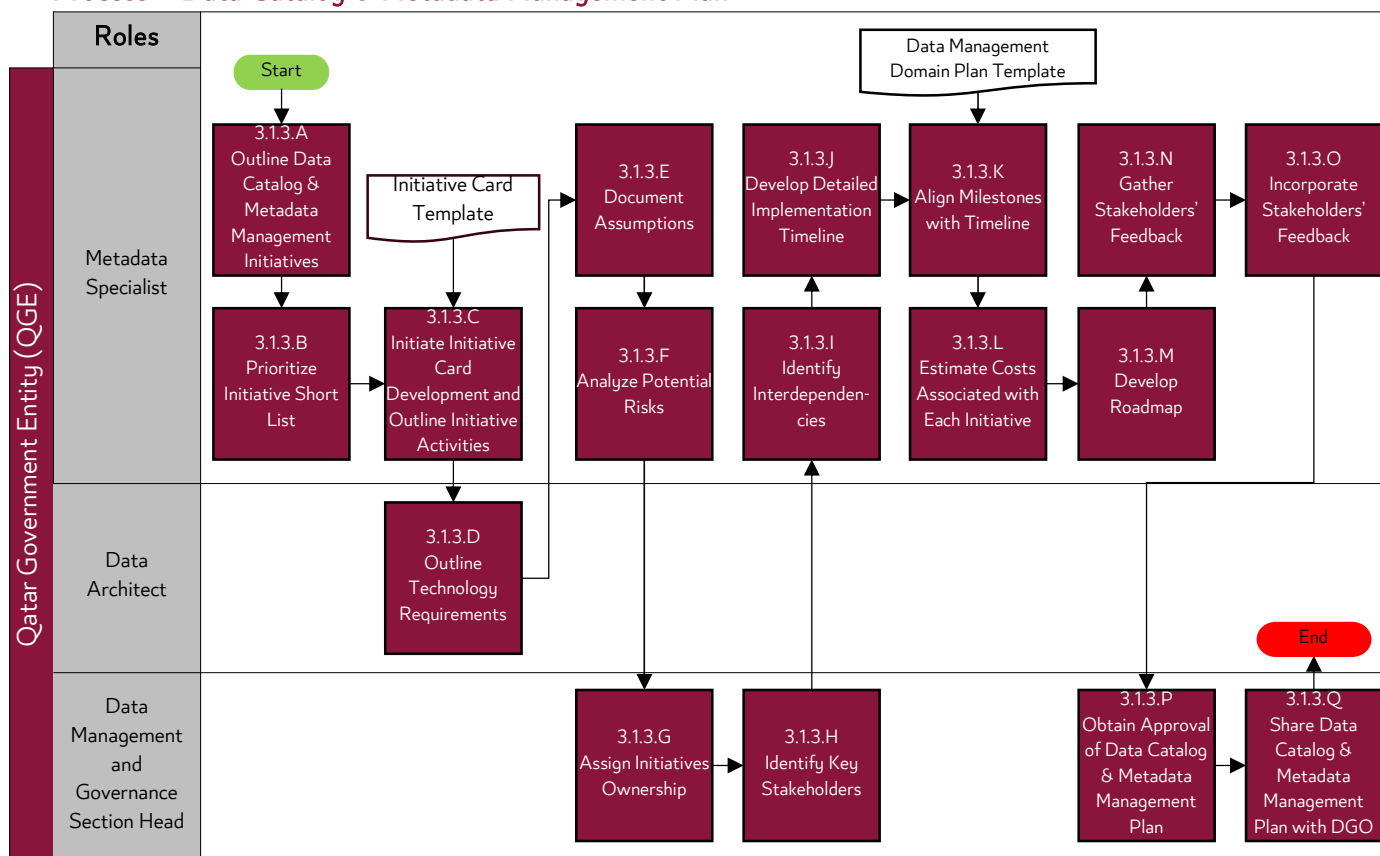


Figure 5: Data Catalog & Metadata Management Plan Process Map

Legend: Process Step Decision Process Start Process End Document Off-Page Reference

3.1.3.A *Outline Data Catalog & Metadata Management Initiatives:* Identify and document a long list of data catalog and metadata management initiatives, covering both short-term and long-term objectives. Initiatives may include metadata standardization, data catalog population, and establishing metadata governance practices, as well as larger-scale projects such as implementing a dedicated data catalog tool and enhancing metadata quality monitoring. Ensure these initiatives are aligned with the Entity's broader data strategy to enable efficient resource allocation and address critical metadata management needs.

3.1.3.B *Prioritize Initiative Short List:* Use the long list of data catalog and metadata management initiatives to identify and prioritize a short list based on potential impact and feasibility. Focus on high-impact areas where improved metadata management can significantly enhance data accessibility and decision-making, supporting strategic initiatives. Additionally, identify quick wins initiatives that can be implemented quickly with minimal resources, to provide immediate benefits and demonstrate the value of metadata management improvements.

3.1.3.C

Initiate Initiative Card Development and Outline Initiative Activities: Develop initiative cards for each prioritized initiative outlined in the short list, capturing essential activities and steps required to guide implementation. For each initiative, outline the key activities by breaking them down into specific steps and sub-activities that need to be completed in sequence (where applicable). Include descriptions of each step to provide clear guidance on execution, along with any necessary details on tools, techniques, or methodologies that may be required.

Asset Guidance

An **Initiative Card Template** provides a structured format to document key information related to prioritized initiatives, such as initiative overview, key activities, sponsor, owner, stakeholders, timeline, key milestones, budget, technology requirements, dependencies, assumptions, risks, and milestones. The initiative cards provide a structured overview of proposed projects, allowing stakeholders to quickly understand each initiative's purpose, expected impact, and resource requirements.

Illustrative

OVERVIEW xxx		SPONSOR xxx	STAKEHOLDERS xxx
		OWNER xxx	
KEY ACTIVITIES		TIMELINE	BUDGET (IN QAR)
Key Activity - Sub-activity X - Detailed Steps - Sub-activity Y - Detailed Steps Key Activity - Sub-activity X - Detailed Steps - Sub-activity Y - Detailed Steps		xxx	QAR xxx
		EXPECTED BENEFITS	
		• xxx	
		KEY MILESTONES	
		A. xxx B. xxx C. xxx	
		TECHNOLOGY REQUIREMENTS	
		• xxx	

OVERVIEW xxx		SPONSOR xxx	STAKEHOLDERS xxx											
		OWNER xxx												
KEY ACTIVITIES		TIMELINE												
#	Milestones & Key Activities	#	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
A.	Milestone	A.												
1.	Key Activity	1.												
B.	Milestone	B.												
2.	Key Activity	2.												
C.	Milestone	C.												
3.	Key Activity	3.												
DEPENDENCIES		ASSUMPTIONS & RISKS												
• xxx		• xxx												

3.1.3.D

Outline Technology Requirements: Identify and document the technology requirements necessary to support each prioritized data catalog and metadata management initiative. This includes outlining the required tools, software, and systems needed to ensure successful implementation and adoption across the Entity.

3.1.3.E

Document Assumptions: Capture key assumptions related to resource availability, stakeholder participation, implementation complexity, and technology readiness. These assumptions provide important context for decision-making, help set realistic expectations and promote transparency in tracking delivery progress and resolving risks or delays during execution.

3.1.3.F

Analyze Potential Risks: Clearly identify and assess the risks associated with data catalog and metadata management initiatives. This includes:

- Technical risks such as data catalog tool compatibility issues.
- Operational risks such as users not fully adopting the data catalog due to lack of training, awareness, or perceived value
- Financial risks such as budget overruns due to unforeseen complexity or extended timelines

3.1.3.G

Assign Initiatives Ownership: The Data Management and Governance Section Head will be the owner of all data catalog & metadata management initiatives. This designation ensures that the initiatives have a dedicated leader who can oversee progress and resolve roadblocks that may arise.

3.1.3.H

Identify Key Stakeholders: Recognize individuals and groups that have a vested interest in data catalog and metadata management, including data consumers, IT staff, and management, facilitating collaboration and support. Understanding who needs to be engaged helps streamline communication and decision-making, improving the overall effectiveness of the data catalog and metadata management.

3.1.3.I

Identify Interdependencies: Analyze how data catalog and metadata management initiatives may impact or be influenced by planned initiatives or existing processes to improve resource allocation and coordination. This step involves:

- Reviewing how improvements in data catalog and metadata management could affect or be affected by other business workflows
- Identifying resource overlaps where the same teams, tools, or data sources are involved in multiple initiatives
- Ensuring proper coordination between different departments to avoid conflicts or delays in resource allocation

3.1.3.J

Develop Detailed Implementation Timeline: Break down each activity in an initiative into actionable steps with start and end dates, ensuring the timeline is realistic and achievable. Each step should have a clear description of the required task, dependencies on other activities, and allocated resources. Ensure that the timeline accounts for potential delays or risks identified earlier, so adjustments can be made without derailing the project.

3.1.3.K

Align Milestones with Timeline: Set specific checkpoints or milestones throughout the implementation to assess progress. These milestones allow the evaluation of whether the initiative is proceeding as planned and provide opportunities for course corrections.

Asset Guidance

The **Data Management Domain Plan Template** helps the Entity capture an overview of each identified initiative, detail its sub-activities, owners, stakeholders, and activity timeframe.

Illustrative

Data Management Initiative Plan Template									
The following table is a template capturing a brief overview of the domain relevant initiatives									
Field	Description								
Initiative ID	A unique identifier for each initiative to facilitate tracking and reference								
Initiative Title	the name of the initiative								
Initiative Description	A short description of the initiative, outlining its objectives and expected outcomes								
Cost	Estimated financial resources required for the initiative, including both direct and indirect costs								
Start Date	The date when the initiative is scheduled to begin								
End Date	The date by which the initiative is expected to be completed								
Interdependencies	Any other identified initiatives or projects that this initiative depends on for successful execution								
Assumptions	Conditions assumed to be true for the initiative's success (e.g., resource availability)								
Risks	Potential risks that could affect the initiative's success								

Initiative ID	Initiative Title	Initiative Description	Cost	Start Date	End Date	Interdependencies	Assumptions	Risks

Initiative ID	Initiative Title	Sub-activities	Owner	Stakeholder(s)	Status	Activity Timeframes		Roadmap			
						Start Date	Due Date	0	1	2	3
								1 Jan	8 Jan	15 Jan	###
DMSG-001					In Progress	1 Jul	30 Aug				
DMSG-002					Completed	1 Jul	31 Aug				
DMSG-003					Not Started	30 Mar	31 Jul				

3.1.3.L

Estimate Costs Associated with Each Initiative: Consider expenses related to tools, technology, personnel, and training required for effective implementation. Break down costs based on the needs of each task, such as acquiring software, hiring additional staff, or providing necessary training for existing teams. This step ensures the budget is well-planned, realistic, and includes all critical aspects to enable smooth implementation of the initiatives.

3.1.3.M

Develop Roadmap: Create an overall roadmap that outlines timelines, phases, and key milestones for implementing the prioritized data catalog and metadata management initiatives. Sequence the initiatives based on dependencies, resource availability, and alignment with organizational goals. The roadmap should also include projected timelines for each initiative, allowing stakeholders to monitor progress and allocate resources effectively over time.

3.1.3.N

Gather Stakeholders' Feedback: Present the draft plan to all relevant parties, inviting input and suggestions to enhance its effectiveness. This feedback process helps surface any potential issues or overlooked areas, improving the plan's effectiveness and ensuring all voices are heard. Engaging stakeholders early also builds buy-in and commitment to the plan's success.

3.1.3.O

Incorporate Stakeholders' Feedback: Actively gather and incorporate constructive feedback from key stakeholders to refine the plan and ensure it aligns with their needs and expectations. This collaborative approach helps to address concerns early, fine-tune the details, and strengthen the overall effectiveness of the plan.

3.1.3.P

Obtain Approval of Data Catalog & Metadata Management Plan: After incorporating all feedback, the Data Management and Security Director will be presented with the finalized Data Catalog & Metadata Management Plan for review and approval. This ensures alignment with the Entity's priorities and secures the necessary support for successful implementation. Once approved, the plan can be formally adopted and published.

3.1.3.Q

Share Data Catalog & Metadata Management Plan with DGO: Submit the finalized Data Catalog & Metadata Management Plan to the DGO for review. The DGO will review the plan and provide recommendations, allowing the Entity to ensure their plan aligns with the broader national data program agenda and best practices.

RACI Matrix - Data Catalog & Metadata Management Plan

Indicative

Sr No.	Activity	DGO	Data Management and Security Director	Data Management and Governance Section Head	Data Governance Specialist	Metadata Specialist	Data Architect	Data Stewards	Data Strategy Expert
3.1.3.A	Outline Data Catalog & Metadata Management Initiatives		A	C	C	R		C	C
3.1.3.B	Prioritize Initiative Short List		A	C	C	R		C	C
3.1.3.C	Initiate Initiative Card Development and Outline Initiative Activities			A	C	R			C
3.1.3.D	Outline Technology Requirements			A	C	C	R	C	C
3.1.3.E	Document Assumptions			A	C	R		C	C
3.1.3.F	Analyze Potential Risks			A	C	R			C
3.1.3.G	Assign Initiatives Ownership		A	R					
3.1.3.H	Identify Key Stakeholders		A	R	C	C		C	
3.1.3.I	Identify Interdependencies			A	C	R			C
3.1.3.J	Develop Detailed Implementation Timeline			A	C	R			C
3.1.3.K	Align Milestones with Timeline			A	C	R			C
3.1.3.L	Estimate Costs Associated with Each Initiative			A	C	R		C	C
3.1.3.M	Develop Roadmap			A	C	R			C
3.1.3.N	Gather Stakeholders' Feedback			A	C	R			
3.1.3.O	Incorporate Stakeholders' Feedback			A		R			C
3.1.3.P	Obtain Approval of Data Catalog & Metadata Management Plan		A	R					
3.1.3.Q	Share Data Catalog & Metadata Management Plan with DGO	C/I	A	R					

RACI Matrix Legend: R: Responsible A: Accountable C: Consulted I: Informed

Based on this Activity, the Entity can



Outline DCMM Initiatives



Develop and Review DCMM Plan

4. Metadata Management Assessment & Design



4 Metadata Management Assessment & Design

What is Metadata Management Assessment & Design and why does the Entity need it?

Metadata Management Assessment & Design is a process that establishes how the Entity will manage, structure, and maintain its metadata. This process involves assessing the current metadata landscape and designing a metamodel that aligns with the data architecture & modeling standards. The assessment helps identify existing gaps, requirements, and opportunities to improve the handling of metadata across various systems and departments.

The design phase focuses on creating a metamodel, which serves as a blueprint for organizing and integrating metadata into the broader data management environment. By establishing clear relationships, structures, and hierarchies within the metadata, this process ensures that data flows are mapped, and metadata is consistently defined, documented, and accessible.

Metadata Management Assessment & Design is important because it provides a structured approach to standardizing metadata practices, ensuring data consistency, and improving accessibility for users. It fosters better decision-making by enabling stakeholders to understand and leverage metadata and comply with the national data standards and organizational policies. Regular assessment and updates to the metamodel ensure that metadata management practices evolve with changing business and technical requirements.

The remaining sections of this chapter will detail the below activity that will guide the Entity on designing its metamodel:

4.1 Metamodel Design

Guiding Principles for Metadata Management Assessment & Design

1. **Align with the data architecture & modeling domain standards:** Ensure that the metadata management assessment and design process is aligned with the data architecture & modeling domain standards, providing a consistent foundation for data management practices
2. **Engage stakeholders across departments:** Involve key stakeholders, including business, technical, and compliance teams, to ensure that the metamodel reflects the diverse metadata needs across the Entity
3. **Design with scalability and flexibility in mind:** When designing the metamodel, consider future growth and technological advancements, ensuring that the Entity can accommodate new data types, evolving standards, and business requirements

4.1 Metamodel Design

This activity will guide the Entity through the steps to design its Entity-wide metamodel, including defining meta-entities and attributes (i.e.: tables, columns, data types), aligning with the data architecture and modeling standards, establishing relationships and hierarchies, assigning responsible roles, integrating with existing data systems, and outlining procedures for ongoing maintenance and version control.

4.1.A

Assess Current Metadata Landscape: Perform a comprehensive assessment to inventory and analyze existing metadata repositories, tools, and formats across the organization. Capture and document key metadata entities, attributes, relationships, and workflows, while identifying redundancies, overlaps, and fragmentation in metadata storage and management practices.

4.1.B

Define Metadata Architecture: In alignment with the data architecture and modeling guidelines, design the Entity's metadata architecture to house a metadata repository, storing various types of metadata from specified systems and tools. The metadata architecture is to ensure updates are reflected between the various systems, tools, and the metadata repository as per business requirements (frequency of synchronization). Additionally, the architecture should house a metadata portal that supports manual updates, as well as requests, searches, and lookups of metadata by different user groups.

A well-managed Metadata environment should shield end users from the complexity of various and disparate metadata sources. The architecture should provide a unified access point to the metadata repository, ensuring that users can access all relevant metadata seamlessly without needing to navigate multiple sources. The specific design of the architecture will depend on the Entity's requirements, with potential approaches including centralized, distributed, or hybrid models.



Tip

To ensure a high degree of consistency within the common metadata repository, it is recommended to adopt a Centralized Metadata Architecture, which stores copies of metadata from various sources in a single repository. This approach makes metadata easy to access and ensures consistency by centralizing information. Advantages include high availability, quick retrieval, independence from source systems, and the ability to enhance metadata quality through customization.

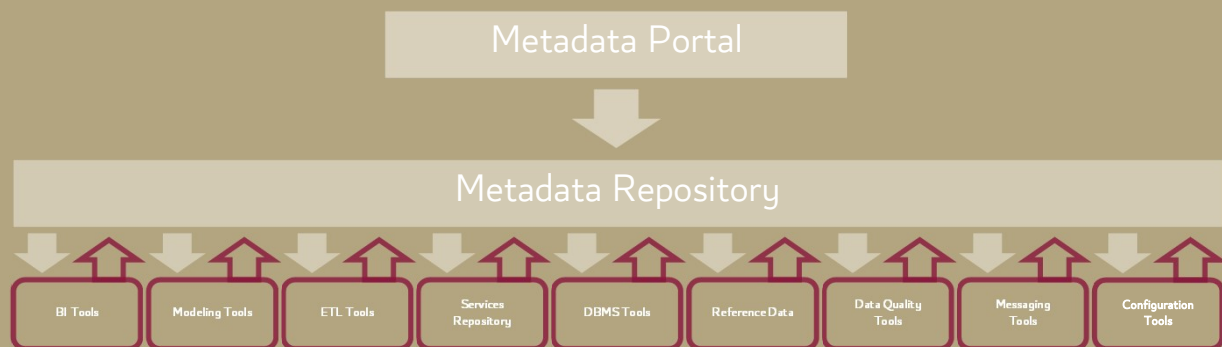


Figure 6 – Centralized Metadata Architecture

4.1.C

Design Multi-Level Metamodels: Develop a data model for the Metadata Repository, or metamodel. Different levels of metamodels must be developed to provide a structured framework for metadata. This includes:

- **Conceptual models:** These high-level models define and explain the relationships between core entities / systems and offer a broad view of the Entity's data environment.
- **Logical models:** These mid-level models define data flows and detailed relationships between entities (at the dataset level), specifying metadata attributes (dataset name, dataset owner, dataset type (API, table, XML etc.), data lineage, data frequency update, last updated date). They also outline hierarchical relationships and parent-child structures to represent real-world scenarios.
- **Physical models:** These models translate the logical model into technical specifications for implementation. These models are ultimately a physicalized version of the logical models which include the metadata attribute values.



Key Message / Information

Ensure the metamodel aligns with the Enterprise Data Model (EDM), data model design principles, and national data architecture and modeling standards and guidelines. This helps integrate metadata management with the Entity's broader data ecosystem.

RACI Matrix – Metamodel Design

Indicative

Sr No.	Activity	Data Architecture and Analytics Section Head	Data Architect	Metadata Specialist	Data Strategy Expert	Data Owner
4.1.A	Assess Current Metadata Landscape	A	R			
4.1.B	Define Metadata Architecture	A	R	R	C	C
4.1.C	Design Multi-Level Metamodels	A	R	C	C	C

RACI Matrix Legend: **R:** Responsible **A:** Accountable **C:** Consulted **I:** Informed

Based on this Activity, the Entity can



Design Multi-Level Metamodels

5. Metadata Lifecycle Management



5 Metadata Lifecycle Management

What is Metadata Lifecycle Management and why does the Entity need it?

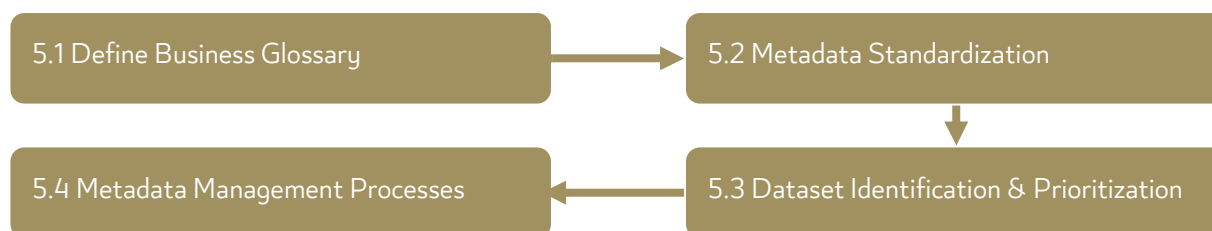
Metadata Lifecycle Management provides the operational backbone for turning metadata strategy into day-to-day reality. It ensures that metadata is not only defined and standardized, but also populated, maintained, and used consistently across the Entity. This section guides the Entity through the core activities required to govern metadata across its full lifecycle, from initial definition to practical usage in the data catalog.

This lifecycle approach supports national compliance while also enabling value creation at the organizational level. It ensures that metadata efforts start with business-aligned terminology, follow a structured process for dataset and attribute documentation, and remain dynamic through catalog interaction and user feedback. The result is metadata that is understandable, trusted, and actionable across stakeholders.

The lifecycle framework is divided into four key activities:

- **5.1 Define Business Glossary:** Standardize the Entity's business terms with clear ownership and definitions to support catalog population and business understanding.
- **5.2 Metadata Standardization:** Adopt the outlined metadata schema, apply standard templates, and prepare controlled vocabularies and semantic relationships for metadata capture.
- **5.3 Data Sources Identification & Prioritization:** Identify the Entity's datasets, validate them, and prioritize those that are catalog-ready for metadata population.
- **5.4 Metadata Management Processes:** Populate metadata templates, manage ongoing updates, promote catalog usage, and establish workflows for issue reporting and resolution.

Together, these activities ensure the Entity builds a metadata foundation that is not only complete and compliant, but also sustainable, usable, and ready to support catalog-driven data governance. The remaining sections of this chapter will detail the activities that will guide the Entity on executing the below:



Guiding Principles for Metadata Lifecycle Management

1. **Standardize Metadata Definitions and Practices:** Establish clear, standardized definitions and processes for managing metadata. This includes defining ownership, governance, and quality assurance measures to ensure consistency across departments and systems
2. **Scalability and Flexibility:** Design metadata management processes that are scalable and flexible, allowing the Entity to adapt to future changes in data types, business needs, and regulatory requirements
3. **Promote Regular Maintenance and Updates:** Implement regular metadata updates and quality checks to ensure that metadata remains accurate and relevant. This includes scheduling periodic reviews, refreshing data definitions, and validating metadata quality across the Entity

5.1 Define Business Glossary

A Business Glossary is a foundational metadata asset that defines business terms in clear, standardized, and organization-wide language. It serves as a common reference point across departments, helping improve data understanding, communication, and consistency. A well-maintained glossary ensures that critical terms, such as those used in KPIs, regulatory reports, policies, and operational processes are interpreted consistently across the Entity.

This activity guides the Entity through the end-to-end process of building a Business Glossary, from scoping and stakeholder engagement to population, validation, and approval. The glossary will include each term's definition, responsible owner, steward, domain classification, and associated datasets to support future cataloging and metadata integration.

By the end of this activity, the Entity will have an approved, structured, and metadata-ready glossary that supports downstream efforts such as data catalog population, business metadata enrichment, and stewardship alignment.

Process – Define Business Glossary

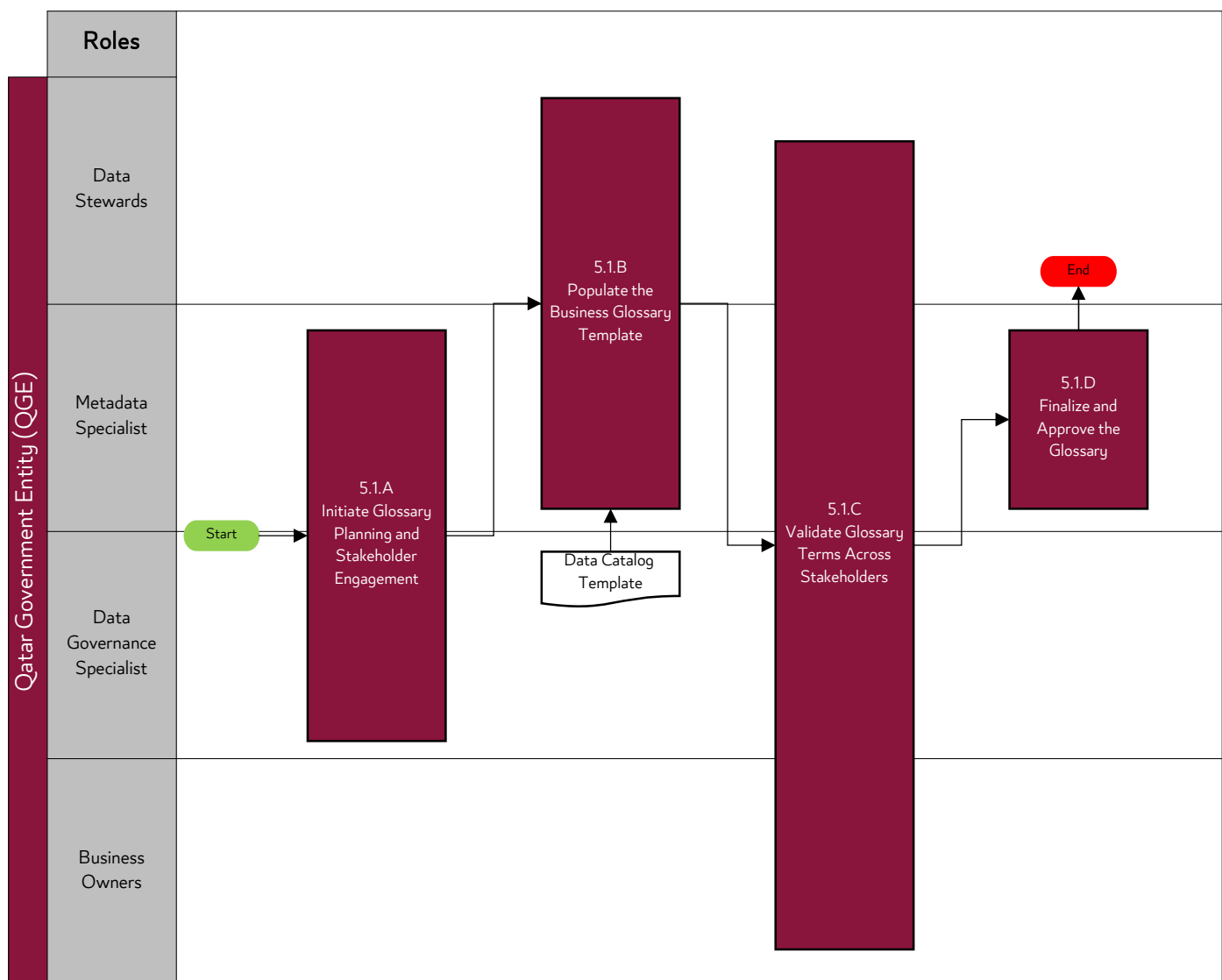


Figure 7: Define Business Glossary Process Map

Legend: Process Step Decision Process Start Process End Document Off-Page Reference

5.1.A

Initiate Glossary Planning and Stakeholder Engagement: The Entity must initiate the business glossary effort by establishing its scope, clarifying objectives, and engaging the right roles across governance and business functions. This step ensures that glossary development is grounded in real operational needs and aligned with the Entity's metadata strategy and catalog-readiness goals. It also sets expectations for how business terms will be collected, structured, reviewed, and governed.

- i. **Define the Scope and Objectives of the Glossary:** The Metadata Specialist and Data Governance Specialist lead the initial planning effort, in consultation with the Governance Section Head.
 - Identify the business domains or functions to be covered in the first phase of glossary development (e.g., Finance, HR, Health Licensing).
 - Determine the use cases the glossary is intended to support (e.g., data catalog population, metadata tagging, KPI standardization, regulatory alignment).
 - Confirm that the glossary will include a field for source systems and associated datasets to support traceability between business terms and data assets.
 - Review any existing term lists, policy glossaries, KPI definitions, or reporting standards that could serve as inputs.
- ii. **Identify and Mobilize Key Roles:** The Data Governance Section Head assigns and confirms the individuals responsible for glossary development.
 - Confirm involvement of:
 - **Business Owners** to validate terms and definitions
 - **Data Stewards** to lead population per domain
 - **Metadata Specialist** to coordinate content quality and consolidation
 - **Domain SMEs** as needed for complex or sensitive terms
 - Assign roles clearly using RACI designations for each step in the glossary lifecycle.
 - Notify all stakeholders of their expected contributions and timelines.
- iii. **Launch the Glossary Development Process:** Formally initiate the glossary activity as a structured effort under the Entity's metadata program.
 - Schedule a glossary kickoff session or working group meeting with assigned roles.
 - Walk through the Business Glossary Template and Glossary Guidelines Sheet, explaining how each field should be filled.
 - Confirm alignment with catalog planning timelines to ensure glossary development proceeds in parallel with metadata and dataset inventory efforts.
 - Establish communication channels and checkpoints for review, escalation, and coordination.



Tip

Focus glossary scope on high-value business domains with active reporting, KPIs, and governance needs in the first phase.
Use glossaries from regulations or policy documents as a source of authoritative definitions.
Ensure business users, and not technical teams, own the meaning and wording of glossary terms.

5.1.B
(1/3)

Populate the Business Glossary Template: Once planning is complete and stakeholders are mobilized, the Entity must begin populating the Business Glossary using the standardized template provided in the Data Catalog Template. This step focuses on capturing high-value business terms across identified domains, along with clear definitions, ownership, and metadata linkages, including associations to datasets. The glossary will serve as the foundation for metadata enrichment, stewardship, and catalog implementation.

- i. **Identify and Curate Glossary Terms:** Data Stewards, in collaboration with Business Owners, gather candidate terms from across the Entity.
 - a. Source terms from authoritative references such as:
 - KPI dashboards and performance frameworks
 - Policy manuals, regulations, and service definitions
 - Data governance documents and previous project glossaries
 - High-value reports, operational systems, and audit logs
 - b. Prioritize terms that are:
 - Widely used across departments
 - Frequently misunderstood or inconsistently defined
 - Related to Critical Data Elements (CDEs)
 - Linked to priority datasets or domains identified in earlier catalog planning
- ii. **Populate Glossary Fields Using the Standard Template:** Use the Business Glossary Template and Glossary Guidelines Sheet provided in the Data Catalog Template (see next page for asset guidance).
 - For each term, populate required fields including but not limited to:
 - Term Name
 - Term Description
 - Business Owner
 - Data Steward
 - Associated Source System(s)
 - Associated Datasets(s)
 - Reference Sources
- iii. **Ensure Template Quality and Consistency:** The Metadata Specialist performs quality assurance on glossary entries to ensure they are structured correctly.
 - Ensure all mandatory fields are filled and match formatting guidance.
 - Confirm that definitions are written in business-friendly, non-technical language.
 - Ensure terms are uniquely named and free of duplication or synonym overlap.
 - Highlight any gaps, inconsistencies, or unclear terms for follow-up in the next step (5.1.C).

 Asset Guidance

The **Data Catalog Template** includes a **Business Glossary Template** and **Guidelines Sheet**, which are used to define standardized business terms with clear definitions and ownership, ensuring consistency across reporting, cataloging, and governance. It also supports linkage between glossary terms and datasets or attributes to provide business context across metadata assets.

Illustrative

 Business Glossary Guidelines		
The following table describes the attributes required to define a Business Glossary Term		
Business Glossary	Description	Example
Term ID	The unique identifier of term. This is only available for master fields.	T1 / T1.1
Term Name	A word or phrase that has a specific meaning or definition within the context of the entity	Active Customer
Sub-Term Name	In case the term has many sub terms underneath it, A word or phrase that has a specific meaning or definition for the sub-term within the context of the Entity	N/A
Term / Sub-Term Description	A description written in basic, interpretable English language detailing the purpose and function of the term / sub-term	Refers to a customer currently receiving services or engaging with the Entity
Primary Department Business Owner	Internal department name which can be considered as primary business owner of the business term	Customer Service Department
Secondary Department Business Owner	Department name which can be considered as secondary business owner of the business term	Sales and Marketing Department
Business Owner Name	The name of an executive/manager in the department or sector that will be accountable for the development, usage, and maintenance of the business term	Ahmed Al-Mannai
Business Owner Email	The email of an executive/manager in the department or sector that will be accountable for the development, usage, and maintenance of the business term	amannai@npc.gov.qa
Data Steward Name	The name of subject matter expert in the department or sector that will be accountable for the development, usage, and maintenance of the data related to the business term	Mohammed Mohsen
Data Steward Email	The email of the subject matter expert in the department or sector that will be accountable for the development, usage, and maintenance of the data related to the business term	mmohsen@npc.gov.qa
Source System(s) Name	The System that stores the data for the business term	Customer Relationship Management (CRM) System
Associated Dataset(s)	The datasets that are related to the term	crm_qualified_active_leads
Relevant External Entities	Additional external Entity(s) which are relevant to the attribute.	MOCI
Status	The status of the definition. Choose from Draft, Under Review, Approved, Outdated	Approved
Version	A version number to aid in change tracking, formatted as Vn	V1
Version Updated By	The name of the person who updated the term	Layla Jaber
Version Update Date	The date the term was last updated, in the format MM/DD/YYYY	13/11/2024
Term Business Rules	Describes any rules or data constraints and/or business validation rules. These rules and constraints should be written from a business perspective and be comprehensible by any business user	Active Customer" refers to any customer with recent transactions or interactions within the past 90 days.
Sample Values	Present a sample output of the data value (dummy data) if queried to illustrate how format of the data type would show to end data consumers	Active
Data Classification	The data classification level (Top Secret, Secret, Restricted, Internal, Public)	C0, C1 etc.
Reference Source If applicable	Reference source (International or local) utilized to derive the attribute definition	Internal Customer Engagement Standards
Notes	Additional comments on the attribute	Used across departments for engagement tracking and customer support
Comments	Additional Comments for each term name	Customer status is reviewed monthly to update the "Active" classification as needed

5.1.B
Cont.
(3/3) **Asset Guidance (Cont.)***Illustrative*

 **Business Glossary Template**

The following table can be used for defining and describing business terms used across the entity.

Term ID	Term Name	Sub-Term Name	Term / Sub-Term Description	Primary Department Business Owner	Secondary Department Business	Business Owner Name	Business Owner Email

Data Steward Name	Data Steward Email	Source System(s) Name	Associated Dataset(s)	Relevant External Entities	Status	Version	Version Updated By

Version Update Date	Term Business Rules	Sample Values	Data Classification	Reference Source If applicable	Notes	Comments

5.1.C
(1/2)

Validate Glossary Terms Across Stakeholders: After the initial population of the Business Glossary, the Entity must conduct a structured review process with relevant stakeholders to validate the accuracy, clarity, completeness, and organizational alignment of the glossary content. This ensures the glossary is not only technically complete but also widely accepted across business units, laying the groundwork for enterprise-wide adoption and metadata usage.

- i. **Conduct Domain-Based Review Sessions:** The Metadata Specialist coordinates with Data Stewards to lead review sessions across business domains.
 - a. Group glossary terms by domain or sub-domain (e.g., Finance, HR, Licensing).
 - b. Schedule validation workshops with the responsible Business Owners, Data Stewards, and any Subject Matter Experts (SMEs) involved.
 - c. Use the populated glossary file as a working document and walk through:
 - Term names and definitions
 - Assigned owners and stewards
 - Associated Systems and Datasets
 - Reference sources and classifications
 - d. Document feedback and decisions using tracked changes or a structured change log.
- ii. **Resolve Inconsistencies and Gaps:** Facilitate discussion to align and finalize each glossary entry.
 - Identify and resolve conflicting or overlapping terms across departments.
 - Clarify definitions that are vague, overly technical, or inconsistent with business usage.
 - Review terms with missing source systems and / or associated datasets and fill them in where applicable. Proactiveness on this front will support the data catalog implementation.
 - Where no agreement is reached, escalate unresolved definitions to the Data Management & Governance Section Head.

5.1.C
Cont.
(2/2)

iii. **Finalize Glossary for Approval:** Prepare the glossary for executive sign-off.

- Incorporate approved feedback into the glossary and ensure editorial consistency.
- Validate that all required fields are complete, including owner/steward assignments and source system / dataset associations.
- Lock the version for submission to the Data Management and Governance Section Head for formal approval in 5.1.D.



Tip

Focus reviews on clarity and consistency, and avoid turning workshops into policy debates.

Encourage business owners to speak in terms of how the data is used and interpreted, not how it is stored.

Allow stewards to tag difficult terms for enrichment post-approval rather than holding up the whole glossary.



Key Message / Information

Validation ensures that business terms are understood, agreed upon, and contextually linked to data. Without this step, glossaries often fail to gain traction across teams. A validated glossary becomes a credible source of meaning that supports governance, reporting, and data cataloging.

5.1.D
(1/2)

Finalize and Approve the Glossary: After stakeholder validation is complete, the Entity must formally finalize the Business Glossary and secure executive approval. This ensures the glossary becomes an official, governed metadata asset that can be used confidently across data governance, cataloging, and reporting activities.

i. **Submit the Final Glossary for Executive Review:** The Metadata Specialist prepares the glossary package for approval by the Data Management and Governance Section Head.

- a. Ensure the glossary file is complete, consistent, and aligned with the approved template structure.
- b. Confirm that each term includes a clear definition, ownership assignments, and associated datasets (where applicable).
- c. Provide a summary memo outlining:
 - Domains covered
 - Number of terms defined
 - Any unresolved items flagged for future iterations

ii. **Address Feedback and Lock Final Version:** Incorporate final comments from the executive review.

- Resolve minor edits or clarifications requested by the Data Management & Security Director.
- Track changes using version control (e.g., "Glossary_v1.0_Approved_May2025").

- Log approval date, approver name, and version status in a designated metadata field within the glossary file.

iii. **Store and Publish the Approved Glossary:** Ensure the glossary is stored in an accessible and secure location.

- Save the approved glossary in the Entity's metadata repository, shared governance drive, or SharePoint platform.
- Notify all stakeholders (Data Stewards, Data Owners, Data Governance Specialist) that the glossary is now formally approved and ready for reference.
- If available, publish a read-only version to the Entity's knowledge portal, intranet, or data governance dashboard.



Tip

Attach a one-page glossary "Quick Reference Guide" to help end users understand how to read and use glossary entries.

Ensure the glossary is version-controlled and marked "Approved" before distributing or referencing in metadata processes.

Include a note in the file header clarifying that terms are subject to review every 6–12 months as part of ongoing metadata governance.



Key Message / Information

Formal approval transforms the glossary from a draft into a governed enterprise metadata asset. This step signals institutional alignment and allows glossary terms to be confidently referenced in data cataloging, stewardship assignments, and governance decisions.

RACI Matrix – Define Business Glossary

Indicative

Sr No.	Activity	Data Management and Security Director	Data Management and Governance Section Head	Data Governance Specialist	Metadata Specialist	Data Stewards	Business Owners
5.1.A	Initiate Glossary Planning and Stakeholder Engagement	I	A	R	R	C	C
5.1.B	Populate the Business Glossary Template		A	C	R	R	C
5.1.C	Validate Glossary Terms Across Stakeholders	I	A	C	R	R	R
5.1.D	Finalize and Approve the Glossary	C	A	C	R	C	I

RACI Matrix Legend: **R:** Responsible **A:** Accountable **C:** Consulted **I:** Informed

Based on this Activity, the Entity can



Established a centralized, approved business glossary



Clarify the meaning and ownership of key business terms



Link terms to systems and datasets for improved metadata context

5.2 Metadata Standardization

Metadata standardization ensures that all metadata collected across the Entity, whether related to datasets, attributes, or business terms, is structured, consistent, and aligned with the national metadata schema issued by NPC. This activity establishes the foundation for metadata quality, governance, interoperability, and future catalog population.

Through this activity, the Entity will adopt the provided metadata schema and inventory templates, augment them where needed to meet internal operational needs, and define conventions for naming, classification, and semantic structuring. Metadata categories, such as Business, Technical, Data Ownership, Data Quality, and Privacy & Security, are operationalized across standardized templates and processes. The Entity will also define a metadata taxonomy for organizing assets and a lightweight ontology to map semantic relationships between terms and data.

By completing this activity, the Entity ensures that its metadata is not only compliant with national standards, but also optimized for discoverability, governance, and future catalog integration.

Process – Metadata Standardization

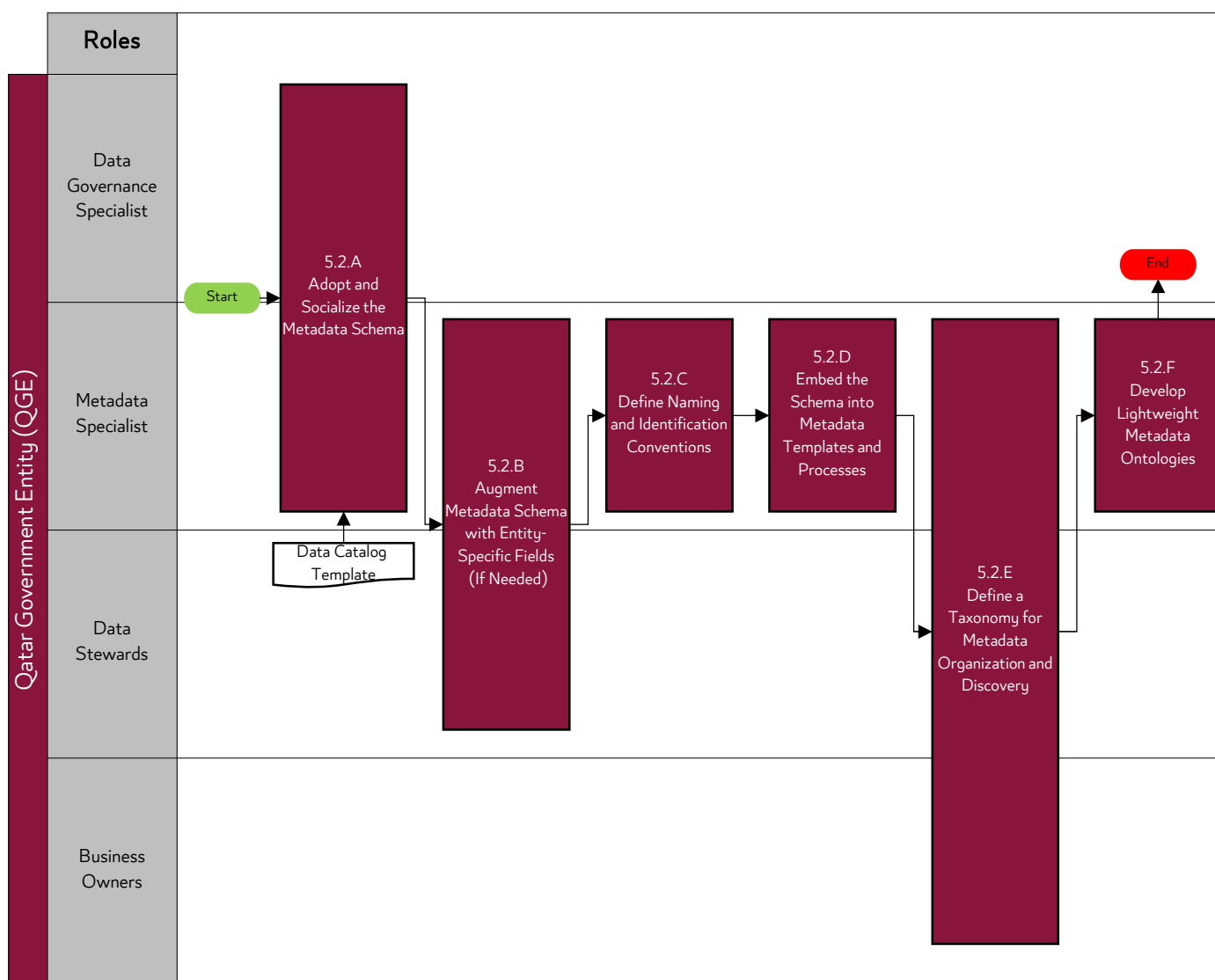


Figure 8: Metadata Standardization Process Map

Legend: Process Step Decision Process Start Process End Document Off-Page Reference

5.2.A
(1/3)

Adopt and Socialize the Metadata Schema: The Entity must formally adopt the standardized metadata schema issued by NPC and ensure that all metadata contributors understand how to use it consistently. This step focuses on building shared awareness of the schema structure, responsibilities by role, and expectations for how metadata will be collected using the national templates. No schema modifications or operational embedding occur at this stage; the goal is alignment and readiness.

- i. **Introduce the NPC Metadata Schema and Templates to Stakeholders:** The Metadata Specialist and Data Governance Specialist coordinate to present the schema to all key roles involved in metadata management.
 - a. Share the official Relational Database Metadata Schema, Dataset Inventory Template, and Attribute Inventory Template provided by NPC.
 - b. Walk stakeholders through the structure of the metadata schema, including:
 - **Metadata Categories:** Business, Technical, Data Ownership, Data Quality, Privacy & Security
 - **Metadata Attributes:** Names, descriptions, formats, expected values
 - Mandatory vs. Optional fields
 - Sample entries and formatting guidance
 - c. Reinforce that these templates are the approved baseline and must be used consistently across all metadata collection activities.
- ii. **Clarify Field Responsibilities and Interpretation Across Roles:** Ensure metadata contributors understand who is responsible for populating each metadata field and how to interpret and apply the schema correctly. The Metadata Specialist will be responsible for populating and maintaining the data catalog; however, it is important to clarify which roles will support the population of specific metadata categories.
 - a. Define which roles are responsible for which metadata categories:
 - Business metadata → Data Stewards
 - Technical metadata → Data Stewards or Architects
 - Data Ownership metadata → Data Owners
 - Data Quality metadata → Data Quality Specialist
 - Privacy & Security metadata → Security and / or Compliance Specialists
 - b. Review real examples from the schema, highlighting expected value formats (e.g., Y/N, date formats, predefined classifications).
 - c. Clarify common issues to avoid, such as leaving mandatory fields blank or using free text in restricted fields.
- iii. **Establish Access and Readiness for Use:** Ensure that the metadata schema and templates are version-controlled, stored centrally, and ready to be used in upcoming metadata activities.
 - a. Upload the latest versions of the NPC-provided templates and schema to a shared metadata repository (e.g., SharePoint, data governance workspace).
 - b. Clearly label files with version number, status (e.g., “Approved”), and metadata contact owner.
 - c. Notify all metadata contributors of where to access the schema and when they will begin using it in future steps (e.g., 5.2.B).
 - d. Set basic access controls to prevent outdated or unauthorized template use.

5.2.A
Cont.
(2/3)
 Asset Guidance
Illustrative

The **Data Catalog Template** includes a **Relational Database Metadata Schema**, which outlines all mandatory and optional metadata fields by category and provides guidance to ensure metadata is formatted correctly and captured consistently across systems. It serves as the national baseline for structuring metadata across dataset and attribute inventories and is required for catalog compliance.

Relational Database Metadata Schema						
The following table defines the metadata and guidelines to describe data from relational databases						
Data Level	Metadata Category	Metadata Attribute ID	Metadata Attribute Name	Metadata Description	Restrictions (Format, List of Values, etc.)	Metadata Examples
Dataset	Business	DS_BU_001	Dataset ID	The ID of the dataset		DS1
Dataset	Business	DS_BU_002	Dataset Business Name (English)	The official name of a dataset in English		Resident QID
Dataset	Business	DS_BU_003	Dataset Business Name (Arabic)	The official name of a dataset in Arabic		المعرف القوي للسكان
Dataset	Business	DS_BU_004	Dataset Business Description (English)	Unified description of the business dataset in English		Unique identification number assigned to each resident for identification purposes
Dataset	Business	DS_BU_005	Dataset Business Description (Arabic)	Unified description of the business dataset in Arabic		رقم تعريف قوي رقم التعريف لكل مقيم (الرقم القوي للمعرف)
Dataset	Business	DS_BU_006	Business Domain (English)	The high-level area of government operations the data supports in English		Healthcare, Finance, Transportation
Dataset	Business	DS_BU_007	Business Domain (Arabic)	The high-level area of government operations the data supports in Arabic		الصحة المالية النقل
Dataset	Business	DS_BU_008	Master Data Flag	The dataset is considered as master data or no within the organization	Y, N	"Y" if customer details is master data
Dataset	Business	DS_BU_009	Reference Data Flag	The dataset is considered as reference data or no within the organization	Y, N	"N" if customer details is not reference data
Dataset	Business	DS_BU_010	Business Tags	Common keywords or tags that describe the business context of the dataset		"Finance, Budget, Expense Management"
Dataset	Business	DS_BU_011	Update Frequency	Frequency of attribute value updates based on business rules	Daily, Weekly, Monthly, Yearly	Daily
Dataset	Business	DS_BU_012	Feedback Rating	The rating measure indicating users' satisfaction/ experience, ranging from 1, being very poor, to 5, being excellent		5
Dataset	Business	DS_BU_013	Comment(s)	Additional comments if required		To update new phone number of data owner
Dataset	Technical	DS_TC_001	Source System Name	The system where the data originates and is managed		Resident Management System
Dataset	Technical	DS_TC_002	Table Name	The dataset's table name where the data originates and is managed		Resident_Management
Dataset	Technical	DS_TC_003	Number of Rows	Number of records in the dataset or file		8,000 records
Dataset	Technical	DS_TC_004	Qualified Name	Fully qualified name specifying all four parts: server_name, database_name, [schema_name] object_name		server1.CustomerDB.public.customers
Dataset	Technical	DS_TC_005	Tracking Of Data Origin And Lineage	The tracking of data origins includes the initial data source, any intermediate sources, and data entry points		Residents Input Form
Dataset	Technical	DS_TC_006	Documentation Of Data Modifications And The Entities Involved	The log captures all changes made to the data, detailing who made the change, what was changed, and the reason for it		Change in Address Field by User_01
Dataset	Technical	DS_TC_007	Use Of Provenance Data In Compliance And Auditing	The description of audits tracks and verifies the use of data throughout its lifecycle to ensure compliance with governance policies and requirements		Data Governance Policy
Dataset	Technical	DS_TC_008	Technical Use Of Provenance Data In Compliance And Auditing	Use of data provenance information for ensuring compliance and auditing processes		The origin and changes to data from source to destination for regulatory compliance
Dataset	Technical	DS_TC_009	Disaster Recovery Time Objective (RTO)	The target time set for the recovery of IT and business activities after a disaster		RTO is set to 4 hours for critical systems
Dataset	Technical	DS_TC_010	Disaster Recovery Point Objective (RPO)	The maximum acceptable amount of data loss measured in time		RPO is set to 15 minutes, meaning backups are taken every 15 minutes
Dataset	Technical	DS_TC_011	Disaster Recovery Plan Testing Schedule	The frequency of disaster recovery plan tests		Weekly
Dataset	Technical	DS_TC_012	Backup Frequency	How often data backups are performed		Daily incremental backups and weekly full backups
Dataset	Technical	DS_TC_013	Backup Retention Period	The duration for which backup data is stored before it is overwritten or deleted		30 days
Dataset	Technical	DS_TC_014	Backup Location	Where the backup data is stored	On-Premise, Off-Premise, Cloud, Hybrid	On-Premise
Dataset	Data Ownership	DS_DO_001	Authoritative Data Source	Name of the entity owning the mandate of the dataset		Ministry of Labor
Dataset	Data Ownership	DS_DO_002	Data Owner Full Name	The data owner's full name, who has overall authority and control over a dataset		Ahmed Al-Mannai
Dataset	Data Ownership	DS_DO_003	Data Owner Email Address	The data owner's email address		amannai@qatar.gov.qa
Dataset	Data Ownership	DS_DO_004	Data Owner Phone Number	The data owner's contact telephone number		+974-4412-4334
Dataset	Data Ownership	DS_DO_005	Data Owner Department	The data owner's department that they belong to		Department of resident affairs
Dataset	Data Ownership	DS_DO_006	Business Data Steward Full Name	The business data steward's full name, who is responsible for ensuring the accuracy, privacy, and security of the dataset		Mohammed Mohsen
Dataset	Data Ownership	DS_DO_007	Business Data Steward Email	The business data steward's email address		mmohsen@qatar.gov.qa
Dataset	Data Ownership	DS_DO_008	Business Data Steward Phone Number	The business data steward's contact telephone number		+974-5555-5225
Dataset	Data Ownership	DS_DO_009	Business Data Steward Department	The business data steward's department that they belong to		Department of finance
Dataset	Data Ownership	DS_DO_010	IT Data Steward Full Name	The full name of the individual responsible for the dataset's technical management and maintenance		Mohammed Salam
Dataset	Data Ownership	DS_DO_011	IT Data Steward Email Address	The email address for contacting the data IT/ steward responsible for the dataset		tsalam@qatar.gov.qa
Dataset	Data Ownership	DS_DO_012	IT Data Steward Phone Number	The phone number for contacting the data IT/ steward responsible for the dataset		+974-5546-6281
Dataset	Data Ownership	DS_DO_013	IT Data Steward Department	The department within the organization that the data IT/ steward belongs to		Department of IT
Dataset	Data Quality	DS_DQ_001	Accuracy	The data values of a dataset should accurately reflect the level of detail and standards required for its intended use.	Refer to Qatar Data Trust Index (QDTI) Methodology	3
Dataset	Data Quality	DS_DQ_002	Completeness	The dataset attributes should be fully populated and documented to ensure completeness and adequate information for use.	Refer to Qatar Data Trust Index (QDTI) Methodology	2
Dataset	Data Quality	DS_DQ_003	Consistency	The dataset attributes should be standardized and consistently represented across systems to ensure structural integrity.	Refer to Qatar Data Trust Index (QDTI) Methodology	3
Dataset	Data Quality	DS_DQ_004	Timeliness	The dataset attributes should be regularly maintained to reflect the most current and accurate information.	Refer to Qatar Data Trust Index (QDTI) Methodology	2
Dataset	Data Quality	DS_DQ_005	Validity	The dataset attributes should conform to the correct data types, business rules, and logical requirements.	Refer to Qatar Data Trust Index (QDTI) Methodology	2
Dataset	Data Quality	DS_DQ_006	Uniqueness	The dataset attributes should be managed to prevent duplication and ensure consistent classification of records.	Refer to Qatar Data Trust Index (QDTI) Methodology	2
Dataset	Data Quality	DS_DQ_007	Accessibility	The dataset attributes should support timely retrieval and align with relevant data governance policies.	Refer to Qatar Data Trust Index (QDTI) Methodology	1
Dataset	Data Privacy & Security	DS_DP_001	Data Classification	Classification of the entire table or dataset based on its overall sensitivity, as per the standards developed by NSCA in Qatar -Top Secret: Highly sensitive information with the highest level of confidentiality -Secret: Highly sensitive corporate or customer data, that if compromised could put the organization at financial or legal or reputation risk -Restricted: Sensitive data if compromised could negatively affect operations -Internal: Data for internal use -Public: Data that may be freely disclosed to the public	Top Secret Secret Restricted Internal Public	8
Dataset	Data Privacy & Security	DS_DP_002	Data Retention Period	Retention period for data before deletion or archiving		Data retained for 5 years
Dataset	Data Privacy & Security	DS_DP_003	Data Anonymization Techniques	Indicates whether data anonymization techniques are applied to protect individual privacy		Data pseudonymization for reports
Dataset	Data Privacy & Security	DS_DP_004	Data Encryption Status	Indicates whether the data is encrypted and the encryption method used		Data encrypted using AES-256
Dataset	Data Privacy & Security	DS_DP_005	Data Masking	Indicates if data masking techniques are applied		Masking personal identifiers in reports
Dataset	Data Privacy & Security	DS_DP_006	Access Control Level	Defines who has access to the data and the level of access	No Access, Read-Only Access, Write Access, Read-Write Access, Execute Access, Full Control, Admin Access	Read-only access for most users
Dataset	Data Privacy & Security	DS_DP_007	Compliance Requirements	Lists relevant legal, regulatory, or policy requirements that apply to the data		GDPR
Dataset	Data Privacy & Security	DS_DP_008	Breach Notification Contact	Provides contact information for the person or department responsible for handling data breaches		Salma Haidar
Attribute	Business	ATT_BU_001	Attribute Name (English)	Reflects the characteristics of the dataset/ entity		Employee ID
Attribute	Business	ATT_BU_002	Attribute Name (Arabic)	Reflects the characteristics of the dataset/ entity in Arabic		معر الموظف
Attribute	Business	ATT_BU_003	Attribute Description (English)	Description of the attribute in English		Resident's first name
Attribute	Business	ATT_BU_004	Attribute Description (Arabic)	Description of the attribute in Arabic		اسم المقيم الأول
Attribute	Business	ATT_BU_005	Function Area (English)	The specific process or activity the data enables within the domain in English		Health Licensing, Health Inspections, Health Service Delivery
Attribute	Business	ATT_BU_006	Function Area (Arabic)	The specific process or activity the data enables within the domain in Arabic		ترخيص الخدمات الصحية، التفتيش الصحي، تقديم الخدمات الصحية
Attribute	Business	ATT_BU_007	Subject Area (English)	The core entity or topic the data describes in English		Healthcare facilities, Medical Practitioners, Health Permits
Attribute	Business	ATT_BU_008	Subject Area (Arabic)	The core entity or topic the data describes in Arabic		الخدمات الصحية، الممارسون الطبيون، تراخيص الصحة
Attribute	Business	ATT_BU_009	Critical Data Element	Flag to identify if the attribute is considered as a CDE (prioritized attribute)	Y, N	Y

5.2.A
Cont.
(3/3) Asset Guidance (Cont.)*Illustrative*

Attribute	Business	ATT_BU_010	List Of Values	The predefined list of allowed values for a specific attribute	Predefined titles include "M.", "Ms.", "Mr.", "Dr." Predefined mobile code numbers include "+974" for Qatar, "+971" for the UAE, "966" for Saudi Arabia, etc.	+974, +971, +966	Optional
Attribute	Business	ATT_BU_011	Master Data Flag	The attribute is considered as master data or no within the organization	Y, N	"Y" if the first name is master data	Mandatory
Attribute	Business	ATT_BU_012	Reference Data Flag	The attribute is considered as reference data or no within the organization	Y, N	"N" if the first name is not reference data	Mandatory
Attribute	Business	ATT_BU_013	Reference Id	ID of the reference data table used to control permitted values	Format as Ref_#	Ref_001	Optional
Attribute	Business	ATT_BU_014	Reference Data Name	Name of the reference data table the attribute will put its list of values from		Country code	Optional
Attribute	Business	ATT_BU_015	Business Tags	Common keywords or tags that describe the business context of the attribute		Immigrant, inhabitant, household	Optional
Attribute	Business	ATT_BU_016	Status	Status of documentation defined by business owners and stewards	Draft, Under Review, Approved, Outdated	Draft	Optional
Attribute	Business	ATT_BU_017	Attribute Business Rules	Rules or constraints and/or business validation rules written from a business perspective		Employee ID in the range between 001 to 501	Optional
Attribute	Business	ATT_BU_018	Processing Conditions	The specific circumstances under which data processing rules apply		"Application Date" must be within the current fiscal year	Optional
Attribute	Business	ATT_BU_019	Feedback Rating	The rating measure indicating users' satisfaction/ experience, ranging from 1, being very poor, to 5, being excellent		4	Optional
Attribute	Business	ATT_BU_020	Comment(s)	Additional comments if required		To increase data length field from 30 to 50	Optional
Attribute	Technical	ATT_TC_001	Attribute ID	Unique identifier of the attribute	Dataset_ATT_Numeric [Sequence]	001_Route Code_1001	Mandatory
Dataset	Technical	ATT_TC_002	Table Name	The table name where the attributes originates from and are managed		Resident_Management	Mandatory
Attribute	Technical	ATT_TC_003	Column Name (English)	Physical name of the attribute in the data source in English		Employee_ID	Optional
Attribute	Technical	ATT_TC_004	Column Description (English)	Technical Description of the attribute in English		Resident_first_name	Optional
Attribute	Technical	ATT_TC_005	Technical Data Type	The type of data, which dictates the type of data the field can store		Text	Mandatory
Attribute	Technical	ATT_TC_006	Data Length	The maximum number of characters or digits that a data field can contain		50 characters for first names	Optional
Attribute	Technical	ATT_TC_007	Data Format	The specific format requirement for how the value in the attribute will display		YYYY-MM-DD	Mandatory
Attribute	Technical	ATT_TC_008	Character Set	Number of different characters supported by software and hardware, including codes, pattern, natural numbers, etc.		ISO 8859-1	Mandatory
Attribute	Technical	ATT_TC_009	Source Of List Of Values Standard	The reference standard used for validating the data against a predefined list		"ISO_Standard_Names" for first names	Optional
Attribute	Technical	ATT_TC_010	Pk/Fk/Nk	Indicates if it is a primary or foreign key or non-key attribute	PK, FK, NK	PK	Optional
Attribute	Technical	ATT_TC_011	Nullability	Indicates if this attribute allows null/empty values		No	Mandatory
Attribute	Technical	ATT_TC_012	Version Number	Version number for change tracking	Format as V_#	V_1	Mandatory
Attribute	Technical	ATT_TC_013	Version Updated By	Name of the person who updated the attribute		Ahmed Al-Mohammadi	Optional
Attribute	Technical	ATT_TC_014	Version Update Date	Date the attribute was last updated	Format as YYYY/MM/DD	2024/04/28	Mandatory
Attribute	Data Ownership	ATT_DO_001	Authoritative Data Source	Name of the entity owning the mandate of the attribute		MOPI	Mandatory
Attribute	Data Privacy & Security	ATT_DP_001	Data Classification	Classification of individual attributes based on their sensitivity	Top Secret, Secret, Restricted, Internal, Public	Restricted	Mandatory
Attribute	Data Privacy & Security	ATT_DP_002	Data Anonymization Techniques	Indicates whether data anonymization techniques are applied to the data attribute		Anonymization of User IDs	Optional
Attribute	Data Privacy & Security	ATT_DP_003	Data Encryption Status	Indicates whether the data attribute is encrypted and the encryption method used		Encrypting a password field	Optional
Attribute	Data Privacy & Security	ATT_DP_004	Data Masking	Indicate if data masking techniques are applied to the attribute		Showing the last 4 digits of a credit card number	Optional
Attribute	Data Privacy & Security	ATT_DP_005	Access Control Level	Defines who has access to the attribute and the level of access	No Access, Read-Only Access, Write Access, Read-Write Access, Execute Access, Full Control, Admin Access	Execute Access for most users	Optional
Attribute	Data Privacy & Security	ATT_DP_006	Compliance Requirements	Lists relevant legal, regulatory, or policy requirements that apply to the attribute		GDPR for PII data	Optional
Attribute	Data Privacy & Security	ATT_DP_007	Breach Notification Contact	Provides contact information for the person or department responsible for handling data breaches for the attribute		Salma Hader	Optional



Tip

Treat this step as a readiness and onboarding exercise - no metadata collection should happen yet. Use annotated copies of the schema during walkthroughs to demystify terms and field usage. Ensure one location, one version, one message - consistency begins with access and clarity.



Key Message / Information

This step ensures everyone is on the same page before metadata standardization begins. The schema is the common language of metadata - adopting it together prevents confusion, duplication, and misalignment later on.

5.2.B
(1/2)

Augment Metadata Schema with Entity-Specific Fields (If Needed): While the Entity must adopt and apply the standardized metadata schema provided by NPC, it may identify operational or analytical needs that require the schema to be extended. This step guides the Entity in safely introducing additional metadata fields, without modifying or overriding the nationally mandated structure.

- i. **Identify Additional Entity-Specific Metadata Fields:** The Metadata Specialist and Data Stewards assess whether the standard schema fully meets the Entity's internal requirements.
 - a. Review recent metadata population efforts, project templates, and business reporting needs to identify metadata elements not covered by the national schema.

5.2.B
Cont.
(2/2)

- b. Common use cases for schema augmentation may include:
 - Workflow status (e.g., “Draft”, “Reviewed”, “Published”)
 - Business process linkage (e.g., “Associated Process Area”)
 - Review cycle (e.g., “Last Business Review Date”)
 - Notes or context fields specific to internal governance
 - c. Validate that the need is persistent, broadly applicable, and cannot be addressed through existing fields (e.g., “Comments”).
 - ii. **Define Additional Fields and Document Their Purpose:** Any new fields must be clearly defined, standardized, and governed.
 - a. For each proposed field, specify:
 - Field Name (e.g., Review Status)
 - Field Description (e.g., Indicates the current review stage of the metadata entry)
 - Expected Format or List of Values (e.g., Draft, Reviewed, Approved)
 - Responsible Role for population (e.g., Metadata Specialist)
 - Mandatory or Optional status (internally defined)
 - b. Add these fields to a dedicated “Custom Fields” section in the Dataset and Attribute Inventory templates to clearly separate them from nationally mandated fields.
 - iii. **Maintain Alignment and Prevent Schema Conflicts:** Ensure that augmentation does not disrupt schema consistency or compliance.
 - Do not modify, rename, or remove any fields from the original schema.
 - Ensure that metadata validation rules, QA processes, and catalog ingestion logic (Section 6) can distinguish between national and entity-specific fields.
 - Maintain documentation of any augmented fields, including purpose and change history, in a controlled metadata standards log.
 - If certain entity-specific fields prove broadly valuable, consider submitting them for future consideration by the National DGO.

**Tip**

Only introduce new fields if they address a recurring, clearly defined business or governance need. Treat augmented fields as governed metadata - document them and assign ownership. Keep the schema clean and lightweight. Avoid over-customization that will increase maintenance or complicate catalog integration.

**Key Message / Information**

Augmenting the schema gives the Entity flexibility to support its specific metadata needs—but this flexibility must be used carefully. All extensions must be purpose-driven, clearly documented, and compatible with the national standard.

5.2.C

Define Naming and Identification Conventions: To prevent duplication, ambiguity, and inconsistency across metadata entries, the Entity must establish clear naming and identification conventions for datasets, tables, and attributes. These conventions ensure uniformity across the Dataset Inventory, Attribute Inventory, and cataloged assets - making metadata easier to manage, search, and use.

- i. **Establish Naming Standards for Metadata Elements:** The Metadata Specialist defines standard naming rules for key metadata elements across business and technical domains.
 - a. Define naming conventions for:
 - Datasets (e.g., finance_customer_accounts, employee_records_master)
 - Tables (e.g., tbl_establishment_license, dim_gender_code)
 - Attributes (e.g., customer_id, registration_date, tax_amount)
 - b. Specify rules for:
 - Use of lowercase, underscores, or camel case
 - Avoidance of abbreviations unless standardized
 - Use of prefixes or suffixes for fact/dimension tables or code lists
 - Maximum name lengths and prohibited characters
 - c. Create a simple reference guide showing “correct vs. incorrect” examples.
- ii. **Define Principles for Unique Identification and Avoiding Duplication:** Prevent naming conflicts across systems or domains by assigning contextual identifiers.
 - Recommend appending functional or domain-specific tags where needed to distinguish similar names across departments (e.g., employee_id_hr vs. employee_id_payroll)
 - Introduce unique identifiers or codes for datasets and attributes to simplify integration and reduce reliance on name-matching.
 - For entities using master or reference data, enforce naming patterns that clearly denote these datasets (e.g., dim_reference_country, master_customer_account)
- iii. **Align Naming with Metadata Schema and Catalog Standards:** Ensure naming conventions are compatible with broader metadata infrastructure.
 - Validate that naming rules support catalog usability—for example, attributes named clearly enough to be searchable by non-technical users.
 - Align with field constraints in the metadata schema (e.g., attribute names may have a maximum length, must be machine-readable).
 - Prepare to embed these naming rules into data onboarding, modeling, and catalog population processes.

**Tip**

Avoid naming based on system implementations (e.g., SAP_M1_T001)—use business-meaningful, readable names. Standardize abbreviations (e.g., “ID”, “Amt”, “No.”) to reduce confusion. Use naming conventions to improve interoperability across tools, not just consistency within Excel sheets.

5.2.D
(1/2)

Embed the Schema into Metadata Templates and Processes: After adopting and finalizing any entity-specific extensions to the metadata schema, the Entity must ensure that the approved schema is fully embedded into its operational metadata templates and metadata collection workflows. This ensures that the standardized structure is not only documented but actively used during metadata population, validation, and catalog preparation.

- i. **Finalize Metadata Templates for Operational Use:** The Metadata Specialist updates and finalizes the Dataset Inventory and Attribute Inventory templates to reflect the complete metadata schema.
 - a. Ensure that both templates include:
 - All mandatory and optional fields from the NPC-provided schema
 - Any entity-specific metadata fields added in 5.2.B (clearly distinguished as extensions)
 - Clear field descriptions and formatting instructions
 - b. Lock templates to prevent unauthorized edits and apply version control (e.g., "Metadata_Template_v1.1_June2025").

Asset Guidance

Illustrative

The **Data Catalog Template** includes a **Dataset Inventory Template**, which captures standardized metadata for each dataset across business, technical, ownership, quality, and security categories to support catalog onboarding and governance.

Dataset Inventory Template														
The following table reflects the Datasets' metadata required to describe datasets and tables														
Metadata Category	Business Metadata													
Metadata Attribute	Data Source ID	Data Source System	Dataset ID	Dataset Business Name (English)	Dataset Business Name (Arabic)	Dataset Business Description (English)	Dataset Business Description (Arabic)	Business Domain (English)	Business Domain (Arabic)	Master Data Flag	Reference Data Flag	Business Tags	Update Frequency	Feedback Rating
Metadata Attribute ID	DS_BU_001	DS_BU_002	DS_BU_003	DS_BU_004	DS_BU_005	DS_BU_006	DS_BU_007	DS_BU_008	DS_BU_009	DS_BU_010	DS_BU_011	DS_BU_012	DS_BU_013	DS_BU_014
Requirement	Mandatory	Mandatory	Mandatory	Mandatory	Optional	Mandatory	Optional	Mandatory	Optional	Mandatory	Mandatory	Optional	Optional	Optional
Dataset Metadata														

Business Metadata														
Comment(s)	Source System Name	Table Name	Number of Rows	Qualified Name	Tracking Of Data Origin And Lineage	Documentation Of Data Modifications And The Entities Involved	Use Of Provenance Data In Compliance And Auditing	Technical Use Of Provenance Data In Compliance And Auditing	Disaster Recovery Time Objective (RTO)	Disaster Recovery Point Objective (RPO)	Disaster Recovery Plan Testing Schedule	Backup Frequency	Backup Retention Period	Backup Location
Optional	Optional	Mandatory	Optional	Mandatory	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional

Data Ownership Metadata												Data Quality Metadata		
Authoritative Data Source	Data Owner Full Name	Data Owner Email Address	Data Owner Phone Number	Data Owner Department	Business Data Steward Full Name	Business Data Steward Email	Business Data Steward Phone Number	Business Data Steward Department	IT Data Steward Full Name	IT Data Steward Email Address	IT Data Steward Phone Number	IT Data Steward Department	Accuracy	Completeness
Mandatory	Mandatory	Mandatory	Optional	Optional	Mandatory	Mandatory	Optional	Optional	Mandatory	Mandatory	Optional	Optional	Mandatory	Mandatory

Data Quality Metadata					Data Privacy & Security Metadata									
Consistency	Timeliness	Validity	Uniqueness	Accessibility	Data Classification	Data Retention Period	Data Anonymization Techniques	Data Encryption Status	Data Masking	Access Control Level	Compliance Requirements	Breach Notification Contact		
Mandatory	Mandatory	Mandatory	Mandatory	H	Mandatory	Optional	Optional	Optional	Optional	Optional	Optional	Optional		

5.2.D
Cont.
(2/2) **Asset Guidance (Cont.)***Illustrative*

The **Data Catalog Template** includes an **Attribute Inventory Template**, which captures detailed attribute-level metadata aligned with the metadata schema to support traceability, classification, and catalog population.

Attributes Inventory Template											
The following table reflects the Attributes' metadata required to describe attribute-level data											
Metadata Category	Data Source Linkage		Dataset Linkage		Business Metadata						
Metadata Attribute	Data Source ID	Data Source Name	Dataset ID	Dataset Name	Attribute Name (English)	Attribute Name (Arabic)	Attribute Description (English)	Attribute Description (Arabic)	Function Area (English)	Function Area (Arabic)	Subject Area (English)
Metadata Attribute ID					ATT_BU_001	ATT_BU_002	ATT_BU_003	ATT_BU_004	ATT_BU_005	ATT_BU_006	ATT_BU_007
Requirement	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Optional	Mandatory	Optional	Optional	Optional	Optional
Attribute Metadata											

Business Metadata											
Subject Area (Arabic)	Critical Data Element	List Of Values	Master Data Flag	Reference Data Flag	Reference ID	Reference Data Name	Business Tags	Status	Attribute Business Rules	Processing Conditions	Feedback Rating
ATT_BU_008	ATT_BU_009	ATT_BU_010	ATT_BU_011	ATT_BU_012	ATT_BU_013	ATT_BU_014	ATT_BU_015	ATT_BU_016	ATT_BU_017	ATT_BU_018	ATT_BU_019
Optional	Mandatory	Optional	Mandatory	Mandatory	Optional	Optional	Optional	Optional	Optional	Optional	Optional

Business Metadata											
Comment(s)	Attribute ID	Table Name	Column Name (English)	Column Description (English)	Technical Data Type	Data Length	Data Format	Character Set	Source Of List Of Values Standard	PU/RI/Nk	Nullability (Y/N)
ATT_TC_0020	ATT_TC_001	ATT_TC_002	ATT_TC_003	ATT_TC_004	ATT_TC_005	ATT_TC_006	ATT_TC_007	ATT_TC_008	ATT_TC_009	ATT_TC_010	ATT_TC_011
Optional	Mandatory	Mandatory	Optional	Optional	Mandatory	Optional	Mandatory	Mandatory	Optional	Optional	Mandatory

Technical Metadata			Data Ownership		Data Privacy & Security Metadata						
Version Number	Version Updated By	Version Update Date	Authoritative Data Source	Data Classification	Data Anonymization Techniques	Data Encryption Status	Data Masking	Access Control Level	Compliance Requirements	Breach Notification Contact	
ATT_TC_012	ATT_TC_013	ATT_TC_014	ATT_DO_001	ATT_DP_001	ATT_DP_002	ATT_DP_003	ATT_DP_004	ATT_DP_005	ATT_DP_006	ATT_DP_007	
Mandatory	Optional	Mandatory	Mandatory	Mandatory	Optional	Optional	Optional	Optional	Optional	Optional	

ii. **Integrate Templates into Metadata Collection Workflows:** Ensure the finalized templates are consistently used in all metadata collection, review, and approval activities.

- Mandate use of the templates for:
 - New dataset onboarding
 - Metadata remediation or standardization initiatives
 - Catalog population and stewardship reviews
- Assign responsibilities by field and category (as defined in 5.2.A).
- Include the templates in project metadata packages, governance documentation, or onboarding kits.

iii. **Establish Quality Assurance and Version Control Processes:** Implement controls to ensure the templates are being used properly and metadata quality is maintained.

- Create a simple validation checklist to review completeness, formatting, and correct use of fields.
- Assign QA responsibility to the Metadata Specialist or designated focal point.
- Track versions of metadata submissions and templates to ensure traceability and rollback capability.

5.2.E

Define a Taxonomy for Metadata Organization and Discovery: To support metadata organization, discovery, and navigation, the Entity must define and apply controlled values for the Business Domain, Function Area, and Subject Area fields included in the Dataset Inventory and Attribute Inventory templates. These taxonomy fields serve as classification anchors for grouping and filtering metadata assets in the future data catalog.

- i. **Define Controlled Lists for Taxonomy Fields:** The Metadata Specialist, in collaboration with Data Stewards and Business Owners, defines allowed values for each taxonomy dimension.
 - a. Use Excel to create a Taxonomy Reference Sheet containing:
 - **Business Domain:** High-level area of government operations the data supports (e.g., Healthcare)
 - **Function Area:** The specific process or activity the data enables within the domain (e.g., Health Licensing, Health Inspections, Health Service Delivery)
 - **Subject Area:** The core entity or topic the data describes (e.g., Healthcare Facilities, Medical Practitioners, Health Permits)
 - b. Document descriptions for each value to ensure consistency in interpretation.
 - c. Store the Taxonomy Reference Sheet in the metadata repository alongside the inventory templates.
- ii. **Populate Taxonomy Fields in the Metadata Templates:** Ensure that all entries in the Dataset and Attribute Inventory templates are tagged using the defined taxonomy values.
 - Use dropdown validation in Excel to restrict values for each taxonomy field to the controlled list.
 - Populate the Business Domain field for each dataset, and Function and Subject Area fields for each attribute.
 - If a metadata asset spans multiple values (e.g., cross-domain datasets), define a standard way to indicate that (e.g., use a delimiter or “Multi-domain”).
- iii. **Prepare Taxonomy for Catalog Tool Integration:** Ensure the taxonomy is structured and ready for use in catalog configuration during Section 6.
 - Maintain version control of the Taxonomy Reference Sheet to track updates over time.
 - Ensure taxonomy values are consistent with how catalog tools typically support search and filtering (e.g., faceted navigation, hierarchy tags).
 - Coordinate with tool implementation teams to prepare taxonomy import files or mapping logic as needed.

**Key Message / Information**

A well-defined and consistently applied taxonomy improves how users find and interpret metadata. By tagging metadata assets now using pre-built template fields, the Entity ensures metadata is immediately usable and catalog-ready.

5.2.F

Develop Lightweight Metadata Ontologies: To enhance the meaning and usability of metadata, the Entity should define lightweight ontologies that describe semantic relationships between business terms, datasets, and attributes. These ontologies should be drafted now in a business-readable format and later implemented within the selected data catalog tool (Section 6) to support navigation, search, tagging, and lineage visualization.

- i. **Define Key Concepts and Relationships:** The Metadata Specialist and Data Stewards identify meaningful conceptual relationships within priority business domains.
 - a. Focus on domains with overlapping or hierarchical concepts (e.g., Licensing, Establishments, Workforce, Education).
 - b. Define semantic relationships that reflect business meaning, such as:
 - **Is a type of** (e.g., “Trade License” is a type of “License”)
 - **Part of** (e.g., “Employee Record” is part of “HR Master Dataset”)
 - **Related to** (e.g., “Service Request” relates to “Customer ID”)
 - **Requires** (e.g., “Business Permit” requires “Commercial Registration”)
 - c. Map these relationships using tables or concept maps, and associate them with glossary terms, datasets, and key attributes.
- ii. **Document Ontologies in a Tool-Agnostic Format:** Record ontologies using accessible formats that allow for easy review and future integration.
 - a. Use Excel, Lucidchart, or Visio to document:
 - Term-to-term relationships
 - Conceptual groupings (e.g., “All types of Licenses”)
 - Hierarchies or domain models
 - b. Store these artifacts alongside glossary files and metadata templates in the central metadata repository.
 - c. Review ontologies with domain SMEs and revise based on feedback.
- iii. **Prepare Ontologies for Catalog Tool Implementation:** Although catalog tool configuration will occur in Section 6, ontology definitions must be structured now to support that future step.
 - a. Ensure all business terms used in the ontologies exist in – or are planned for – in the Business Glossary.
 - b. Design relationship tables using standard relationship types such as:
 - Is a, Part of, Relates to, Owned by, Derived from
 - c. Format ontologies in a structured way the tool can later ingest (e.g., a table with Term A, Relationship Type, Term B).
 - d. Use naming and relationship conventions that are compatible with common catalog tooling such as Informatica Data Catalog.

RACI Matrix – Metadata Standardization

Indicative

Sr No.	Activity	Data Management and Security Director	Data Management and Governance Section Head	Data Governance Specialist	Metadata Specialist	Data Quality Specialist	Data Stewards	Data Architect	Business Owners
5.2.A	Adopt and Socialize the Metadata Schema	I	A	R	R	C	C	C	C
5.2.B	Augment Metadata Schema with Entity-Specific Fields (If Needed)		A		R		R	C	
5.2.C	Define Naming and Identification Conventions	I	A		R		C		
5.2.D	Embed the Schema into Metadata Templates and Processes	C	A	C	R	C		C	
5.2.E	Define a Taxonomy for Metadata Organization and Discovery		A		R		R	C	R
5.2.F	Develop Lightweight Metadata Ontologies		A	C	R		R		C

RACI Matrix Legend: **R:** Responsible **A:** Accountable **C:** Consulted **I:** Informed

Based on this Activity, the Entity can



Identify Additional Types of Metadata if needed



Have a Dataset Inventory and Attributes Inventory Ready for Population

5.3 Dataset Identification & Prioritization

To effectively manage metadata, the Entity must begin with a clear and structured understanding of the datasets it owns and governs. This activity guides the Entity in identifying, validating, documenting, and prioritizing datasets that will be cataloged and described through the standardized metadata structure.

Using the Dataset Inventory Template provided in the Data Catalog Template, the Entity will conduct a systematic process to engage data owners and stewards, identify candidate datasets, validate them through formal review, and populate the required metadata fields across business, technical, ownership, data quality, and security categories. The result is a complete and governance-approved Dataset Inventory that aligns with the national metadata schema.

Following approval, the Entity will use the finalized dataset inventory to develop a roadmap for populating attribute-level metadata in the Attribute Inventory Template. This roadmap ensures that attribute metadata collection (to be carried out in 5.4) is phased, prioritized, and well-supported.

This activity ensures that metadata efforts begin with a trusted foundation, reinforcing ownership, domain classification, and strategic prioritization of the Entity's most important data assets.

Process – Dataset Identification & Prioritization

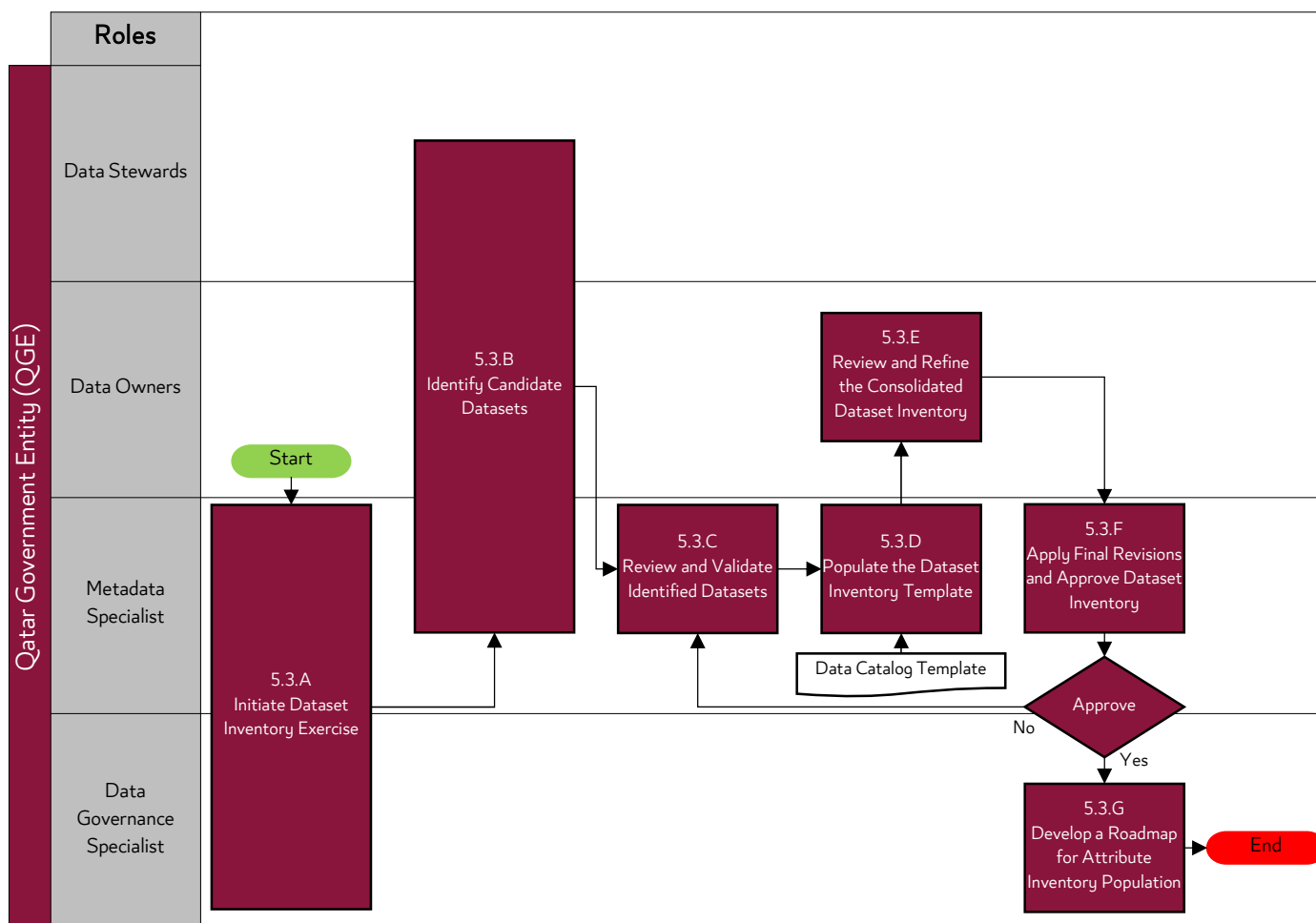


Figure 9 - Dataset Identification & Prioritization Process Map

Legend: Process Step Decision Process Start Process End Document Off-Page Reference

5.3.A

Initiate the Dataset Inventory Exercise: The Entity must formally initiate the dataset inventory effort as a structured metadata activity. This step sets the foundation for coordinated dataset identification by assigning roles, aligning on scope, and activating the relevant stakeholders responsible for cataloging efforts. It ensures that all parties understand the purpose of the inventory and their responsibilities in identifying, validating, and documenting datasets.

- i. **Launch the Inventory Planning Process:** The Metadata Specialist and Data Governance Specialist coordinate the formal launch of the dataset inventory activity.
 - a. Define the scope of the inventory effort (e.g., enterprise-wide, specific domains, or priority systems).
 - b. Align with existing data governance priorities, CDE strategies, and catalog implementation goals.
 - c. Review any past or partial inventory efforts (e.g., outputs from data discovery exercise in Section 3.1.2) to avoid duplication.
 - d. Communicate the importance of the inventory to data owners and governance stakeholders.
- ii. **Assign Roles and Responsibilities for Dataset Identification:** Establish accountability for dataset identification and metadata population.
 - a. Identify the key actors required:
 - **Data Owners** to nominate and approve datasets
 - **Data Stewards** to support metadata population
 - **Metadata Specialist** to oversee structure, quality, and consolidation
 - b. Clarify expectations for each role using a simple RACI or task responsibility matrix.
 - c. Assign focal points for each business domain or department to streamline coordination.
- iii. **Activate Stakeholder Communication and Collaboration:** Set the stage for active and collaborative dataset discovery across departments.
 - a. Share the Dataset Inventory Template and Relational Database Metadata Schema with all participants.
 - b. Schedule kickoff meetings with each business domain to explain objectives, answer questions, and walk through the inventory structure.
 - c. Provide a short reference guide or annotated template to help users understand how to complete the required fields.

**Tip**

Align this step with CDEs and catalog onboarding priorities - don't try to inventory everything at once. Use this as an opportunity to reinforce metadata responsibilities and improve stakeholder buy-in. Track department-level readiness or blockers during kickoff meetings for escalation if needed.

**Key Message / Information**

The success of the dataset inventory begins with stakeholder alignment. Initiating the process with clarity, structure, and role accountability ensures downstream metadata work is smooth, efficient, and catalog-ready.

5.3.B
(1/2)

Identify Candidate Datasets: The Entity must collaborate with data owners and stewards to identify datasets that should be documented in the Dataset Inventory. This step focuses on compiling a prioritized list of datasets that are in-scope for metadata population, especially those aligned with governance priorities such as regulatory compliance, service delivery, and CDEs.

i. **Engage Data Owners and Stewards to Nominate Datasets:** The Metadata Specialist coordinates outreach across departments to compile an initial dataset list.

- a. Ask each Data Owner to nominate datasets under their accountability that are actively used in operations, analytics, reporting, or service delivery.
- b. Encourage nomination of datasets that align with:
 - Core business functions (e.g., licensing, registration, inspections)
 - High-priority domains (as defined by Business Domain taxonomy field)
 - Mandated reporting or regulatory use
 - Critical Data Elements (CDEs), master data, or reference data
- c. Emphasize the need to provide at minimum:
 - Dataset Name
 - System or Source
 - Owning Department
 - Business Domain (taxonomy value)
 - Whether the dataset is master or reference (Y/N)
 - Whether it contains CDEs

ii. **Apply Prioritization Criteria to Support Catalog Rollout Planning:** Ensure that nominated datasets reflect strategic and operational value, not just volume.

- a. Prioritize datasets that:
 - Support the Entity data strategy, use cases, etc.
 - Are used in dashboards, KPIs, or public reporting
 - Support legal, regulatory, or audit requirements
 - Contain high-sensitivity data (as per Data Classification)
 - Have high reuse potential across departments
- b. De-prioritize datasets that are inactive, duplicative, or scheduled for decommissioning.
- c. Tag each dataset with a priority label (e.g., High, Medium, Low) for downstream roadmap planning.

iii. **Record Initial Metadata in Tracking Format:** Begin capturing foundational information for each dataset to support validation and inventory population in subsequent steps.

- a. Use a working Excel list or staging copy of the Dataset Inventory Template.
- b. Record preliminary metadata fields that correspond to the schema, such as:
 - Dataset Business Name
 - Data Source System
 - Data Owner Full Name
 - Business Domain
 - Master Data Flag / Reference Data Flag

5.3.B
Cont.
(2/2)

- c. Flag records that may need further clarification or enrichment during review.



Tip

Avoid overwhelming contributors with the full schema at this stage. Focus on basic identification and prioritization. Refer to existing data dictionaries, source system reports, or API documentation to identify common datasets. Use the Business Domain taxonomy defined in 5.2.E to classify datasets consistently from the start.



Key Message / Information

Identifying candidate datasets is not just about volume—it's about value and readiness. This step sets the tone for focused, impactful catalog implementation by aligning dataset nomination with strategic and operational priorities.

5.3.C
(1/2)

Review and Validate Identified Datasets: Once candidate datasets have been identified, the Entity must conduct a structured review to validate the list for accuracy, relevance, and completeness. This step ensures that the datasets selected for cataloging are legitimate, non-duplicative, aligned with governance expectations, and ready for full metadata population in the Dataset Inventory Template.

- i. **Review Dataset List with Owners and Stewards:** The Metadata Specialist facilitates review sessions with the assigned Data Owners and Stewards.
 - a. Share the draft list of identified datasets along with the preliminary metadata collected in 5.3.B.
 - b. Confirm that each dataset is:
 - Actively used and owned
 - Correctly named and clearly described
 - Appropriately classified (e.g., Master Data, Reference Data, contains CDE's)
 - Assigned to the right Business Domain (as per taxonomy)
 - c. Verify that each dataset is distinct, and not a duplicate of another with a different name or department tag.
- ii. **Resolve Duplicates, Gaps, and Inconsistencies:** Clean the dataset list to ensure quality and avoid downstream rework.
 - a. Identify and merge duplicate entries based on system, name, or business function.
 - b. Clarify vague or placeholder entries (e.g., "Finance Dashboard Extract") by confirming their source, ownership, and scope.
 - c. Flag datasets that lack a data owner or steward for escalation or reassignment.
 - d. Address any missing but expected datasets by cross-checking against system reports, dashboards, or regulatory reporting requirements.

5.3.C
Cont.
(2/2)

- iii. **Confirm Metadata Alignment with the Dataset Inventory Schema:** Ensure that each validated dataset has the required foundational metadata fields in place before full inventory population begins.

- a. For each dataset, confirm population or readiness of the following fields:
 - Dataset Business Name
 - Data Source System
 - Business Domain
 - Master Data Flag, Reference Data Flag
 - Data Owner Department
 - Data Owner Full Name
 - Data Classification (if known)
- b. Flag any entries that need additional clarification or deferral to future onboarding phases.



Key Message / Information

Validation prevents wasted effort and ensures only well-understood, catalog-ready datasets progress to inventory population. It also strengthens governance by reinforcing ownership and classification responsibilities.

5.3.D
(1/2)

Populate the Dataset Inventory Template: With the dataset list validated, the Metadata Specialist is responsible for populating the Dataset Inventory Template using the official structure provided in the Data Catalog Template. This step involves collecting and entering standardized metadata for each approved dataset across all categories, leveraging the input and support of Data Stewards, Data Owners, and technical teams where required. Accurate and complete population ensures the datasets are catalog-ready and compliant with the national metadata schema.

- i. **Use the Dataset Inventory Template:** The Metadata Specialist provides the approved version of the template to all assigned contributors.
 - a. Confirm that the latest version of the Dataset Inventory Template includes all mandatory and optional fields defined in the Relational Database Metadata Schema.
 - b. Ensure that entity-specific fields added in 5.2.B (if any) are clearly separated and documented.
 - c. Use the metadata attribute descriptions and example entries to guide consistent population.
- ii. **Collect Inputs by Metadata Category:** The Metadata Specialist coordinates with responsible roles to collect metadata inputs needed to complete the inventory.
 - Business metadata → Data Stewards
 - Technical metadata → Data Stewards or Architects
 - Data Ownership metadata → Data Owners
 - Data Quality metadata → Data Quality Specialist
 - Privacy & Security metadata → Security and / or Compliance Specialists

5.3.D
Cont.
(2/2) **Asset Guidance***Illustrative*

The **Data Catalog Template** includes a **Dataset Inventory Template**, which captures standardized metadata for each dataset across business, technical, ownership, quality, and security categories to support catalog onboarding and governance.

Dataset Inventory Template														
The following table reflects the Datasets' metadata required to describe datasets and tables														
Metadata Category	Business Metadata													
Metadata Attribute	Data Source ID	Data Source System	Dataset ID	Dataset Business Name (English)	Dataset Business Name (Arabic)	Dataset Business Description (English)	Dataset Business Description (Arabic)	Business Domain (English)	Business Domain (Arabic)	Master Data Flag	Reference Data Flag	Business Tags	Update Frequency	Feedback Rating
Metadata Attribute ID	DS_TC_001	DS_TC_002	DS_TC_003	DS_TC_004	DS_TC_005	DS_TC_006	DS_TC_007	DS_TC_008	DS_TC_009	DS_TC_010	DS_TC_011	DS_TC_012	DS_TC_013	DS_TC_014
Requirement	Mandatory	Mandatory	Mandatory	Mandatory	Optional	Mandatory	Optional	Mandatory	Optional	Mandatory	Mandatory	Optional	Optional	Optional
Dataset Metadata														

Technical Metadata													
Comment(s)	Source System Name	Table Name	Number of Rows	Qualified Name	Tracking Of Data Origin And Lineage	Documentation Of Data Modifications And The Entities Involved	Use Of Provenance Data In Compliance And Auditing	Technical Use Of Provenance Data In Compliance And Auditing	Disaster Recovery Time Objective (RTO)	Disaster Recovery Point Objective (RPO)	Disaster Recovery Plan Testing Schedule	Backup Frequency	Backup Retention Period
Metadata Attribute ID	DS_TC_015	DS_TC_016	DS_TC_017	DS_TC_018	DS_TC_019	DS_TC_020	DS_TC_021	DS_TC_022	DS_TC_023	DS_TC_024	DS_TC_025	DS_TC_026	DS_TC_027
Requirement	Optional	Optional	Mandatory	Optional	Mandatory	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Dataset Metadata													

Data Ownership Metadata												Data Quality Metadata		
Authoritative Data Source	Data Owner Full Name	Data Owner Email Address	Data Owner Phone Number	Data Owner Department	Business Data Steward Full Name	Business Data Steward Email	Business Data Steward Phone Number	Business Data Steward Department	IT Data Steward Full Name	IT Data Steward Email Address	IT Data Steward Phone Number	IT Data Steward Department	Accuracy	Completeness
Metadata Attribute ID	DS_DO_001	DS_DO_002	DS_DO_003	DS_DO_004	DS_DO_005	DS_DO_006	DS_DO_007	DS_DO_008	DS_DO_009	DS_DO_010	DS_DO_011	DS_DO_012	DS_DO_013	DS_DO_014
Requirement	Mandatory	Mandatory	Mandatory	Optional	Optional	Mandatory	Mandatory	Optional	Optional	Mandatory	Mandatory	Optional	Optional	Mandatory
Dataset Metadata														

Data Quality Metadata					Data Privacy & Security Metadata								
Consistency	Timeliness	Validity	Uniqueness	Accessibility	Data Classification	Data Retention Period	Data Anonymization Techniques	Data Encryption Status	Data Masking	Access Control Level	Compliance Requirements	Breach Notification Contact	
Metadata Attribute ID	DS_DQ_001	DS_DQ_002	DS_DQ_003	DS_DQ_004	DS_DQ_005	DS_DQ_006	DS_DQ_007	DS_DQ_008	DS_DQ_009	DS_DQ_010	DS_DQ_011	DS_DQ_012	DS_DQ_013
Requirement	Mandatory	Mandatory	Mandatory	Mandatory	H	Mandatory	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Dataset Metadata													

iii. **Populate and Standardize Metadata Fields:** The Metadata Specialist populates each metadata field in the dataset inventory based on inputs received for the respective metadata categories.

- Ensure all fields are filled in accordance with the Relational Database Metadata Schema.
- Use dropdowns or validation lists where applicable to restrict free-text errors (e.g., Y/N fields, classification codes).
- Verify that taxonomy fields (e.g., Business Domain) are populated using controlled values from the Taxonomy Reference Sheet.
- Mark any incomplete or unclear fields for follow-up with the relevant contributor.

**Key Message / Information**

The Metadata Specialist owns the inventory population process, but must rely on subject matter experts to ensure metadata is accurate, complete, and reflective of how the data is used and governed.

5.3.E

Review and Refine the Consolidated Dataset Inventory: Once the Dataset Inventory Template has been populated by the Metadata Specialist, each dataset must be reviewed and validated by its assigned Data Owner. This step ensures that the metadata accurately reflects the business context, technical structure, and governance status of each dataset before it proceeds to final approval and onboarding.

- i. **Distribute the Populated Inventory to Data Owners for Review:** The Metadata Specialist shares the completed inventory entries with the respective Data Owners for validation.
 - a. For each dataset, ensure the designated Data Owner receives a copy of their entry and clear instructions for review.
 - b. Provide the metadata schema reference and data quality expectations (e.g., format standards, mandatory fields, taxonomy rules).
 - c. Set a deadline for returning reviewed entries and establish a central point for consolidating feedback.
- ii. **Conduct Dataset-Level Review and Clarification:** The Data Owners review their respective dataset entries to validate content and flag any issues.
 - a. Confirm that all fields reflect accurate and up-to-date business, technical, ownership, and security metadata.
 - b. Validate critical metadata fields such as:
 - Dataset Name and Description
 - Business Domain
 - Master/Reference flags
 - Owner and Steward assignments
 - Data Classification and Sensitivity Indicators
 - c. If issues are found, the Data Owner coordinates with the Metadata Specialist or supporting stewards to resolve them.
- iii. **Consolidate Updates and Finalize the Reviewed Inventory:** The Metadata Specialist incorporates feedback from Data Owners and prepares the inventory for approval.
 - a. Track changes and comments submitted by Data Owners in a review log.
 - b. Update the Dataset Inventory Template, accordingly, ensuring all edits are version-controlled.
 - c. Lock the reviewed version (e.g., "Dataset_Inventory_v1.0_Reviewed.xlsx") and prepare a summary of completion status to present in 5.3.F.

**Key Message / Information**

The Metadata Specialist owns the inventory population process, however, must rely on subject matter experts to ensure metadata is accurate, complete, and reflective of how the data is used and governed.

5.3.F

Apply Final Revisions and Approve Dataset Inventory: After the dataset inventory has been reviewed by Data Owners, the Entity must incorporate any final feedback from the Data Management & Governance Section Head. This step ensures that the inventory reflects all necessary corrections, governance inputs, and policy considerations before it is formally approved and made available for use in subsequent metadata activities, including attribute-level inventory planning and catalog integration.

- i. **Submit the Dataset Inventory for Governance Review:** The Metadata Specialist submits the reviewed inventory (previously reviewed by the respective Data Owners) for final governance review.
 - a. Share the “reviewed” version of the Dataset Inventory Template and a summary of completion status (e.g., # of datasets, coverage by domain) with the Data Management & Governance Section Head.
 - b. Facilitate the review with the Data Management & Governance Section Head and other designated governance approvers (if required).
 - c. Capture feedback related to metadata completeness, ownership alignment, risk concerns, and so forth.
- ii. **Apply Revisions Based on Reviewer Feedback:** Update the dataset inventory based on formal feedback from the approval authority.
 - a. Address any missing or incorrectly populated metadata fields (e.g., incomplete ownership, invalid classification).
 - b. Ensure all edits are clearly documented in a metadata change log, including the reason for the change and who submitted it.
 - c. If additional clarification is required, coordinate directly with the responsible Data Owner or Steward.
- iii. **Finalize and Approve the Dataset Inventory:** Confirm that all required updates have been addressed and formally mark the dataset inventory as approved.
 - a. Save the final version of the Dataset Inventory Template with appropriate versioning (e.g., Dataset_Inventory_v1.0_Approved.xlsx) and store it in the Entity’s central metadata repository or governance workspace.
 - b. Record the approval date and approving authority (Data Management & Governance Section Head) in the metadata version history or control log.
 - c. Communicate approval status to all relevant stakeholders (Data Owners, Stewards, and Data Governance Specialist), confirming that the dataset inventory is complete and will be used to guide attribute inventory planning in 5.3.G.

**Key Message / Information**

This step ensures that the dataset inventory is not only reviewed but officially approved by relevant leadership. A finalized inventory strengthens metadata accountability and ensures readiness for detailed catalog population.

5.3.G
(1/2)

Develop a Roadmap for Attribute Inventory Population: With the dataset inventory finalized and approved, the Entity must define a structured roadmap to guide the phased population of the Attribute Inventory Template. This step ensures that attribute-level metadata collection is focused, manageable, and aligned with Entity priorities, beginning with datasets that contain CDEs, support high-value services, or fall under master and reference classifications.

- i. **Prioritize Datasets for Attribute Metadata Collection:** The Metadata Specialist, in coordination with the Data Governance Specialist and Data Strategy Expert, defines criteria for determining which datasets will be addressed first.
 - a. Prioritize datasets that:
 - Contain CDEs and support the Entity Data Strategy
 - Are classified as master or reference datasets
 - Support high-impact dashboards, KPIs, or regulatory reporting
 - Have already been fully validated and approved in the dataset inventory
 - b. Group datasets into tiers (e.g., Phase 1, Phase 2, Phase 3) based on business criticality and metadata readiness.
 - c. Document the rationale for prioritization to support governance visibility and stakeholder buy-in.
- ii. **Define Roles, Timeline, and Sequencing:** Translate the dataset phases into a clear, action-oriented roadmap.
 - a. Assign Data Stewards and supporting roles to each dataset group.
 - b. Define timelines for each phase of attribute inventory population, accounting for resource availability and business readiness.
 - c. Identify review checkpoints (per dataset or domain) to validate metadata quality during collection.
 - d. Flag known risks or constraints (e.g., system changes, limited access to attribute-level documentation).
- iii. **Document and Share the Roadmap to Guide Attribute Inventory Population in 5.4.1:** The Metadata Specialist consolidates the roadmap into a structured plan that will be directly used to execute Attribute Inventory Population using the official Excel template.
 - a. Prepare the roadmap in Excel, PowerPoint, or a shared tracker, and include the following per dataset:
 - Dataset Name
 - Assigned Steward(s)
 - Timeline or due date
 - Priority tier or phase
 - b. Clearly indicate that the plan refers to the step-by-step population of the Attribute Inventory Template, which follows the NPC metadata schema.
 - c. Share the roadmap with all contributors and governance stakeholders.
 - d. Store it in the metadata repository or collaboration workspace as a central coordination tool.

5.3.G
Cont.
(2/2)**Key Message / Information**

This roadmap transforms a list of datasets into an actionable plan for attribute-level metadata collection. It ensures that population of the Attribute Inventory Template (in 5.4) proceeds in a logical, prioritized, and manageable way.

RACI Matrix – Dataset Identification & Prioritization*Indicative*

Sr No.	Activity	Data Management and Security Director	Data Management and Governance Section Head	Data Governance Specialist	Metadata Specialist	Data Steward	Data Owner	Data Strategy Expert	Data Compliance Specialist	Data Quality Specialist
5.3.A	Initiate Dataset Inventory Exercise	I	A	R	R	I	I			
5.3.B	Identify Candidate Datasets		A		R	R	R			
5.3.C	Review and Validate Identified Datasets		A		R	C	C			
5.3.D	Populate the Dataset Inventory Template		A		R	C	C		C	C
5.3.E	Review and Refine the Consolidated Dataset Inventory		A		C		R			
5.3.F	Apply Final Revisions and Approve Dataset Inventory	A	R	C	R	C	C			
5.3.G	Develop a Roadmap for Attribute Inventory Population	I	A	R	R			R		

RACI Matrix Legend: **R:** Responsible **A:** Accountable **C:** Consulted **I:** Informed

Based on this Activity, the Entity can



Identify Datasets to be Consolidated into Inventory



Develop Dataset Inventory

5.4 Metadata Management Processes

The following section details the steps to populate the attributes inventory and promote the data catalog for usage.

5.4.1 Attribute Inventory Population

With the dataset inventory approved and a roadmap in place, the Entity must now populate the Attribute Inventory Template to capture detailed metadata for each attribute. This activity guides the Entity through the end-to-end process of populating business, technical, ownership, and privacy metadata fields in alignment with the national metadata schema.

Business and IT Data Stewards are responsible for completing all required fields, with support from Data Owners, Compliance Specialists, and IT contributors. The Metadata Specialist oversees the process, provides guidance, and ensures consistency with the metadata standards. Once populated, the metadata is reviewed first by the Data Owner, then quality-checked by the Metadata Specialist, and finally approved by the Data Management & Governance Section Head before being submitted to the DGO for compliance review.

Process – Attribute Inventory Population

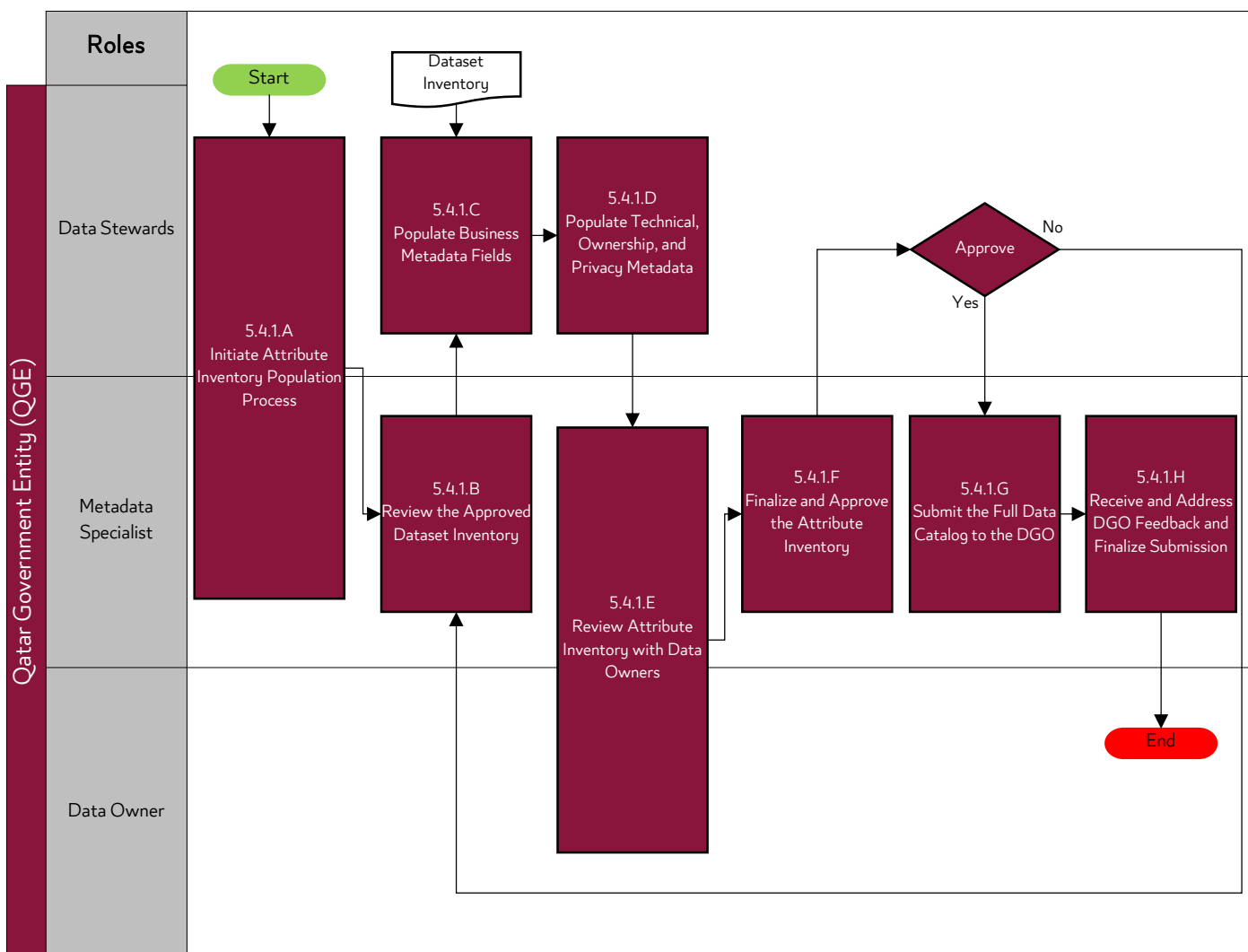


Figure 10 - Attribute Inventory Population Process Map

Legend: Process Step Decision Process Start Process End Document Off-Page Reference

5.4.1.A
(1/2)

Initiate Attribute Inventory Population Process: The Entity must formally initiate the attribute inventory population effort by activating the roadmap defined in 5.3.G, preparing the necessary templates and tools, and aligning all responsible and supporting roles. This step ensures that the assigned Data Stewards are ready to begin capturing attribute-level metadata across all required categories, with support from subject matter experts and oversight from Data Governance Specialist .

- i. **Activate the Attribute Inventory Roadmap:** The Metadata Specialist initiates execution of the roadmap developed in 5.3.G.
 - a. Confirm the list of datasets to be processed and the assigned Business and IT Data Stewards for each.
 - b. Review the timeline, sequencing, and coordination checkpoints defined in the roadmap.
 - c. Identify and resolve any readiness issues, such as lack of steward availability or missing dataset context.
- ii. **Prepare the Attribute Inventory Template and Reference Materials:** Equip all contributors with the necessary tools and documentation.
 - a. Distribute the official Attribute Inventory Template, aligned with the NPC's Relational Database Metadata Schema.
 - b. Provide reference documents including:
 - Approved Business Glossary, to ensure consistency in term usage
 - Taxonomy Reference Sheet, for Function Area and Subject Area tagging
 - c. Store templates and guidance centrally (e.g., metadata workspace or SharePoint) and control access.
- iii. **Clarify Roles and Responsibilities for Metadata Population:** Define who will populate, support, and review the attribute metadata.
 - a. Business and IT Data Stewards are responsible for completing all metadata fields, across:
 - Business Metadata
 - Technical Metadata
 - Ownership Metadata
 - Privacy & Security Metadata
 - b. The following roles are consulted during population:
 - Data Owners → support with business meaning, stewardship validation, and other types of business and ownership metadata
 - Compliance and Privacy Specialists → advise on data privacy and security metadata
 - c. Data Owners will conduct the first formal review, followed by a second-level review by the Metadata Specialist and final approval from the Data Management & Governance Section Head in later steps.

5.4.1.A
Cont.
(2/2)

Tip

Reinforce that Data Stewards are not alone—they are empowered to coordinate across subject matter experts. Set clear timelines and expectations per dataset, linked directly to the 5.3.G roadmap. Provide stewards with examples of well-completed attribute metadata to improve quality and speed.

5.4.1.B
(1/2)

Review the Approved Dataset Inventory: Before beginning attribute-level metadata population, the Entity must review the approved Dataset Inventory to confirm that all datasets planned for attribute population are formally approved, properly structured, and aligned with the metadata schema. This step prevents unnecessary work on unapproved, duplicate, or incomplete datasets and ensures that Data Stewards focus only on prioritized datasets as per the roadmap.

- i. **Confirm Dataset Readiness Against the Attribute Population Roadmap:** The Metadata Specialist ensures that the datasets selected for attribute metadata collection are correctly aligned with the execution plan defined in 5.3.G.
 - a. Review the list of datasets assigned for Phase 1 (or current phase) in the roadmap.
 - b. Confirm that each dataset has been formally approved in 5.3.F by the Data Management & Governance Section Head.
 - c. Cross-check that each dataset has complete foundational metadata in the Dataset Inventory Template, including:
 - Dataset Name
 - Business Domain
 - Source System
 - Data Owner and Steward
 - Master/Reference/CDE flags
 - Data Classification
- ii. **Ensure Dataset Inventory Fields Enable Attribute Population:** Verify that the required metadata is available to support meaningful attribute-level capture.
 - a. Confirm that each dataset has clear ownership, business context, and classification. This enables stewards to apply consistent tagging at the attribute level (e.g., Subject Area, Function Area).
 - b. Validate that any glossary terms or taxonomy values required for attribute tagging (as defined in 5.2.E) are available and up to date.
 - c. Identify and flag any datasets that require additional clarification or revision before attribute metadata can proceed.
- iii. **Communicate Any Gaps or Readiness Issues to Stakeholders:** The Metadata Specialist communicates with Data Stewards and Data Owners if any datasets need to be deferred or corrected.

5.4.1.B
Cont.
(2/2)

- a. For datasets missing required metadata, request updates from the responsible Data Owner or Steward.
- b. Maintain a status tracker that shows which datasets are “Ready for Attribute Population,” “Pending Update,” or “Deferred.”
- c. Confirm dataset readiness with all assigned Data Stewards before proceeding to 5.4.1.C.



Tip

Avoid allowing attribute population to begin on any dataset that hasn't been approved or lacks foundational metadata. Keep the Metadata Specialist as the central coordinator to prevent parallel work on unvalidated datasets.



Key Message / Information

Validating dataset readiness before attribute population begins ensures quality, avoids duplication, and enables stewards to focus their efforts efficiently.

5.4.1.C
(1/3)

Populate Business Metadata Fields: Once the datasets selected for attribute inventory are confirmed, the Business Data Steward populates the business metadata fields for each attribute using the Attribute Inventory Template. This step defines the business meaning and classification of each attribute—ensuring alignment with the Entity's glossary and taxonomy standards and enabling business-friendly metadata across systems.

- i. **Populate Core Business Metadata Fields for Each Attribute:** The Business Data Steward documents business-facing metadata for each attribute listed under approved datasets.
 - a. For each attribute, populate at a minimum the following fields as per the metadata schema:
 - Attribute Name
 - Attribute Description
 - Function Area (optional, but recommended to support taxonomy)
 - Subject Area (optional, but recommended to support taxonomy)
 - Critical Data Element Flag
 - Master / Reference Data Flag
 - b. Follow these guidelines when populating:
 - Attribute names must be clear, concise, and written in business-friendly language
 - Descriptions must be plain-language definitions of what the attribute means and how it is used
 - Function Area and Subject Area must be selected from the approved Taxonomy Reference Sheet, using dropdown lists or controlled values to ensure consistency
 - If unsure whether an attribute is a CDE, master, or reference data, consult the Data Owner

5.4.1.C
Cont.
(2/3) **Asset Guidance (Cont.)***Illustrative*

The **Data Catalog Template** includes an **Attribute Inventory Template**, which captures detailed attribute-level metadata aligned with the metadata schema to support traceability, classification, and catalog population.

الجمهورية العربية السورية

Syrian Arab Republic

السلطة الوطنية لحماية البيانات

National Data Protection Authority

Attributes Inventory Template

The following table reflects the Attributes' metadata required to describe attribute-level data

Metadata Category	Data Source Linkage		Dataset Linkage		Business Metadata						
Metadata Attribute	Data Source ID	Data Source Name	Dataset ID	Dataset Name	Attribute Name (English)	Attribute Name (Arabic)	Attribute Description (English)	Attribute Description (Arabic)	Function Area (English)	Function Area (Arabic)	Subject Area (English)
Metadata Attribute ID					ATT_BU_001	ATT_BU_002	ATT_BU_003	ATT_BU_004	ATT_BU_005	ATT_BU_006	ATT_BU_007
Requirement	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Optional	Mandatory	Optional	Optional	Optional	Optional
Attribute Metadata											

Business Metadata											
Subject Area (Arabic)	Critical Data Element	List Of Values	Master Data Flag	Reference Data Flag	Reference Id	Reference Data Name	Business Tags	Status	Attribute Business Rules	Processing Conditions	Feedback Rating
ATT_BU_008	ATT_TC_009	ATT_TC_010	ATT_TC_011	ATT_TC_012	ATT_TC_013	ATT_TC_014	ATT_TC_015	ATT_TC_016	ATT_TC_017	ATT_TC_018	ATT_TC_019
Optional	Mandatory	Optional	Mandatory	Mandatory	Optional	Optional	Optional	Optional	Optional	Optional	Optional

Business Metadata	Technical Metadata										
Comment(s)	Attribute Id	Table Name	Column Name (English)	Column Description (English)	Technical Data Type	Data Length	Data Format	Character Set	Source Of List Of Values Standard	Pk/Fk/Nk	Nullability [Y/N]
ATT_TC_020	ATT_TC_001	ATT_TC_002	ATT_TC_003	ATT_TC_004	ATT_TC_005	ATT_TC_006	ATT_TC_007	ATT_TC_008	ATT_TC_009	ATT_TC_010	ATT_TC_011
Optional	Mandatory	Mandatory	Optional	Optional	Mandatory	Optional	Mandatory	Mandatory	Optional	Optional	Mandatory

Technical Metadata			Data Ownership		Data Privacy & Security Metadata						
Version Number	Version Updated By	Version Update Date	Authoritative Data Source	Data Classification	Data Anonymization Techniques	Data Encryption Status	Data Masking	Access Control Level	Compliance Requirements	Breach Notification Contact	
ATT_TC_012	ATT_TC_013	ATT_TC_014	ATT_DO_001	ATT_DP_001	ATT_DP_002	ATT_DP_003	ATT_DP_004	ATT_DP_005	ATT_DP_006	ATT_DP_007	
Mandatory	Optional	Mandatory	Mandatory	Mandatory	Optional	Optional	Optional	Optional	Optional	Optional	

ii. **Align Attribute Names and Descriptions with the Business Glossary:** Ensure business metadata is consistent with previously defined business terminology.

- Cross-check attribute names and descriptions with the Business Glossary established in 5.1.
- Where possible, reuse terminology and definitions from existing glossary terms.
- If new business terms emerge, flag them for review and potential inclusion in future glossary maintenance cycles.

**Tip**

- If system-generated column names are unclear (e.g., col_abc, field_001), consult the Data Owner or SMEs to translate them into meaningful business names.
- Maintain consistency across datasets where similar attributes are used (e.g., use “Permit Expiry Date” across domains, not “End Date” or “Termination Date”).
- Do not leave Function Area and Subject Area fields blank—these are required for catalog navigation and search filtering.

5.4.1.C
Cont.
(3/3)

Key Message / Information

Business metadata fields help users understand not just what data is called, but what it means. Capturing this information in a consistent, business-aligned manner is essential for metadata clarity, searchability, and governance.

5.4.1.D
(1/2)

Populate Technical, Ownership, and Privacy Metadata: Following the population of business metadata, the Business and IT Data Stewards must complete the remaining sections of the Attribute Inventory Template. This includes technical specifications, data ownership information, and privacy and security-related fields - each of which requires coordination with supporting roles such as IT system experts, Data Owners, and Compliance Specialists.

- i. **Populate Technical Metadata Fields:** The IT Data Steward populates the technical characteristics of each attribute in accordance with the metadata schema.
 - a. For each attribute, populate at a minimum the following fields as per the metadata schema:
 - Attribute ID
 - Table Name
 - Column Name (optional, but recommended)
 - Column Description (optional, but recommended)
 - Technical Data Type
 - Data Format
 - PF/FK/NK (optional, but recommended)
 - Nullability
 - Version Number
 - Version Update Date
 - b. Reference system-level metadata from data dictionaries, ETL scripts, database management tools, or schema exports.
 - c. Ensure entries are complete and aligned with the formats defined in the Relational Database Metadata Schema.
- ii. **Populate Data Ownership Metadata Fields:** The Business and IT Data Stewards complete the ownership section with support from the Data Owner. Populate the following field as per the metadata schema:
 - Authoritative Data Source
- iii. **Populate Privacy and Security Metadata Fields:** The Data Stewards populate security-related fields in consultation with the Compliance or Information Security Focal Point.
 - a. Populate at a minimum the following field as per the metadata schema:
 - Data Classification
 - b. Use guidance provided in data privacy and classification policies to select appropriate values (e.g., Public, Restricted, Top Secret).

5.4.1.D
Cont.
(2/2)

- c. Where field values are not available, log them for follow-up with the Information Security team.



Key Message / Information

The Entity should plan for the implementation of metadata ingestion processes as part of its selection and deployment of the data catalog tool (as discussed in the next section), to support automated technical metadata updates from source systems and third-party integrations.

5.4.1.E
(1/2)

Review Attribute Inventory with Data Owners: After attribute-level metadata has been populated by the Business and IT Data Stewards, each dataset's attribute inventory must be formally reviewed by its assigned Data Owner. This step ensures that metadata entries, particularly business meaning, ownership, and sensitivity classifications accurately reflect the context, purpose, and governance of each attribute prior to internal QA and final approval.

- i. **Distribute Attribute Inventory Entries for Review:** The Metadata Specialist coordinates the review process and shares populated entries with the appropriate Data Owners.
 - a. Filter the Attribute Inventory Template by dataset and assign each dataset's section to the corresponding Data Owner.
 - b. Provide the owner with a summary of the metadata population process and clarify that this review is mandatory prior to internal QA and approval.
 - c. Include guidance for reviewing specific fields, particularly:
 - Attribute Name
 - Attribute Description
 - Function Area (Taxonomy)
 - Subject Area (Taxonomy)
 - Critical Data Element Flag
 - Master / Reference Data Flag
 - Authoritative Data Source
 - Data Classification
- ii. **Validate Metadata for Business Relevance, Classification, and Governance:** The Data Owner reviews and validates a targeted set of fields that reflect business meaning, data criticality, classification, and governance accountability.
 - a. Confirm that the Attribute Name and Attribute Description clearly reflect the business purpose and are understandable to non-technical users.
 - b. Validate that Function Area and Subject Area are correctly assigned based on the attribute's role in business processes.
 - c. Confirm whether the attribute qualifies as a CDE and validate the Master Data Flag and Reference Data Flag based on data type and reuse.
 - d. Verify that the Authoritative Data Source is accurately identified.
 - e. Review the Data Classification field and confirm alignment with internal classification policy (e.g., Public, Restricted, Top Secret).
 - f. Flag any missing, inaccurate, or unclear entries for revision and clarification with the steward or compliance team.

5.4.1.E
Cont.
(2/2)

- iii. **Consolidate Feedback and Track Revisions:** The Metadata Specialist receives and tracks feedback to prepare for second-level review and QA in 5.4.1.F.
- Maintain a review log or comment tracker per dataset, recording owner feedback and revision actions.
 - Coordinate with Data Stewards to address any flagged issues or required updates.
 - Mark datasets as “Reviewed by Data Owner” once confirmation is received and prepare for internal QA in the next step.

**Tip**

- Share a simple review checklist that clearly lists the specific fields the Data Owner is expected to review (e.g., Attribute Name, Description, CDE Flag, Data Classification).
- Allow Data Owners to provide feedback directly in the Attribute Inventory Template (as comments) or through a separate, structured feedback form.
- Ensure that all datasets assigned in the current phase of the roadmap (5.3.G) are reviewed and confirmed by their respective Data Owners before the inventory moves to the Metadata Specialist for QA.

5.4.1.F
(1/2)

Finalize and Approve the Attribute Inventory: After attribute-level metadata has been reviewed by Data Owners, the Metadata Specialist conducts a second-level review to validate consistency, completeness, and alignment with the metadata schema. Once quality checks are complete, the inventory is submitted for formal approval by the Data Management & Governance Section Head. This step marks the official closure of the attribute population activity and ensures readiness for national submission.

- Conduct Metadata Quality Assurance Review:** The Metadata Specialist performs a full review of the completed Attribute Inventory Template across all approved datasets.
 - Check that all mandatory fields are populated for each attribute as per the Relational Database Metadata Schema.
 - Validate that all values conform to the required formats and dropdown selections (e.g., taxonomy values, classification codes, Y/N flags).
 - Review for consistency across datasets (e.g., similar attributes use the same naming conventions and tags).
 - Flag and resolve any discrepancies or formatting issues in coordination with the responsible Data Steward.
- Prepare the Inventory for Final Approval:** Once QA is complete, the Metadata Specialist prepares the attribute inventory for executive approval.
 - Compile the completed Attribute Inventory Template, including version control information and a summary of the total number of datasets and attributes covered.
 - Share the QA-reviewed file with the Data Management & Governance Section Head, along with a brief memo outlining:
 - Review process followed (Data Owner and Metadata Specialist)

5.4.1.F
Cont.
(2/2)

- Fields validated
- Outstanding risks or limitations, if any

- c. Maintain a version log indicating approval status and timestamp (e.g., “Attribute_Inventory_v1.0_Reviewed.xlsx”).

iii. **Approve and Finalize the Attribute Inventory:** The Data Management & Governance Section Head formally approves the inventory for submission.

- a. Upon approval, the Metadata Specialist updates the version to reflect final status (e.g., “Approved”) and stores the file in the Entity’s metadata repository.
- b. Notify all contributors (Data Stewards, Owners, Data Governance Specialist) that attribute inventory population is complete.
- c. Confirm readiness for submission to the DGO as part of 5.4.1.G.



Tip

- Use a metadata QA checklist to standardize the internal review process.
- Track datasets as “Ready,” “Pending Clarification,” or “Deferred” to keep visibility on completion status.
- If any attributes are flagged by the approver, return to the relevant steward or Data Owner for clarification before resubmitting.



Key Message / Information

This step ensures that metadata is not only populated—but verified, quality-checked, and formally approved. It represents the close of internal metadata collection and the transition to external submission.

5.4.1.G
(1/2)

Submit the Full Data Catalog to the DGO: After the Business Glossary, Dataset Inventory, and Attribute Inventory have been finalized and approved, the Metadata Specialist must submit the complete metadata package to the National DGO for review. This step ensures the Entity has met the metadata requirements defined in the National Data Standards and enables the DGO to provide oversight and feedback.

- i. **Prepare the Final Metadata Submission Package:** The Metadata Specialist compiles all approved metadata files and supporting documentation.
 - a. Include the following components:
 - Business Glossary Template
 - Dataset Inventory Template
 - Attribute Inventory Template
 - b. Confirm that all files are versioned, approved by the Data Management & Governance Section Head, and free of draft or commented entries.

5.4.1.G
Cont.
(2/2)

- c. Include a cover note summarizing:
 - Date of submission
 - Number of datasets and attributes included
 - Designated point of contact for follow-up

iii. **Submit to the DGO via Official Communication Channels:** Ensure proper delivery and internal tracking of the metadata package.

- a. Submit the package through the designated NPC channel (e.g., official email, or as required at the respective point in time).
- b. Retain a record of the submission and any confirmation from the DGO.
- c. Notify internal governance stakeholders once the submission is complete.



Tip

- Double-check that metadata values align with the Relational Database Metadata Schema before submission.
- Do not include working versions or partial files, only final, approved materials.

5.4.1.H
(1/2)

Receive and Address DGO Feedback and Finalize Submission: Following submission of the metadata package, the Entity may receive feedback from the DGO outlining required corrections, clarifications, or improvements. This step involves reviewing and addressing that feedback to ensure the Entity's Business Glossary, Dataset Inventory, and Attribute Inventory are fully compliant with the national data standards.

- i. **Review Feedback Provided by the DGO:** The Metadata Specialist reviews the feedback shared by the DGO across the submitted templates.
 - a. Identify whether feedback applies to the Business Glossary, Dataset Inventory, or Attribute Inventory, or all three.
 - b. Review comments, change requests, or clarification notes shared via annotated templates, comment logs, or formal memos.
 - c. Categorize feedback by type (e.g., formatting correction, missing value, inconsistent classification).
 - d. Confirm the deadline (if any) provided by the DGO for implementing changes.
- ii. **Coordinate Revisions Across Roles:** The Metadata Specialist leads the update process, working with contributors to apply required corrections.
 - a. Route feedback to the appropriate Data Stewards, Data Owners, or Compliance Specialists based on the nature of the issue.
 - b. Track revisions in a centralized change log, noting what was updated, by whom, and when.
 - c. Revalidate updated fields to ensure corrections are complete and consistent with the metadata schema.

5.4.1.H
Cont.
(2/2)

- iii. **Resubmit Finalized Metadata Package to DGO:** Once all updates are made, the Metadata Specialist submits the corrected version to the DGO.
- Save all updated files with revised version numbers (e.g., Data_Catalog_v1.1_Resubmitted.xlsx).
 - Include a short response memo or change log summarizing how feedback was addressed.
 - Confirm receipt with the DGO and close the submission cycle.

**Tip**

- Keep version history and change logs clear to reduce back-and-forth with the DGO.
- If clarification is needed on feedback, engage the DGO early to avoid misinterpretation.

**Key Message / Information**

This step ensures that metadata submitted by the Entity meets all DGO quality and compliance expectations. Promptly addressing feedback supports good governance and demonstrates metadata accountability.

RACI Matrix – Attributes Inventory Population

Indicative

Sr No.	Activity	DGO	Data Management and Security Director	Data Management and Governance Section Head	Metadata Specialist	Data Owner	Data Steward	Data Compliance Specialist
5.4.1.A	Initiate Attribute Inventory Population Process		I	A	R	C	R	C
5.4.1.B	Review the Approved Dataset Inventory			A	R	C	C	
5.4.1.C	Populate Business Metadata Fields				C	C	R	C
5.4.1.D	Populate Technical, Ownership, and Privacy Metadata			A	C	C	R	C
5.4.1.E	Review Attribute Inventory with Data Owners			A	R	R	C	C
5.4.1.F	Finalize and Approve the Attribute Inventory		I	A	R	I/C	I/C	I/C
5.4.1.G	Submit the Full Data Catalog to the DGO	I	I	A	R	I		C
5.4.1.H	Receive and Address DGO Feedback and Finalize Submission	I/C	I	A	R	C	C	C

RACI Matrix Legend: **R:** Responsible **A:** Accountable **C:** Consulted **I:** Informed

Based on this Activity, the Entity can



Populate the Attributes Inventory



Submit the Finalized Data Catalog to the DGO

5.4.2 Data Catalog Usage

Once the data catalog has been populated and approved, the Entity must promote its use and support ongoing interaction with it. This activity focuses on driving awareness, enabling users to search and understand metadata, and establishing a simple feedback and issue resolution process to keep the catalog accurate and useful over time.

Through this activity, the Entity ensures that data consumers can confidently navigate the catalog, raise metadata issues when needed, and access the right data with the right context. It also reinforces accountability for catalog quality by defining how issues are assigned, resolved, and communicated back to users.

Process – Data Catalog Usage

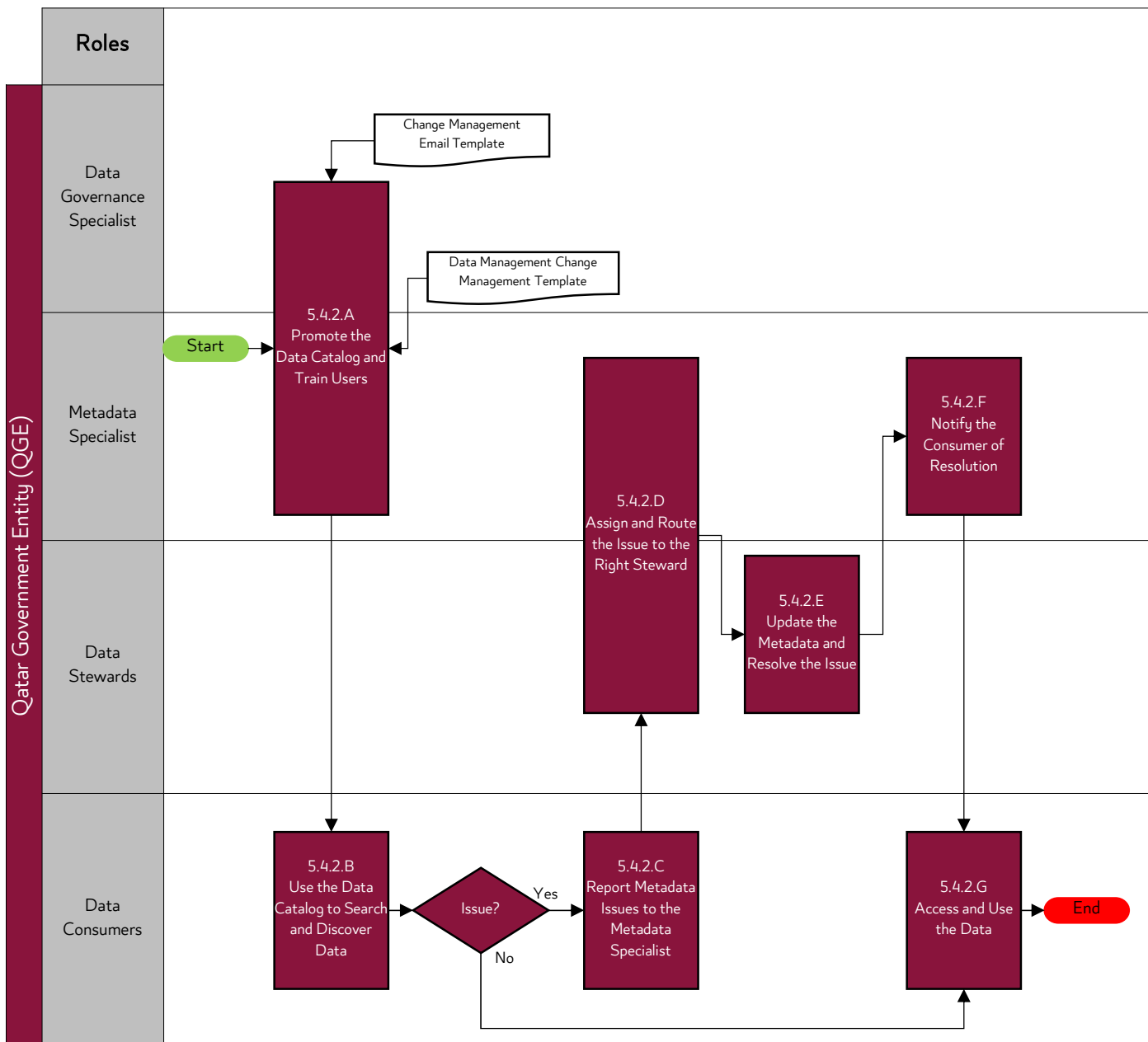


Figure 11 - Data Catalog Usage Process Map

Legend: Process Step Decision Process Start Process End Document Off-Page Reference

5.4.2.A
(1/3)

Promote the Data Catalog and Train Users: To ensure the data catalog is adopted and used effectively, the Entity must launch a structured internal communication and training effort. This step is essential for creating awareness, building user confidence, and positioning the catalog as a central tool for discovering and understanding metadata. Promotion and training should be ongoing to support new users, feature updates, and evolving business needs.

- i. **Communicate the Launch of the Data Catalog:** The Metadata Specialist, in coordination with the Data Governance Specialist, announces the availability of the data catalog to the Entity.
 - a. Use a standard **change management email template** to inform all staff about the catalog's launch.
 - b. Clearly describe:
 - What the catalog is and why it matters
 - Key features and benefits (e.g., search, metadata visibility, glossary access)
 - Who should use it and for what purposes (e.g., analysts, policy planners, compliance staff)
 - c. Include links to user guides, FAQs, or helpdesk contacts for support.

Asset Guidance

Illustrative

The **Change Management Communication Plan Email Template** is a sample email template that the Entity can leverage to announce the new data catalog.

Subject: [IMPORTANT] Notification of [Change Description] – Please Review

Dear [Recipient Name/Team],

We would like to inform you of an important change that will take effect as of [Date]. This change relates to [briefly describe the change, e.g., a new data governance policy, system update, or process change] and is part of our ongoing efforts to improve [mention the purpose of the change, e.g., data quality, compliance, or operational efficiency].

What Is Changing?

- [Clearly state what is being changed, e.g., "We are updating our data governance framework to include new privacy regulations."]
 - [If applicable, include any specific systems or processes affected by the change.]

Why Is This Change Happening?

- This change is necessary to [explain the reason, e.g., "align with new regulatory requirements," "improve data accuracy and reporting," or "support our data management strategy"].

How Does This Impact You?

- [Clearly explain how the change will affect the recipient's role, team, or department, e.g., "You will need to follow the updated policy for handling customer data."]
 - [If applicable, mention any new responsibilities, processes, or systems the recipient needs to be aware of.]

What Do You Need to Do?

- [Provide clear instructions on what actions the recipient should take, e.g., "Review the updated policy by [Date]" or "Attend the training session on [Date]."]
 - [If no immediate action is required, state that clearly, e.g., "No action is required from you at this time."]
 - [Provide clear instructions on what actions the recipient should take, e.g., "Review the updated policy by [Date]" or "Attend the training session on [Date]."]

Support and Resources

We have provided the following resources to assist you with this change:

- [Link to any documents, training materials, or guides]
- [Provide contact information for any support teams or help desks that can assist with questions.]

Next Steps

- [Outline the next steps, e.g., "We will follow up with a training session on [Date]" or "Please reach out to [Support Contact] if you have any questions."]
 - [If applicable, remind the recipient of key deadlines, e.g., "Please ensure you complete the necessary steps by [Date]."]

Thank you for your cooperation in ensuring a smooth transition. Your understanding and collaboration are crucial to the success of this change.

If you have any questions or concerns, please don't hesitate to contact [Support Contact/Your Team's Name] at [email/phone number].

Best regards,
[Your Name]
[Your Position]
[Your Department]
[Contact Information]

5.4.2.A
Cont.
(2/3)

- ii. **Develop and Deliver a Training Plan:** Ensure users are equipped with the knowledge needed to navigate and use the catalog confidently.
- Create a training plan using the Data Management Change Management Template provided in the asset guidance.
 - Define the following for each training session:
 - Audience (e.g., business users, data stewards, analysts)
 - Training format (e.g., workshop, e-learning, live demo)
 - Key content modules (e.g., how to search, interpret metadata, raise issues)
 - Success metrics (e.g., attendance, feedback, usage after training)
 - Schedule and deliver sessions, starting with high-impact user groups and domains.

Asset Guidance

The **Data Management Change Management Template** includes a training plan template that the Entity can use to design a training plan for promoting and upskilling users on the data catalog's functionalities.

Illustrative


Training Plan

The following table is a template containing the information needed to be collected for a training plan

Field	Description
Training ID	Unique identifier for the training plan
Training Title	Title or description of the training
Related Change ID (if any)	Change ID that the training relates to
Related Change Title (if any)	Title of the change that this training relates to
Training Objective	The purpose or goal of the training (e.g., to educate about new processes, tools, or roles)
Training Audience	The group of stakeholders who will undergo the training
Training Cadence	The number of training sessions, when you have them, and how long they are
Training Content/Modules	A list of topics or modules that will be covered in the training
Training Methods	How the training will be delivered (e.g., Workshops, Online Training, In-Person)
Trainer/Facilitator	The person or team responsible for conducting the training
Training Dates	Scheduled dates for the training session
Training Materials Needed	Resources or materials needed for training (e.g., presentation slides, handouts, system access)
Success Criteria / Outcomes	Key success factors or outcomes to determine if training was effective (e.g., Assessment, Feedback)
Post-Training Support	How additional support will be provided after training (e.g., FAQs, Help Desk, Follow-up Sessions)
Approval Status	Status of the training plan (Pending, Approved, Completed)

Training ID	Training Title	Related Change ID (if any)	Related Change Title (if any)	Training Objective	Training Audience	Training Cadence	Training Content/Modules

Training Methods	Trainer/Facilitator	Training Dates	Training Materials Neded	Success Criteria / Outcomes	Post-Training Support	Approval Status

- iii. **Establish an Ongoing Communication Channel:** Create a two-way communication path for continuous feedback, questions, and support.
- Set up a catalog support email, Teams channel, or intranet space for users to raise issues or share suggestions.
 - Encourage users to report difficulties, suggest improvements, or ask metadata-related questions.
 - Monitor engagement and escalate common themes to improve catalog usability and metadata quality over time.

5.4.2.A
Cont.
(3/3)

Tip

- Tailor training examples to real datasets and use cases within the Entity.
- Avoid technical language and focus on user experience, benefits, and how the catalog simplifies data discovery.



Key Message / Information

Promotion and training ensure the catalog is not just launched - but used. This step helps users understand its value, adopt it confidently, and engage in ongoing improvements.

5.4.2.B

Use the Data Catalog to Search and Discover Data: Once trained, data consumers begin using the data catalog to find and explore datasets and attributes relevant to their business needs. This step reflects the day-to-day use of the catalog by analysts, policy teams, and operational users to improve data visibility and accessibility.

- i. **Search for Relevant Datasets and Attributes:** Data consumers navigate the catalog using search terms, filters, or category browsing.
 - a. Search by:
 - Dataset or attribute name
 - Business domain, function area, or subject area
 - Keywords or glossary terms
 - b. Apply filters (e.g., business domain, classification, source system) to refine results.
- ii. **Review Metadata to Understand the Data:** Once a relevant dataset or attribute is found, users review its metadata to understand its purpose and context.
 - a. Review key fields such as:
 - Dataset business name
 - Dataset business description
 - Business Domain
 - Data Owner
 - Attribute name
 - Attribute description
 - Function area
 - Subject area
 - Authoritative data source
 - Classification
 - b. Determine whether the data meets the purpose of the request or use case.

5.4.2.C

Report Metadata Issues to the Metadata Specialist: If a data consumer notices an issue while browsing the data catalog—such as missing information, unclear definitions, or inaccurate metadata—they must report it to the Metadata Specialist for triage and resolution.

- i. **Identify and Report Metadata Issues:** Data consumers are encouraged to report any issues that may impact data understanding or trust.
 - a. Examples of issues include:
 - Incomplete or unclear attribute descriptions
 - Incorrect classification or ownership details
 - Duplicated or misnamed entries
 - b. Use the Entity's designated reporting channel (e.g., metadata support email, online form, or ticketing system).
- ii. **Ensure Complete Issue Information is Provided:** To support resolution, consumers should provide enough context.
 - a. Include the dataset or attribute name, issue description, and link or screenshot if available.
 - b. Mention the impact or concern (e.g., "Conflicting definitions in two departments").



Tip

- Encourage data catalog issue reporting as part of a healthy data culture.
- Route reports through a single point (Metadata Specialist) to maintain consistency.

5.4.2.D
(1/2)

Assign and Route the Issue to the Right Steward: Once a metadata issue is reported by a data consumer, the Metadata Specialist is responsible for reviewing the issue, performing an initial assessment, and routing it to the appropriate Data Steward for resolution. This step ensures that issues are handled efficiently and by the correct domain or system expert.

- i. **Review and Assess the Reported Issue:** The Metadata Specialist performs an initial triage of the issue to understand scope, cause, and urgency.
 - a. Review the submitted issue details, including the dataset or attribute name, issue type, and impact.
 - b. Determine whether the issue relates to:
 - Business Metadata (e.g., incorrect description, missing glossary term)
 - Technical Metadata (e.g., wrong data type or column reference)
 - Ownership or classification issues
 - c. Check whether the issue has been previously reported or is already flagged for resolution.
- ii. **Identify the Relevant Data Steward:** Based on the issue type and dataset domain, the Metadata Specialist identifies the correct steward.

5.4.2.D
Cont.
(2/2)

- a. Use the metadata inventory to confirm the assigned Business or IT Data Steward for the affected dataset.
- b. If the issue relates to a domain not clearly mapped, consult the Data Governance Specialist to determine stewardship assignment.
- c. Document issue routing in a tracking sheet or issue log, including assignment date and responsible steward.

iii. **Delegate Issue for Resolution:** Formally assign the issue to the identified steward for investigation and resolution.

- a. Notify the steward via the agreed-upon channel (e.g., email, ticketing system) and include full issue context.
- b. Set an expected timeline for resolution based on issue complexity or urgency.
- c. Flag issues that may require input from Data Owners or Compliance Specialists during resolution.

**Tip**

- Triage issues quickly - delays in routing often lead to missed follow-ups or degraded trust in the catalog.
- Maintain a centralized issue tracker with status updates (e.g., Assigned, In Progress, Resolved).

5.4.2.E
(1/2)

Update the Metadata and Resolve the Issue: Once a metadata issue has been assigned, the responsible Data Steward must resolve it by reviewing the affected metadata, consulting with supporting roles as needed, and making the appropriate updates. This step ensures that metadata is corrected in a timely, accurate, and governed manner, reinforcing catalog quality and user trust.

i. **Investigate the Reported Metadata Issue:** The assigned Data Steward reviews the metadata issue in detail to determine the necessary correction.

- a. Reproduce or verify the reported issue using the data catalog or source metadata files.
- b. Confirm whether the issue pertains to:
 - Business metadata (e.g., incorrect description, inconsistent term usage)
 - Technical metadata (e.g., wrong data type or format)
 - Ownership or classification metadata
- c. If clarification is needed, consult the Metadata Specialist, Data Owner, or Compliance Focal Point before proceeding.

ii. **Update the Metadata in the Approved Template:** The Data Steward applies corrections directly in the approved version of the relevant metadata file (e.g., Attribute Inventory or Dataset Inventory).

- a. Make edits using the official template or tool interface (if tool is implemented as per section 6).
- b. Follow formatting rules and metadata schema constraints.
- c. Use version control to log the change (e.g., date, field updated, reason for change).

5.4.2.E
Cont.
(2/2)

iii. **Confirm Resolution with the Metadata Specialist:** Once the metadata has been updated, the Data Steward notifies the Metadata Specialist to review and close the issue.

- a. Provide a brief description of what was corrected and, if needed, supporting context.
- b. If the update required input from other roles (e.g., Compliance), include that in the resolution notes.
- c. Ensure the metadata file is marked as “Resolved” in the issue log or tracking tool.

5.4.2.F

Notify the Consumer of Resolution: After a metadata issue has been resolved, the Metadata Specialist must close the feedback loop by informing the data consumer who reported the issue. This step reinforces transparency, builds trust in the catalog, and encourages future engagement from users.

i. **Confirm Completion and Communicate Resolution:** The Metadata Specialist notifies the data consumer that their issue has been addressed.

- a. Send a brief confirmation message (e.g., email or platform notification) summarizing:
 - The issue reported
 - The action taken or field updated
 - A link or reference to the updated catalog entry
- b. Invite the consumer to review the change and provide any follow-up questions if needed.

ii. **Close the Issue in the Tracking System:** Finalize the issue resolution from a governance perspective.

- a. Mark the issue as “Resolved” or “Closed” in the tracking log.
- b. Note the resolution date, responsible steward, and how the issue was communicated back to the reporter.

5.4.2.G

Access and Use the Data: After reviewing metadata in the catalog, or once a reported issue has been resolved, data consumers proceed to access and use the dataset for their intended purpose. This step reflects the catalog’s role in enabling data discovery and supporting evidence-based decision-making.

i. **Retrieve or Request Access to the Dataset:** The data consumer follows the defined process to access the dataset.

- a. If the dataset is available through self-service access, download or query the data as needed.
- b. If access controls are in place, submit an access request according to the Entity’s data access policy.
- c. Reference metadata fields (e.g., owner, classification) when submitting requests to ensure appropriate routing.

ii. **Use the Dataset in Alignment with Metadata Context:** Ensure that data is used correctly and responsibly based on the metadata provided.

- a. Review data classification and usage guidelines before applying or sharing the data.
- b. If questions remain, contact the Data Owner or Steward listed in the metadata for clarification.

RACI Matrix – Data Catalog Usage

Indicative

Sr No.	Activity	Data Management and Governance Section Head	Data Governance Specialist	Metadata Specialist	Data Owner	Data Steward	Data Consumers	Data Compliance Specialist
5.4.2.A	Promote the Data Catalog and Train Users	A	R	R	I	C		
5.4.2.B	Use the Data Catalog to Search and Discover Data	A			I	I	R	
5.4.2.C	Report Metadata Issues to the Metadata Specialist	A		I	I	I	R	
5.4.2.D	Assign and Route the Issue to the Right Steward	A	C	R	I	R	I	
5.4.2.E	Update the Metadata and Resolve the Issue	A		C	C	R	I	C
5.4.2.F	Notify the Consumer of Resolution	A		R	I	C	I	
5.4.2.G	Access and Use the Data	A		I	C	C	R	

RACI Matrix Legend: **R**: Responsible **A**: Accountable **C**: Consulted **I**: Informed

Based on this Activity, the Entity can



Enable users to discover and understand metadata independently

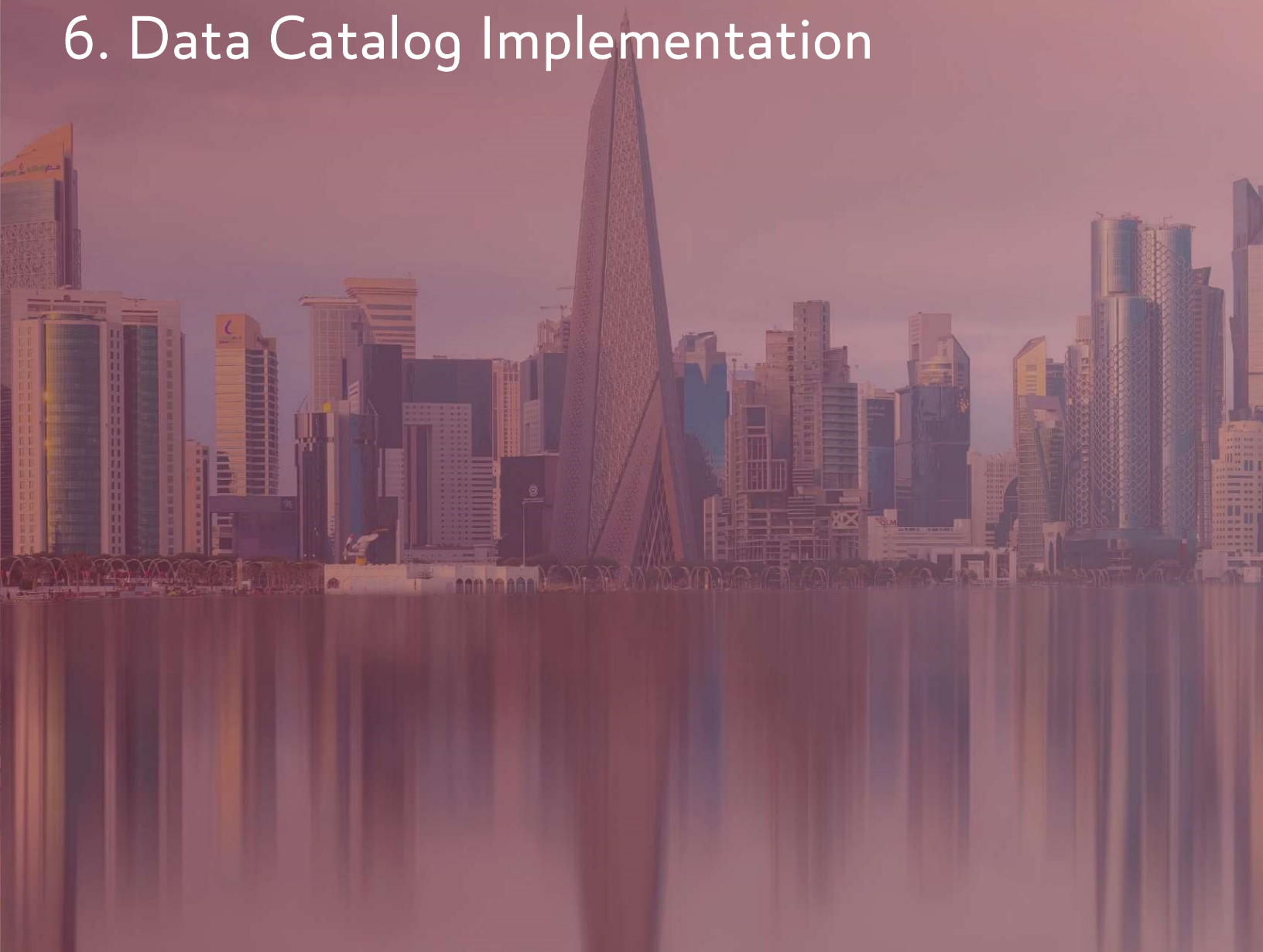


Report and resolve catalog metadata issues efficiently



Promote responsible and informed use of organizational data

6. Data Catalog Implementation



6 Data Catalog Implementation

What is Data Catalog Tool Implementation and why does the Entity need it?

Implementing a data catalog tool allows the Entity to manage its metadata in a centralized, structured, and sustainable way. While Excel-based templates served as a foundational starting point in earlier sections, a dedicated catalog tool enables greater efficiency, automation, and user access, transforming static metadata into a searchable, governed asset.

This activity guides the Entity through the full lifecycle of tool implementation, from planning and selection to installation, configuration, training, and launch. The tool should support ingestion of metadata either from previously approved Excel templates or directly from the Entity's source systems, depending on national requirements, infrastructure and maturity. It must also be configured to align with the National Data Standards and support ongoing governance, collaboration, and issue resolution.

The Entity's implementation plan must be structured using the templates introduced in Section 3.1.3 (Initiative Card and Roadmap Template) and must be approved before tool deployment begins. Business acceptance testing ensures the tool meets real-world requirements, and user training equips teams to adopt and manage metadata confidently.

By following this process, the Entity ensures its data catalog tool is not only technically implemented, but organizationally adopted, strategically aligned, and fully capable of supporting Entity-wide metadata governance.

The remaining sections of this chapter will detail the below activity that will guide the Entity on implementing the data catalog tool:

6.1 Data Catalog Tool Implementation

Guiding Principles for Data Catalog Tool Implementation

1. **Engage Cross-Functional Stakeholders from the Start:** Involve representatives from data governance, IT, compliance, and business domains to ensure the tool reflects Entity needs and metadata requirements.
2. **Leverage Existing Metadata Plans and Templates:** Build on initiative cards and roadmaps developed in earlier planning phases to align implementation with strategic metadata goals.
3. **Prioritize Automation and Usability:** Choose a tool that supports metadata ingestion, update notifications, and role-based access to reduce manual work and improve metadata quality.
4. **Support Multiple Ingestion Methods:** Ensure the tool can ingest metadata from Excel templates or directly from source systems and databases, depending on the Entity's requirements, maturity and architecture.
5. **Validate Functionality Before Launch:** Use business acceptance testing with sample metadata to confirm tool configuration, access controls, and usability before full rollout.
6. **Ensure Flexibility and Scalability:** Select a tool that can scale with the Entity's data landscape and integrate with future platforms and governance tools.
7. **Align with the National Metadata Agenda:** Consult NPC to ensure tool selection and implementation are compatible with national direction and any future government-wide catalog initiatives.

6.1 Data Catalog Tool Implementation

The objective of this process is to guide the Entity in implementing a data catalog tool that centralizes metadata and streamlines access to data assets across the Entity.

Process – Data Catalog Tool Implementation

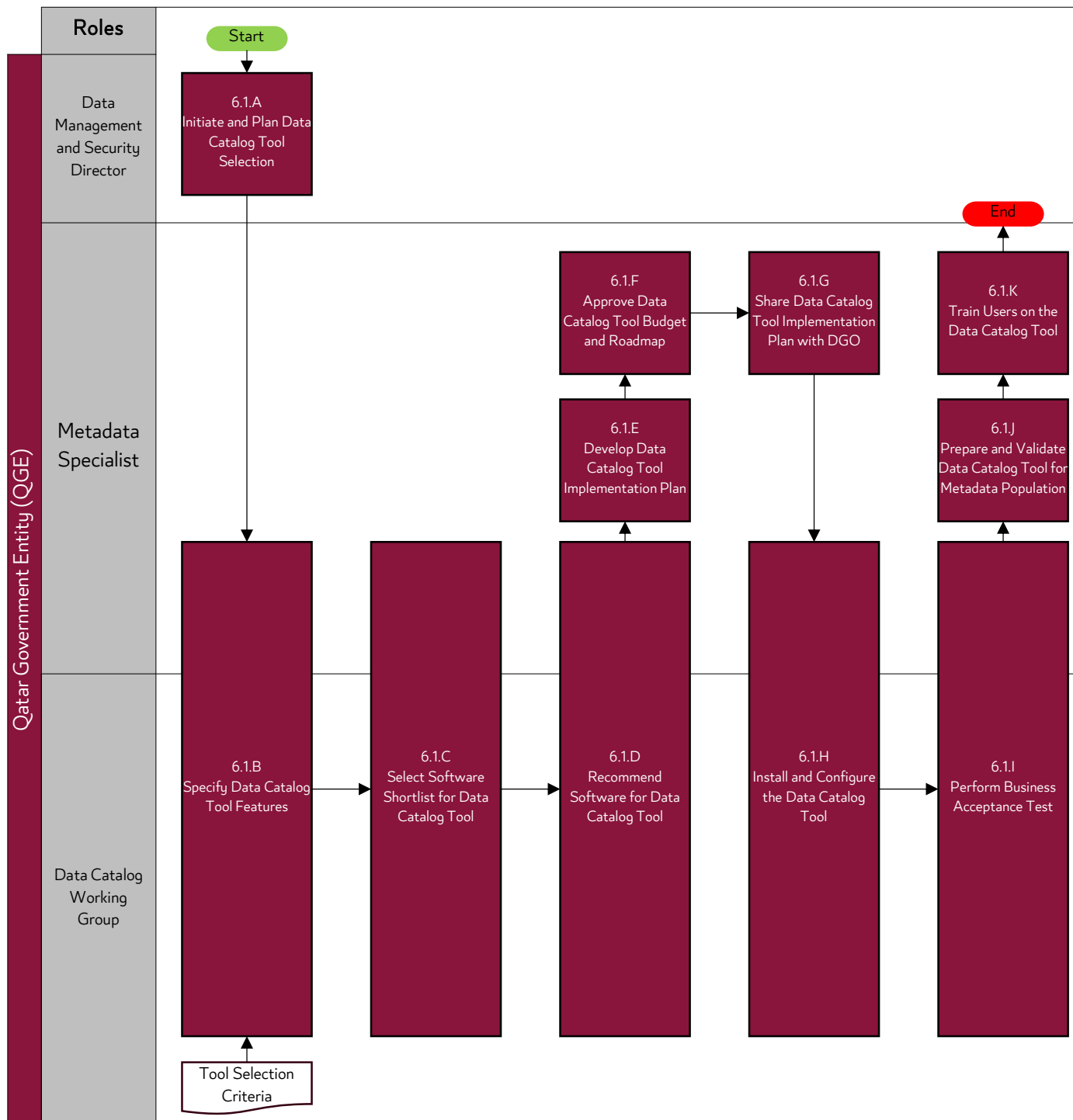


Figure 12 – Data Catalog Tool Implementation Process Map

Legend: Process Step Decision Process Start Process End Document Off-Page Reference

6.1.A

Initiate and Plan Data Catalog Tool Selection: The Entity must formally initiate the process of selecting a data catalog tool by defining clear objectives, mobilizing a cross-functional working group, and aligning the effort with previously defined metadata initiatives. This step ensures that the selection process builds on the Entity's established roadmap (from 3.1.3), supports compliance with the National Data Standards, and is coordinated with any broader national data catalog agenda led by NPC.

- i. **Define Objectives and Align with Data Catalog and Metadata Management Plan:** The Data Management & Security Director initiates the selection effort with support from the Metadata Specialist.
 - a. Revisit the initiative cards and roadmap developed in 3.1.3 to confirm the scope, dependencies, and timing for catalog tool selection.
 - b. Define the objectives of the tool (e.g., centralize metadata, improve discoverability, enable issue resolution workflows).
 - c. Ensure the planned selection process supports the Entity's broader data strategy and technical readiness.
- ii. **Establish a Data Catalog Working Group:** In alignment with the data governance framework and working groups defined in the Data Management Strategy and Governance domain guidelines, form a cross-functional team to lead the selection and planning process.
 - a. Include representatives from:
 - Data Governance
 - IT and Business Teams
 - Compliance/Privacy
 - Data Quality and Stewardship
 - b. Assign a working group coordinator (typically the Metadata Specialist).
 - c. Define roles and responsibilities for gathering requirements, evaluating tools, and preparing recommendations.
- iii. **Coordinate with NPC (if National Catalog Agenda Exists):** Ensure alignment with national-level direction, if applicable.
 - a. If there is an active or planned initiative to implement a National Data Catalog, the Entity must consult the NPC before selecting or procuring any catalog tool.
 - b. Confirm whether integration or compatibility requirements exist at the national level.
 - c. Adjust the Entity's tool selection scope or timing accordingly to ensure alignment.
- iv. **Launch the Planning Phase:** Begin tool selection planning and communicate internally.
 - a. Announce the launch of the selection effort and share initial objectives.
 - b. Schedule the first working group session and distribute reference materials.
 - c. Set expectations for upcoming activities (e.g., feature identification, tool evaluation).



Key Message / Information

This step ensures the catalog tool selection process is properly planned, nationally aligned, and grounded in the Entity's existing metadata strategy and roadmap.

6.1.B
(1/2)

Specify Data Catalog Tool Features: Before evaluating tool options, the Entity must define its specific feature requirements based on metadata needs, existing system architecture, and the National Data Standards. This step ensures the Entity selects a catalog tool that supports automation, usability, scalability, and long-term governance alignment.

- i. **Analyze Metadata Needs Using the Dataset Inventory:** Use existing metadata assets to identify functional requirements for the tool.
 - a. Review the Dataset Inventory to understand the types of metadata captured, frequency of updates, and volume of datasets.
 - b. Identify operational needs across domains, such as:
 - Metadata search and discovery
 - Metadata update workflows
 - Role-based permissions and access
 - c. Highlight any domain-specific challenges or recurring metadata gaps that a catalog tool should help resolve.
- ii. **Define Core and Additional Feature Requirements:** Based on the analysis and National Data Standards, determine what features the tool must support.
 - a. At a minimum, include the following core features:
 - **Metadata Automation:** Auto-ingest metadata from databases, files, APIs
 - **Notifications:** Alerts for updates, quality checks, review reminders
 - **Audit Trail:** Tracking metadata changes, actions, and history
 - **Version Control:** For metadata changes, rollback, and legacy tracking
 - b. Identify any additional features needed, such as:
 - Business glossary integration
 - Issue tracking or catalog commenting
 - Lineage visualization or data usage metrics
 - Integration with BI tools, data quality platforms, or governance dashboards
- iii. **Document Feature Requirements in the Tool Selection Criteria Template:** Translate the feature list into a standardized, weighted evaluation format.
 - a. Populate the Data Catalog Tool Selection Criteria Template, specifying:
 - Feature name and description
 - Weight (importance to the Entity)
 - Required level of advancement (e.g., Foundational, Advanced)
 - b. Ensure each requirement maps to either a national metadata standard or an identified operational need.
 - c. Share the draft criteria with the Data Catalog Working Group for validation.

6.1.B
Cont.
(2/2) **Asset Guidance**

The **Data Catalog Tool Selection Criteria Template** helps the Entity document mandatory and additional data catalog tool features, list various tool options, specify feature and cost weightings based on importance, and guide the Entity through the decision-making process.

Illustrative

 Data Catalog Tool Selection Criteria Template						
The following tables provide a structured template to guide the evaluation and selection of a data catalog tool						
Field		Description				
Tool feature		The specific tool feature required based on the domain's standards (e.g., version control).				
Tool feature weight		The weighted percentage assigned to the tool feature based on importance to the respective entity.				
Feature level of Advancement		The level of advancement of the feature as per the standards (Foundational, Advanced, or Very Advanced).				
[Tool name 1,2,3,X]		Whether the suggested tool has the feature described (Yes/No).				
Features Scoring		Description				
1 - Low		Limited functionality, insufficient to meet key requirements				
2 - Medium		Basic functionality, meets most requirements but with some limitations				
3 - High		Strong functionality, meets all requirements effectively with minor gaps				
4 - Very High		Comprehensive functionality, meets all requirements with advanced features and flexibility				
Pricing Scoring		Description				
1 - Low		High cost solution				
2 - Medium		Moderate cost solution				
3 - High		Budget friendly solution				
4 - Very High		Low cost solution				
Tool Feature	Tool Feature Weight	Feature level of Advancement	[Tool name 1]	[Tool name 2]	[Tool name 3]	[Tool name X]
Cost	40%	Foundational	4			
Data Catalog Automation	30%	Foundational	3			
Data Catalog Notifications	10%	Foundational	2			
Data Catalog Audit Trail	10%	Foundational	2			
Data Catalog Tool Versioning	10%	Foundational	1			
Total:			75%	0%	0%	0%

**Tip**

- Avoid over-customizing the feature list. Start with what's truly needed to support metadata management.
- Use the same criteria format to maintain comparability during shortlisting in 6.1.C.
- Balance mandatory vs. "nice-to-have" features so evaluation remains flexible.

6.1.C
(1/2)

Select Software Shortlist for Data Catalog Tool: Using the populated selection criteria template, the Entity must assess and compare available data catalog tools to create a shortlist of solutions that meet its functional, compliance, and cost requirements. This step ensures that only the highest-scoring, most aligned tools advance for recommendation and approval.

- Research and Identify Candidate Tools:** The Metadata Specialist and Data Catalog Working Group (IT Team) gather information on leading data catalog tools.
 - Compile a list of vendor options based on:
 - Market research and government sector relevance
 - Compatibility with metadata standards and infrastructure
 - Feedback from peer entities (if available)

- c. Ensure tools support core features identified in 6.1.B, such as metadata automation, audit trail, and version control.
- ii. **Score Tools Using the Tool Selection Criteria Template:** Evaluate each tool option based on standardized criteria.
- a. For each tool, populate the Tool Selection Criteria Template:
 - Enter the tool name in the corresponding column
 - Use the 1–4 Features Scoring scale to rate each feature (e.g., 1 = Low, 4 = Very High)
 - Apply the Tool Feature Weight to calculate a weighted score per feature
 - Record the Feature Level of Advancement (e.g., Foundational, Advanced)
 - b. If applicable, assign a Pricing Score (1–4 scale) to reflect cost suitability.
 - c. Calculate total weighted scores to rank tools objectively.
- iii. **Shortlist the Highest-Scoring Tools:** Select the top tool options based on weighted scores and alignment with Entity needs.
- a. Retain only the top 2–4 tools that meet all mandatory features and demonstrate strong overall capability.
 - b. Document rationale for tool inclusion or exclusion (e.g., insufficient version control, high cost, missing glossary support).
 - c. Share the shortlisted tools and scoring summary with the remaining members of Data Catalog Working Group for feedback.



Key Message / Information

Don't shortlist tools that fail to meet foundational requirement, even if their total score is high.

Recommend Software for Data Catalog Tool: Based on the results of the tool evaluation and scoring process, the Entity must formally recommend the data catalog tool that best meets its needs. This step documents the preferred solution and prepares it for internal approval.

- i. **Confirm the Recommended Tool:** The Metadata Specialist, with input from the Data Catalog Working Group, selects the top-ranked tool from the shortlist.
 - a. Ensure the recommended tool meets all mandatory features identified in 6.1.B.
 - b. Consider both feature alignment and cost when finalizing the recommendation.
 - c. Document the rationale for selection, including tool strengths and known limitations.
- ii. **Prepare a Recommendation Summary:** Summarize the recommendation in a format suitable for review and approval.
 - a. Include total scores, feature comparison, and tool profiles.
 - b. Use visuals (e.g., comparison table) to support decision-making.
 - c. Share the recommendation summary with the Data Management & Security Director for review.

6.1.E
(1/2)

Develop Data Catalog Tool Implementation Plan: Once the data catalog tool has been selected, the Entity must prepare a structured implementation plan that outlines the key activities, responsibilities, budget, and timeline required for successful deployment. This plan must align with the Entity's previously defined metadata roadmap and must be presented using the Initiative Card and Roadmap Templates developed in 3.1.3 to ensure clarity, traceability, and alignment with governance expectations.

- i. **Define Key Implementation Activities and Milestones:** Translate the tool onboarding into a series of clearly structured phases and sub-activities.
 - a. Define phases such as:
 - Procurement and vendor onboarding
 - Installation and configuration
 - Metadata migration from Excel templates or onboarding from systems
 - User training and tool launch
 - Post-launch monitoring and support
 - b. For each phase, define high-level milestones, and break them into specific implementation activities (e.g., ingest test metadata, validate taxonomy support, set up user roles).
 - c. Ensure all key activities are consistent with national data catalog requirements and tool capabilities.
- ii. **Assign Roles, Responsibilities, and Governance Ownership:** Identify the resources responsible for each part of implementation.
 - a. Define key implementation roles:
 - Sponsor (typically the Data Management & Security Director)
 - Initiative Owner (e.g., Metadata Specialist or Program Manager)
 - Implementation team (IT, data stewards, vendor)
 - b. Document stakeholder responsibilities using the Initiative Card Template, including points of contact for each key activity and approval.
- iii. **Estimate Budget and Resource Requirements:** Prepare a consolidated view of financial and resource needs to support planning and approval.
 - a. Include line items such as:
 - Tool licensing and hosting costs
 - Professional services or vendor support
 - Internal resourcing (e.g., configuration, training, migration)
 - Training development and delivery
 - b. Record these figures under the "Budget (in QAR)" and "Cost" sections of the Initiative Card Template.
 - c. Align budget timelines with key milestones and resource allocations.
- iv. **Summarize the Plan Using the Initiative Card and Roadmap Templates:** Consolidate the full plan into governance-friendly formats.

6.1.E
Cont.
(2/2)

- a. Use the Initiative Card Template to summarize:
 - Key activities and sub-activities
 - Timeline, budget, risks, dependencies
 - Stakeholders, sponsor, and owner
 - Expected benefits and technology requirements
- b. Use the Roadmap Template to map the detailed sequence of tasks over time, including start and end dates, task owners, and interdependencies.
- c. Review both templates with the Data Catalog Working Group and prepare them for approval in 6.1.F.



Key Message / Information

The implementation plan should be documented using both the Initiative Card and Roadmap Template. These tools provide a high-level summary and detailed timeline that ensure the catalog implementation is transparent, accountable, and aligned with prior planning activities.

6.1.F
(1/2)

Approve Data Catalog Tool Budget and Roadmap: Once the data catalog tool implementation plan is finalized, the Entity must submit it to the Data Committee for formal approval. This step ensures that the budget, timeline, and execution roadmap align with organizational priorities, resource constraints, and compliance with the National Data Standards.

- i. **Submit the Implementation Plan for Review:** The Metadata Specialist shares the finalized plan with the Data Committee for consideration.
 - a. Submit the approved Initiative Card and Roadmap Template prepared in 6.1.E.
 - b. Highlight key aspects such as:
 - Implementation phases and timeline
 - Budget estimates and resource needs
 - Governance structure and stakeholders
 - Expected outcomes and risk mitigations
 - c. Provide a summary slide or executive memo if required by committee procedures.
- ii. **Respond to Questions or Clarification Requests:** Ensure decision-makers are fully informed and able to evaluate the plan.
 - a. Be prepared to clarify technical, financial, or timeline-related details during the committee meeting.
 - b. If changes are requested, update the relevant sections of the plan and resubmit for final endorsement.
- iii. **Secure Formal Approval to Proceed:** The Data Committee formally endorses the plan, authorizing tool implementation.
 - a. Record the decision in meeting minutes or formal correspondence.
 - b. Notify all implementation stakeholders and update the plan's status in the governance repository.

6.1.F
Cont.
(2/2)**Key Message / Information**

Data Committee approval ensures institutional oversight, cross-departmental alignment, and full accountability before committing to tool implementation.

6.1.G

Share Data Catalog Tool Implementation Plan with DGO: Following internal approval, the Entity must submit the finalized Data Catalog Tool Implementation Plan to the DGO. This step ensures the DGO is informed of the Entity's intended timeline, milestones, and tool deployment approach.

- i. **Share the Approved Implementation Plan:** The Metadata Specialist sends the approved Initiative Card and Roadmap to the DGO through the designated submission channel (e.g., official email or official designated channel at the respective point in time).
- ii. **Maintain Record of Submission:** Document the submission date and maintain copies of any correspondence or acknowledgement from the DGO for internal tracking.

**Key Message / Information**

This step provides visibility to the DGO and ensures the Entity's tool implementation timeline is aligned with national data catalog and metadata management oversight efforts.

6.1.H
(1/2)

Install and Configure the Data Catalog Tool: After internal approval and coordination with the DGO, the Entity must install and configure the selected data catalog tool. This step focuses on setting up the tool's environment, enabling essential features, and ensuring secure and functional readiness in line with the Entity's metadata requirements and IT policies.

- i. **Install the Tool in the Approved Environment:** The Data Catalog Working Group (IT Team) installs the selected catalog tool according to the Entity's infrastructure standards.
 - a. Coordinate with the vendor (if applicable) to provision cloud-based or on-premise hosting.
 - b. Ensure installation complies with cybersecurity, privacy, and access management policies.
 - c. Validate the base installation and perform required system-level tests.
- ii. **Configure Core Functionalities Based on Requirements:** The Metadata Specialist and Data Catalog Working Group (IT Team) configure the tool to support priority use cases and features defined in 6.1.B.
 - a. Enable and configure (not limited to):
 - Metadata ingestion (e.g., from Excel templates, databases)
 - Role-based access controls and user permissions
 - Notification settings (e.g., alerts for updates or reviews)
 - Metadata versioning and audit trail
 - Classification, taxonomy, and glossary structures

6.1.H
Cont.
(2/2)

- b. Confirm configuration supports all metadata categories (e.g., business, technical, security) outlined in section 5.

iii. **Conduct Initial Configuration Validation:** Validate that the configured tool aligns with operational and governance expectations.

- a. Perform checks to ensure metadata loads correctly, users can log in, and permission settings are enforced.
- b. Flag any gaps or unresolved configurations for immediate follow-up with the vendor or implementation team.



Tip

- Begin configuration with a sandbox or test environment before full deployment.
- Align tool configuration with existing metadata structures in the approved Excel templates.
- Involve Data Stewards early to validate usability and interface alignment with real tasks.

6.1.I
(1/2)

Perform Business Acceptance Testing: Once the data catalog tool is installed and configured, the Entity must conduct business acceptance testing to confirm that the tool performs as expected and supports its metadata and governance requirements. This step validates core functionality using sample metadata and ensures the tool is ready for real metadata population in 6.1.J.

i. **Define Business Acceptance Testing Scope and Criteria:** The Metadata Specialist and Data Catalog Working Group (Data Governance Specialist) define the features and success criteria to be tested.

- a. Identify core functionality to validate, including but not limited to:
 - **Metadata Ingestion Testing:** Upload sample datasets (e.g., from databases, or excel templates previously populated such as the dataset and attribute inventory) and verify metadata is correctly captured, displayed, and searchable in the catalog.
 - **Quality Check Validation:** Run data quality checks on sample metadata (where the tool supports it) to confirm the tool identifies missing values, duplicates, or outliers and triggers alerts based on predefined thresholds.
 - **User Access Simulation:** Test multiple user roles to verify that role-based access permissions are enforced, and that no user can exceed their assigned boundaries.
 - **Notification System Test:** Configure a test alert to validate that notifications are triggered and routed to the correct users (e.g., data stewards) when metadata is updated or flagged for review.
 - **Taxonomy Navigation and Glossary Linking:** Confirm that users can browse, or search based on business domain, function area, subject area, and glossary tags, if sample metadata has been uploaded for testing.
- b. Define measurable success criteria for each of the test categories above (e.g., “ingestion success rate > 95%,” “notifications received within 5 minutes”).

6.1.I
Cont.
(2/2)

- ii. **Execute Test Scenarios Using Sample Metadata:** Test the catalog tool using controlled inputs to simulate actual use.
 - a. Upload sample datasets and attributes using approved Excel templates to simulate metadata ingestion.
 - b. Conduct predefined test cases with a selected group of users (e.g., Data Stewards, Business Analysts, IT Staff).
 - c. Validate that features behave correctly in a controlled environment and gather structured feedback from participants.
- iii. **Log Test Results and Resolve Issues:** Track test outcomes and fix any issues before moving to full metadata population.
 - a. Document all test results, categorizing any failures by severity and area (e.g., UI, ingestion, access control).
 - b. Coordinate with the Data Catalog Working Group (IT Team) or vendor to resolve configuration or functional issues.
 - c. Re-test updated features as needed to confirm readiness for production use in 6.1.J.

**Key Message / Information**

Business acceptance testing ensures the catalog tool works as expected before full rollout. Testing with sample metadata confirms core features and identifies issues early.

6.1.J
(1/2)

Prepare and Validate Data Catalog Tool for Metadata Population: Following successful business acceptance testing, the Entity must prepare the catalog tool to ingest real metadata by configuring ingestion methods, validating data accuracy, and ensuring the tool is ready for ongoing metadata management. This step supports a smooth transition to production use, whether metadata is sourced from Excel templates or ingested directly from systems and databases.

- i. **Confirm Metadata Ingestion Approach and Configuration:** Determine and validate the method the Entity will use to populate metadata into the catalog.
 - a. In alignment with the direction provided by NPC, determine whether the catalog will ingest metadata from:
 - Excel-based templates developed in Section 5 (Business Glossary, Dataset Inventory, Attribute Inventory)
 - Or, directly from source systems (e.g., databases, data lakes, applications) through connectors or APIs.
 - b. Configure ingestion pipelines based on the selected approach and ensure all required metadata fields are mapped correctly to the catalog's schema.
 - c. Confirm taxonomy structures, dropdown values, glossary references, and field formats are supported during ingestion.
- ii. **Run Controlled Metadata Load and Validate Results:** Ingest a small set of real metadata and validate that the catalog receives and renders the information correctly.

6.1.J
Cont.
(2/2)

- a. Select a sample of datasets and attributes that were approved and reviewed in Section 5.
- b. Ingest them using the configured method (template or system connector).
- c. Validate:
 - Fields are captured correctly across business, technical, ownership, and privacy categories
 - Glossary linkages display properly
 - Classifications, stewardship, and domain tags appear as intended
 - Metadata is searchable and accessible based on user roles

iii. **Finalize Readiness for Metadata Population Rollout:** Ensure that the catalog is fully ready for production use across the Entity.

- a. Address any ingestion errors, display issues, or field mismatches.
- b. Confirm that all metadata categories and catalog functions are enabled and working correctly.
- c. Document the ingestion method, configuration settings, and validation results.
- d. Provide approval to begin full metadata population and rollout.



Key Message / Information

This step ensures the catalog is technically ready to support metadata population, regardless of whether metadata comes from structured templates or integrated systems.

6.1.K
(1/2)

Train Users on the Data Catalog Tool: After the catalog tool has been installed, configured, and validated, the Entity must conduct structured training to ensure all relevant users understand how to use the tool effectively. This includes both technical and business users, with a focus on key features such as metadata search, navigation, glossary linking, and issue reporting.

- i. **Identify Training Audience and Content Needs:** The Metadata Specialist defines the user groups and training scope based on tool usage roles.
 - a. Identify training audiences including but not limited to:
 - Business and IT Data Stewards
 - Data Owners and Governance Specialists
 - Analysts and business users who rely on metadata
 - IT administrators responsible for tool maintenance
 - b. Define training objectives for each group (e.g., “search and interpret metadata,” “manage metadata entries,” “approve metadata changes”).
- ii. **Deliver Training Sessions and Materials:** Conduct live or recorded training using a structured training plan.
 - a. Use the Data Management Change Management Template introduced in Section 5.4.2 to plan sessions, modules, materials, and facilitators.

6.1.K
Cont.
(2/2)

- b. Deliver training through the most suitable format:
 - Workshops or instructor-led demos
 - Online tutorials or recorded walkthroughs
 - Step-by-step user guides and FAQs
- c. Provide real examples using metadata from the Entity's glossary and dataset inventory.

iii. **Provide Ongoing Support and Reinforcement:** Ensure training leads to sustained adoption and confident use of the catalog.

- a. Establish a support channel (e.g., Teams group, catalog helpdesk) for post-training questions.
- b. Assign a point of contact (Metadata Specialist or Catalog Admin) for follow-up.
- c. Collect feedback after training to improve future sessions or materials.



Tip

- Use hands-on exercises based on real metadata to increase engagement.
- Reinforce catalog governance responsibilities during training (e.g., issue reporting, update requests).
- Record sessions for reuse with new employees or future rollouts.



Key Message / Information

Training is essential to maximize the value of the data catalog tool. Effective training ensures users can confidently navigate metadata, contribute updates, and raise issues when needed.

RACI Matrix – Data Catalog Tool Implementation

Indicative

Sr No.	Activity	DGO	Data Management and Security Director	Data Management and Governance Section Head	Data Catalog Working Group	Metadata Specialist
6.1.A	Initiate and Plan Data Catalog Tool Selection		A/R	I	I	C
6.1.B	Specify Data Catalog Tool Features		A	I	R/C	R
6.1.C	Select Software Shortlist for Data Catalog Tool		A	I	R	R
6.1.D	Recommend Software for Data Catalog Tool		A	C	R	R
6.1.E	Develop Data Catalog Tool Implementation Plan		A	C	C	R
6.1.F	Approve Data Catalog Tool Budget and Roadmap		A	I	I	R
6.1.G	Share Data Catalog Tool Implementation Plan with DGO	I/C	A	I	I	R
6.1.H	Install and Configure the Data Catalog Tool		I	A	R	R
6.1.I	Perform Business Acceptance Testing		I	A	R	R
6.1.J	Prepare and Validate Data Catalog Tool for Metadata Population		I	A	I	R
6.1.K	Train Users on the Data Catalog Tool		I	A	I	R

RACI Matrix Legend: **R:** Responsible **A:** Accountable **C:** Consulted **I:** Informed

Based on this Activity, the Entity can



Select and implement a fit-for-purpose data catalog tool

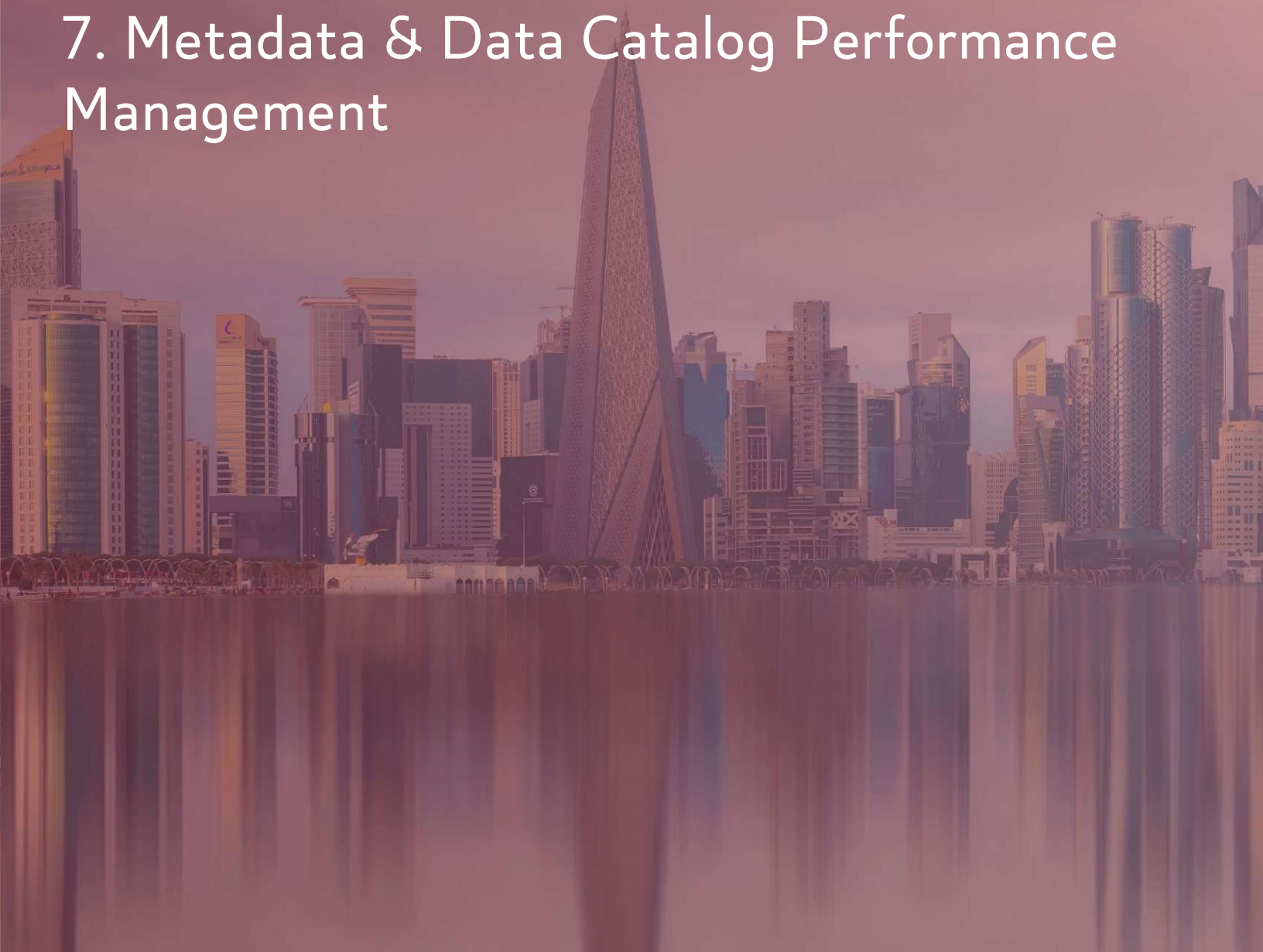


Migrate and manage metadata using automated ingestion



Enable governed, scalable access to metadata Entity-wide

7. Metadata & Data Catalog Performance Management



7. Metadata & Data Catalog Performance Management

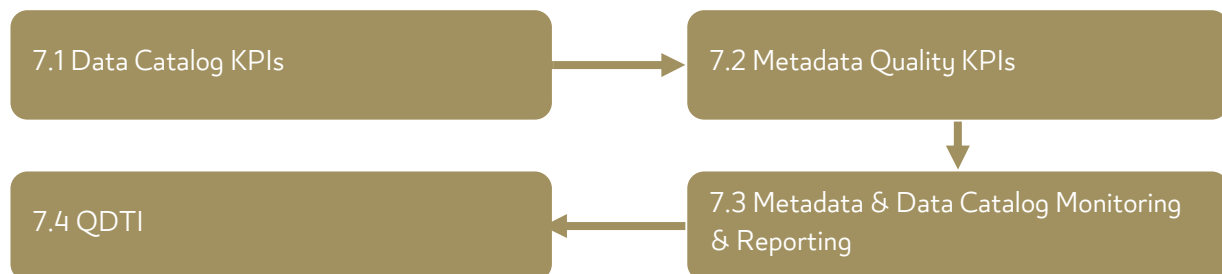
What is Metadata & Data Catalog Performance Management and why does the Entity need it?

Metadata & Data Catalog Performance Management is the process of establishing and monitoring KPIs to assess the usage, quality, and effectiveness of an Entity's metadata and data catalog. This includes tracking data catalog adoption, user activity, metadata quality, and ongoing improvements to support efficient metadata management. The goal is to ensure that the data catalog is actively used, well-maintained, and that metadata remains accurate and accessible.

Performance management involves monitoring metrics like the number of registered users, metadata queries, annotations, and trust certifications assigned to metadata entries. Additionally, quality KPIs are set to measure metadata accuracy and alignment with data quality standards, ensuring metadata is reliable and up-to-date. Automated notifications and activity tracking within the data catalog tool keep users informed of any updates and maintain a record of user actions, providing transparency and accountability.

Metadata & Data Catalog Performance Management is essential because it enables full utilization of the data catalog, ensures that metadata meets quality standards, and provides users with access to trustworthy information. By monitoring these KPIs and reporting on performance, the Entity can make data-driven improvements, support better decision-making, and ensure compliance with the National Data Standards and internal governance policies. Additionally, as part of the Qatar Data Trust Index (QDTI), the entity will evaluate its adherence to the National Data Catalog & Metadata Management Standards.

The remaining sections of this chapter will detail the activities of the below process that will guide the Entity on executing Metadata & Data Catalog Performance Management:



Guiding Principles for Data Catalog Performance Management

- 1. Define Clear and Relevant KPIs:** Establish measurable KPIs for tracking data catalog usage, metadata quality, and user engagement. Ensure these KPIs are aligned with the Entity's strategic goals and provide meaningful insights into catalog performance
- 2. Encourage Regular Monitoring and Reporting:** Ensure continuous monitoring of KPI performance over time. Schedule regular reviews of these metrics to identify trends, issues, and opportunities for improvement, ensuring proactive management of the data catalog
- 3. Ensure Data Quality and Consistency:** Implement metadata quality checks and validation rules to maintain high standards across the Entity's data catalog
- 4. Drive Accountability Through Role-Based Ownership:** Assign clear ownership for KPI tracking, dashboard updates, and quality remediation to foster accountability and sustain catalog integrity.

7.1 Data Catalog KPIs

To monitor the effectiveness and adoption of its data catalog, the Entity must define and track a set of KPIs. These KPIs help measure how frequently and meaningfully the catalog is used, assess its value to business and technical users, and identify areas where improvements are needed.

The National Data Standards require all Entities to define a baseline set of usage and adoption KPIs. These include metrics such as the number of registered users, active users, metadata queries, logins, annotations, ratings, and trust certificates. By tracking these KPIs, the Entity can evaluate catalog performance over time and demonstrate compliance with foundational metadata governance expectations.

In addition to meeting national requirements, catalog KPIs provide internal value. They support governance reporting, highlight adoption trends, and help prioritize future enhancements to metadata quality, catalog usability, and data stewardship processes. This activity outlines how the Entity can define, document, monitor, and refine data catalog KPIs using the standardized Data Management KPIs Register Template.

Process – Data Catalog KPIs

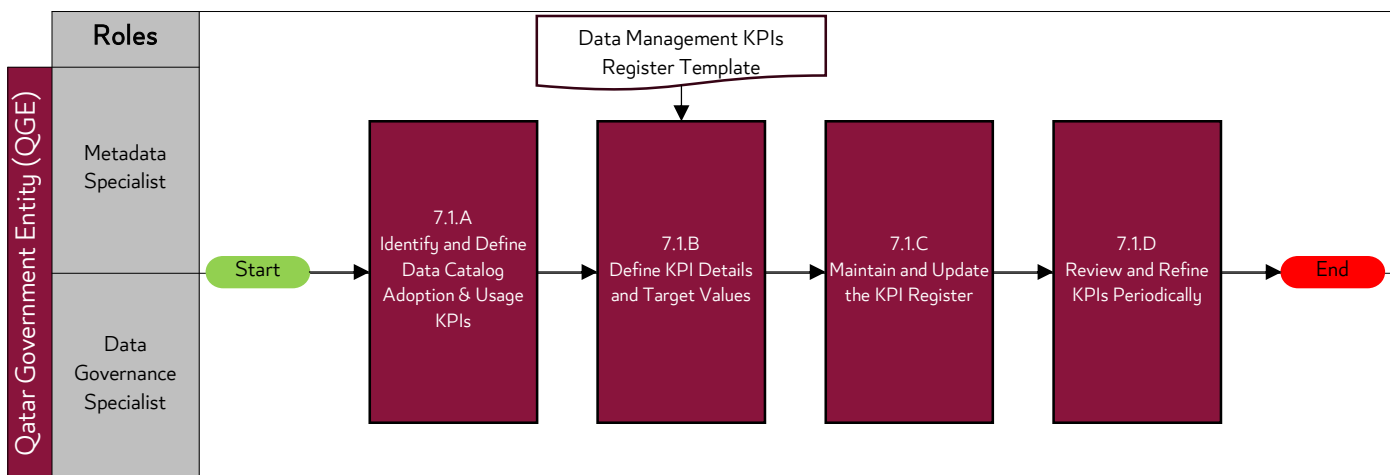


Figure 13: Data Catalog KPIs Process Map

Legend: Process Step Decision Process Start Process End Document Off-Page Reference

7.1.A
(1/2)

Identify and Define Data Catalog Adoption & Usage KPIs: To evaluate the success and adoption of the data catalog, the Entity must identify and define a set of KPIs aligned with the national data standards. These KPIs focus on measuring how frequently and meaningfully the catalog is being used across the organization.

- i. **Review National KPI Requirements:** Start by aligning the Entity's KPIs with the National Data Standards.
 - a. At a minimum, the following KPIs must be included:
 - Number of registered data catalog users
 - Number of active data catalog users
 - Number of logins to the data catalog
 - Number of performed metadata queries
 - Number of annotations (e.g., tags, comments) added to data assets
 - Number of ratings added to data assets
 - Number of trust certificates assigned to metadata

7.1.A
Cont.
(2/2)

- b. Confirm that these metrics can be tracked using the catalog tool's built-in logging or analytics capabilities.
- ii. **Identify Additional KPIs (If Needed):** Extend beyond the minimum to reflect Entity-specific objectives.
 - a. Examples may include:
 - Percentage of datasets viewed in the catalog per quarter
 - Percentage of metadata records with user feedback
 - Catalog user satisfaction score
 - b. Only include additional KPIs if they are measurable, actionable, and relevant to catalog performance or governance outcomes.
- iii. **Assign Preliminary Ownership and KPI ID:** Start preparing each KPI for inclusion in the register.
 - a. Assign a unique KPI ID and draft the KPI Name for each selected metric.
 - b. Assign preliminary ownership based on who will be responsible for tracking or updating the KPI.
 - c. These entries will be further detailed in 7.1.B and formally populated into the KPI Register Template in 7.1.C.



Tip

- Ensure KPIs are practical. Only define what can be tracked in the data catalog tool.
- Consider starting with just the national minimum and adding others later based on usage.
- Consult IT or the tool administrator to confirm which metrics are system-generated.

7.1.B
(1/2)

Define KPI Details and Target Values: After identifying the catalog KPIs in 7.1.A, the Entity must complete the initial setup of each KPI in the KPI Register Template. This includes defining how each KPI is calculated, how frequently it will be measured, and what the performance target will be. This step ensures KPIs are ready for ongoing tracking and governance use.

- i. **Complete KPI Definitions in the Register:** Using the Data Management KPIs Register Template, define the technical and business context of each KPI.
 - a. Populate the following fields for each KPI:
 - KPI Name
 - KPI Type (Operational or Strategic)
 - Calculation Methodology (formula or logic used)
 - Measurement Frequency (e.g., monthly, quarterly)
 - Target Value (numeric or percentage-based benchmark)
 - Owner (who is responsible for tracking and updating)
 - b. Confirm that all required KPIs from the National Data Standards are included.

7.1.B
Cont.
(2/2) **Asset Guidance**

The **Data Management KPIs Register Template** can be used to track Data Catalog usage metrics through a structured set of fields. Entities may use this template to define and monitor relevant KPIs along with their calculation methods, target values, current status, and ownership.

Illustrative

Field	Description
KPI ID	A unique identifier assigned to each Key Performance Indicator (KPI)
KPI Name	A short, descriptive name that summarizes what the KPI measures
KPI Type	Operational or Strategic KPI (if applicable)
Calculation Methodology	The formula / approach (if any) used to calculate the KPI value
Target Value	The predefined value or benchmark to achieve for the KPI
Measurement Frequency	Outlines how frequently the KPI needs to be measured
Last Updated Date	The date when the KPI's current value was last recorded or updated
Status	On Track/Off Track
Comments	Additional notes or explanations regarding the KPI's performance
Owner	Outlines whether the business or IT is the owner of the KPI

KPI ID	KPI Name	KPI Type (if applicable)	Calculation Methodology	Target Value

Measurement Frequency	Last Updated Date	Status	Comments	Owner

ii. **Validate Definitions and Targets with Stakeholders:** Before finalizing, review the register entries with relevant roles.

- Share draft KPI definitions with the Metadata Specialist, Data Governance Specialist, and IT or platform administrator.
- Confirm that:
 - Calculation methods are technically feasible
 - Targets are realistic and measurable
 - Ownership is clear and accepted

7.1.C
(1/2)

Maintain and Update the KPI Register: Once the KPI Register has been initialized, the Entity must maintain it as a live governance tool. This step involves regularly updating KPI statuses, tracking progress toward targets, and logging any contextual notes or explanations. It ensures transparency and supports continuous improvement of catalog adoption and performance.

i. **Update KPI Status and Measurement Data:** Maintain current information in the register as KPIs are tracked.

- For each KPI, update the following fields on a defined schedule:
 - Last Updated Date
 - Status (e.g., On Track, Off Track)
 - Comments (explanations, changes in interpretation, or improvement actions)

7.1.C
Cont.
(2/2)

- b. Ensure updates are aligned with the Measurement Frequency defined in 7.1.B.

- ii. **Assign Roles for Ongoing Maintenance:** Ensure KPI updates are timely and consistent.
 - a. Confirm the Metadata Specialist or delegated owner is responsible for each update cycle.
 - b. Store the register in a centralized location (e.g., governance SharePoint or shared folder).
- iii. **Use the Register for Oversight and Reporting:** Leverage the KPI Register as a governance tool.
 - a. Share updated KPIs with governance leads during review cycles.
 - b. Reference the register in internal reports or communications with the DGO, if required.



Key Message / Information

The KPI Register must remain up to date to serve as a useful tool for governance and accountability. It supports transparency in how the data catalog is used and improved.

7.1.D
(1/2)

Review and Refine KPIs Periodically: To ensure continued relevance and effectiveness, the Entity must regularly review and refine its data catalog KPIs. This includes reassessing calculation methods, adjusting targets, incorporating feedback, and aligning KPIs with evolving organizational needs, catalog tool features, and governance priorities.

- i. **Establish a KPI Review Schedule:** Set a consistent cadence for KPI evaluation and refinement.
 - a. Define a review cycle (e.g., annually or semi-annually) aligned with metadata governance reporting timelines.
 - b. Schedule review checkpoints in advance and include them in the Entity's data governance calendar.
- ii. **Evaluate KPI Performance and Usage Trends:** Assess how well each KPI reflects catalog usage and supports decision-making.
 - a. Review KPI trends based on actual performance vs. targets.
 - b. Identify KPIs that are consistently off track, no longer relevant, or lacking in actionability.
 - c. Consider catalog feature updates or governance process changes that may require KPI adjustments.
- iii. **Refine KPI Definitions, Targets, or Ownership (If Needed):** Update KPIs to reflect new realities while maintaining traceability.
 - a. Modify fields such as:
 - Calculation Methodology
 - Target Value
 - Measurement Frequency
 - Assigned Owner
 - b. Record updates in the Comments and Last Updated Date fields of the KPI Register.
 - c. Notify stakeholders of any changes that impact performance evaluation or reporting.

7.1.D
Cont.
(2/2)

Tip

- Use visual summaries (e.g., KPI dashboards or charts) to support review meetings.
- Remove or replace KPIs only after careful evaluation and stakeholder agreement.
- Reassess KPIs annually to confirm continued alignment with the National Data Standards.



Key Message / Information

Reviewing and refining KPIs ensures they remain relevant, measurable, and aligned with the Entity's evolving needs and catalog usage maturity.

RACI Matrix – Data Catalog KPIs

Indicative

Sr No.	Activity	Data Management and Security Director	Data Management and Governance Section Head	Data Governance Specialist	Metadata Specialist	Data Owner	Data Steward
7.1.A	Identify and Define Data Catalog Adoption & Usage KPIs	I	A	R	R	C	C
7.1.B	Define KPI Details and Target Values	I	A	R	R	C	C
7.1.C	Maintain and Update the KPI Register	I	A	R	R	I	C
7.1.D	Review and Refine KPIs Periodically	I	A	R	R	C	C

RACI Matrix Legend: **R:** Responsible **A:** Accountable **C:** Consulted **I:** Informed

Based on this Activity, the Entity can



Define KPIs aligned with national catalog standards



Track and update data catalog usage performance



Continuously refine KPIs to stay relevant and effective

7.2 Metadata Quality KPIs

While Data Catalog KPIs focus on how often and effectively the data catalog is used, Metadata Quality KPIs are concerned with the content of metadata itself, specifically, whether it is complete, accurate, consistent, and up to date. These KPIs allow the Entity to assess the health of its metadata and guide targeted improvements in stewardship and governance.

Tracking metadata quality is essential to ensure metadata serves its purpose: helping users understand, trust, and use data effectively. Poor-quality metadata undermines catalog usability, while high-quality metadata enhances discoverability, governance compliance, and business value. KPIs in this space should be defined clearly, measured consistently, and aligned with the Entity's metadata policies and quality standards.

All metadata quality KPIs should be recorded and monitored using the Data Management KPIs Register Template. By reviewing these KPIs regularly and refining them over time, the Entity can ensure its metadata assets are well-managed, sustainable, and continuously improving.

Process – Metadata Quality KPIs

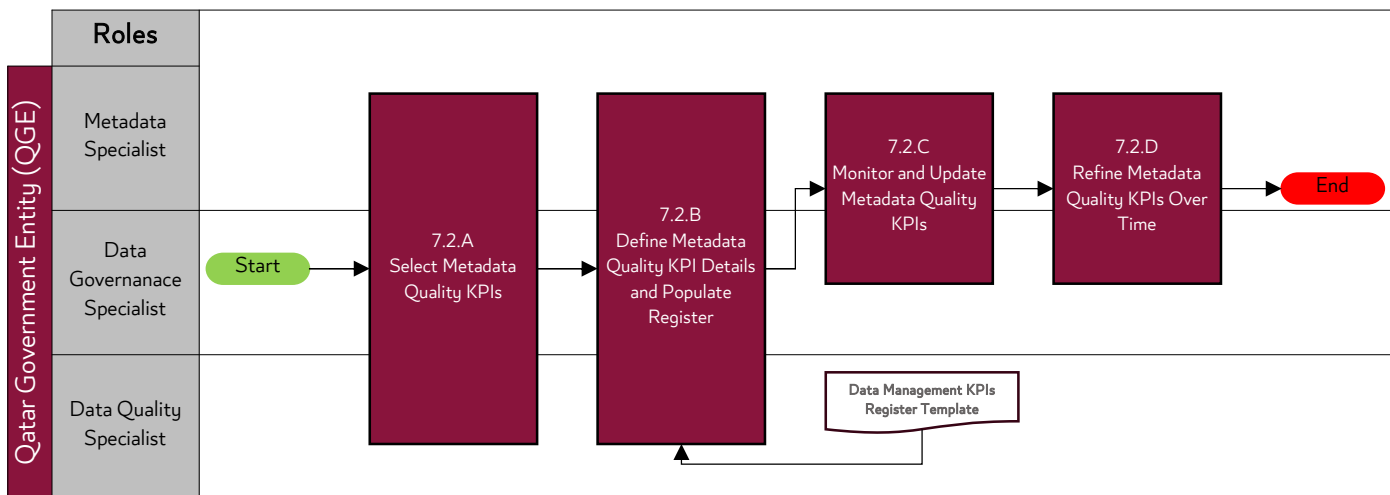


Figure 14: Metadata Quality KPIs Process Map

Legend: Process Step Decision Process Start Process End Document Off-Page Reference

7.2.A
(1/2)

Select Metadata Quality KPIs: To measure the quality of its metadata, the Entity must first determine which performance indicators it needs to track. These KPIs should reflect critical quality dimensions such as completeness, timeliness, consistency, and accessibility. This step focuses on selecting the most relevant metadata quality KPIs, without yet defining how they will be calculated or recorded.

- i. **Identify Relevant Metadata Quality Dimensions:** The Data Quality Specialist and Metadata Specialist coordinate to select which quality dimensions should be tracked.
 - a. Focus on core dimensions aligned with the National Data Standards and the Entity's data quality framework:
 - **Metadata Completeness:** E.g., Percentage of metadata records with all mandatory fields populated
 - **Metadata Timeliness:** Average number of days since metadata was last updated
 - **Metadata Accuracy:** Percentage of metadata entries that correctly reflect the actual structure or use of the data
 - **Metadata Consistency:** Percentage of metadata entries that follow standard naming conventions and formats

7.2.A
Cont.
(2/2)

- **Metadata Update Compliance:** Percentage of metadata records updated within the defined update cycle or governance schedule
 - **Metadata Classification Coverage:** Percentage of metadata entries with assigned data classifications
 - **Glossary Linkage Rate:** Percentage of attributes or datasets linked to approved business glossary terms
- b. Align each dimension with existing stewardship processes and catalog capabilities.
- ii. **Draft KPI Names and Descriptions:** For each selected dimension, define a clear KPI name and a short description of what it will measure. Examples include:
- **Metadata Completeness Rate:** Percentage of metadata records with all mandatory fields populated
 - **Metadata Update Frequency:** Average time since last metadata update
 - **Metadata Usage Rate:** Number of searches or views per metadata entry
- iii. **Assign Preliminary Ownership and KPI ID:** Start preparing each KPI for formal entry into the Data Management KPIs Register Template.
- a. Assign a unique KPI ID and draft the KPI Name for each selected metric.
 - b. Assign preliminary ownership based on who will be responsible for tracking or updating the KPI (e.g., Metadata Specialist or Data Quality Specialist).
 - c. These entries will be fully detailed in 7.2.B and formally recorded in the KPI Register.

**Key Message / Information**

This step is about selecting which metadata quality indicators to track, not yet how to calculate them. It ensures KPI definitions are clear and approved before setup begins.

7.2.B
(1/2)

Define Metadata Quality KPI Details and Populate Register: After selecting metadata quality KPIs, the Entity must now define how each KPI will be measured, how frequently it will be reviewed, and what performance targets should be applied. This step finalizes the KPI setup in the official Data Management KPIs Register Template.

- i. **Complete KPI Definitions in the Register:** Use the Data Management KPIs Register Template to formally document each selected KPI.
- a. For each KPI, complete the following fields:
 - KPI ID
 - KPI Name
 - KPI Type (Operational or Strategic, if applicable)
 - Calculation Methodology (e.g., “# of complete entries ÷ total entries × 100”)
 - Target Value (e.g., “95% completeness”)
 - Measurement Frequency (e.g., monthly, quarterly)
 - Owner (role responsible for maintaining and reporting the KPI)
 - b. Ensure that all required metadata quality KPIs (e.g., completeness, timeliness, usage rate) are represented.

7.2.B
Cont.
(2/2) **Asset Guidance**

The **Data Management KPIs Register Template** can be used to track Data Catalog usage metrics through a structured set of fields. Entities may use this template to define and monitor relevant KPIs along with their calculation methods, target values, current status, and ownership.

Illustrative

Field	Description
KPI ID	A unique identifier assigned to each Key Performance Indicator (KPI)
KPI Name	A short, descriptive name that summarizes what the KPI measures
KPI Type	Operational or Strategic KPI (if applicable)
Calculation Methodology	The formula / approach (if any) used to calculate the KPI value
Target Value	The predefined value or benchmark to achieve for the KPI
Measurement Frequency	Outlines how frequently the KPI needs to be measured
Last Updated Date	The date when the KPI's current value was last recorded or updated
Status	On Track/Off Track
Comments	Additional notes or explanations regarding the KPI's performance
Owner	Outlines whether the business or IT is the owner of the KPI

KPI ID	KPI Name	KPI Type (if applicable)	Calculation Methodology	Target Value

Measurement Frequency	Last Updated Date	Status	Comments	Owner

- ii. **Validate Register Entries with Stakeholders:** Confirm that the KPI logic is measurable, and that ownership is feasible.
 - a. Review the completed register entries with the Metadata Specialist, Data Governance Specialist, and Data Stewards.
 - b. Validate that all calculation methodologies can be supported by catalog system logs or exportable data.
 - c. Submit final entries to the Data Management & Governance Section Head for approval.
- iii. **Store the Register and Prepare for Monitoring:** Enable access and governance tracking.
 - a. Store the KPI Register in the Entity's metadata governance workspace or documentation portal.
 - b. Ensure all owners understand their responsibilities for updating and maintaining their assigned KPIs.

7.2.C
(1/2)

Monitor and Update Metadata Quality KPIs: Once the metadata quality KPIs are fully defined and documented, the Entity must implement a regular process for monitoring performance, updating KPI statuses, and identifying areas for improvement. This step ensures the KPI Register becomes an active governance tool and not just a static document.

7.2.C
Cont.
(2/2)

- i. **Establish a Monitoring and Update Schedule:** Define how often each KPI should be reviewed and updated.
 - a. Follow the Measurement Frequency specified in the register (e.g., monthly, quarterly).
 - b. Schedule updates in advance as part of regular metadata governance meetings or performance reviews.
 - c. Ensure Data Quality and Metadata Specialists are aligned on reporting responsibilities.
- ii. **Update KPI Register Fields Based on Performance:** Track actual KPI performance over time using system reports or manual reviews.
 - a. For each KPI, update the following fields in the register:
 - Last Updated Date
 - Status (e.g., On Track, Off Track)
 - Comments (e.g., explanations for delays or performance dips)
 - b. Use tool-generated logs, dashboards, or data exports to support the updates.
- iii. **Identify Areas for Stewardship or Process Improvement:** Use the KPI results to inform quality improvement actions.
 - a. Flag consistently underperforming KPIs (e.g., low completeness or delayed updates).
 - b. Share results with Data Stewards and Owners to encourage corrective actions.
 - c. Document any proposed remediation in the Comments field and assign follow-ups as needed.

**Key Message / Information**

Monitoring and updating metadata quality KPIs allows the Entity to proactively address quality gaps and track improvement over time. It turns the KPI Register into a living, actionable tool.

7.2.D
(1/2)

Refine Metadata Quality KPIs Over Time: As the Entity's metadata practices mature, its KPI framework must be revisited to ensure continued relevance, effectiveness, and alignment with evolving governance priorities, catalog capabilities, and stakeholder needs. This step ensures the Entity does not rely on outdated or ineffective KPIs and can evolve its measurement practices to drive real improvement.

- i. **Schedule Regular KPI Review Sessions:** Establish a structured cadence for reviewing the metadata quality KPIs.
 - a. Conduct review sessions annually or bi-annually, aligned with governance reporting cycles.
 - b. Include participants from metadata, data quality, and governance teams to ensure comprehensive evaluation.
 - c. Use prior KPI performance data (from 7.2.C) as input for discussions.
- ii. **Evaluate the Relevance and Effectiveness of KPIs:** Assess whether existing KPIs still reflect the Entity's goals and metadata maturity.

7.2.D
Cont.
(2/2)

- a. Identify KPIs that:
 - Are no longer tracked or measurable
 - Consistently show no variation
 - Overlap with other KPIs or no longer drive action
 - b. Evaluate the usefulness of each KPI in informing stewardship or governance decisions.
- iii. **Update the KPI Register with Improvements:** Apply changes to the KPI Register to keep it current and valuable.
- a. Refine fields such as:
 - Calculation Methodology
 - Target Value
 - Measurement Frequency
 - Owner
 - b. Clearly log any changes in the Comments field and update the Last Updated Date.



Tip

- Archive deprecated KPIs rather than deleting them to preserve historical records.
- Review national standards annually to ensure ongoing compliance.



Key Message / Information

Refining metadata quality KPIs ensures the Entity is always tracking the most relevant and actionable metrics. This supports a mature, sustainable metadata governance program.

RACI Matrix – Metadata Quality KPIs

Indicative

Sr No.	Activity	Data Management and Security Director	Data Management and Governance Section Head	Data Quality Specialist	Data Governance Specialist	Metadata Specialist	Data Owner	Data Steward
7.2.A	Select Metadata Quality KPIs	I	A	R	R	R	C	C
7.2.B	Define Metadata Quality KPI Details and Populate Register	I	A	R	R	R	C	C
7.2.C	Monitor and Update Metadata Quality KPIs	I	A	C	R	R	C	C
7.2.D	Refine Metadata Quality KPIs Over Time	I	A	C	R	R	C	C

RACI Matrix Legend: **R:** Responsible **A:** Accountable **C:** Consulted **I:** Informed

Based on this Activity, the Entity can



Measure and monitor metadata quality using structured KPIs



Maintain accountability for stewardship and continuous improvement



Adapt KPIs over time to reflect governance needs and catalog maturity

7.3 Metadata & Data Catalog Monitoring & Reporting

Monitoring and reporting on metadata and data catalog activity allows the Entity to ensure that its metadata remains accurate, complete, and actively used. This activity ensures that metadata governance does not end at population, it becomes an ongoing, measurable, and accountable process.

This section provides the mechanisms for tracking metadata quality (e.g., completeness, timeliness, consistency) and catalog usage (e.g., user activity, searches, logins). Through scorecards, dashboards, notifications, and usage tracking, the Entity can assess how metadata is being maintained and consumed and take action to address issues when performance falls short of expectations.

The Entity must also report key insights to the National DGO, reinforcing transparency and alignment with national data quality standards. By embedding these practices into ongoing operations, the Entity supports sustainable governance and continuous improvement of its metadata ecosystem.

Process – Metadata & Data Catalog Monitoring & Reporting

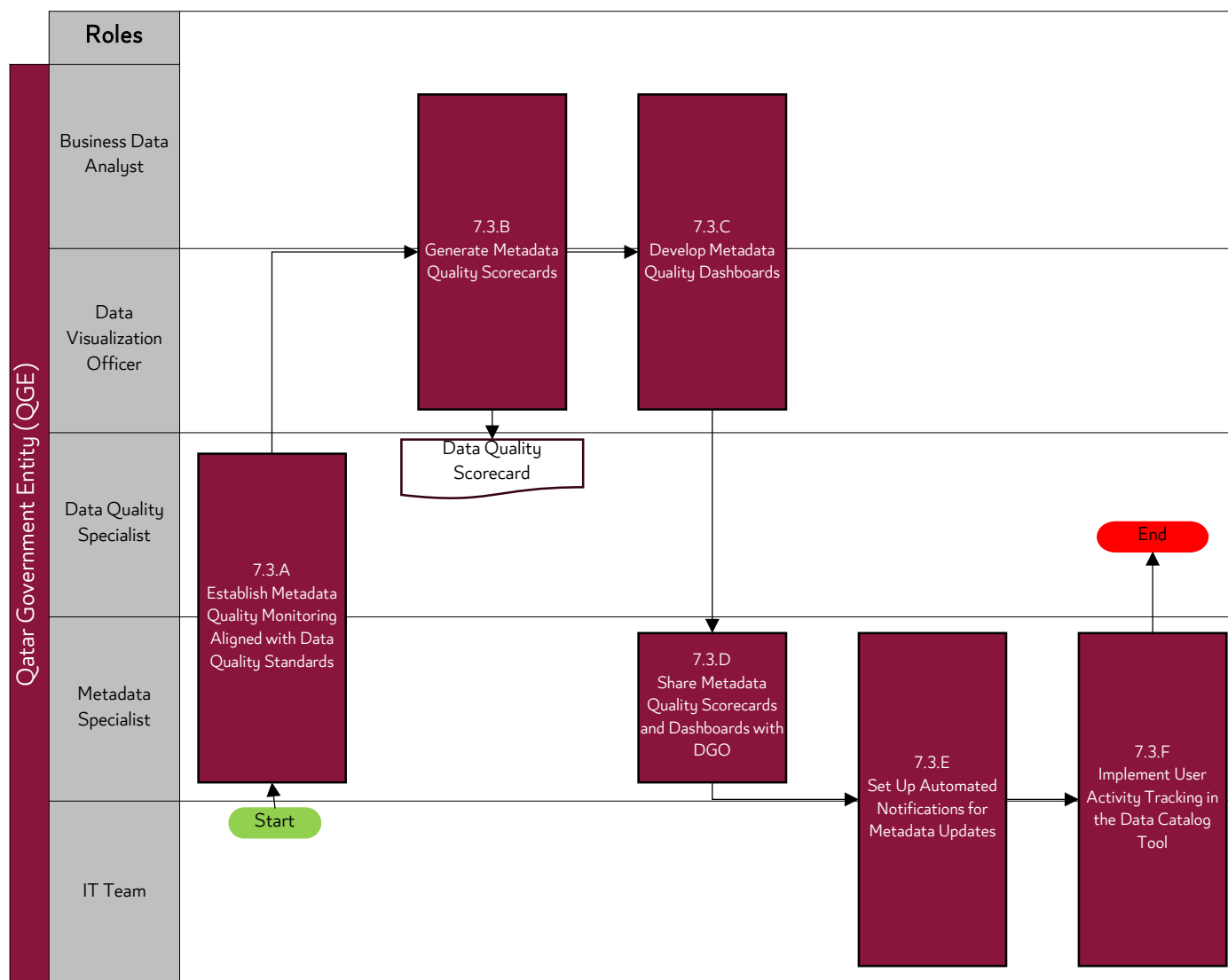


Figure 15: Metadata & Data Catalog Monitoring & Reporting Process Map

Legend: Process Step Decision Process Start Process End Document Off-Page Reference

7.3.A

Establish Metadata Quality Monitoring Aligned with Data Quality Standards: To ensure metadata quality is consistently evaluated and maintained, the Entity must establish a monitoring process that aligns with the Data Quality Management domain within the national data standards. This includes defining which data quality dimensions to monitor, how often they will be reviewed, and how monitoring outputs will be used to drive improvements.

- i. **Align Monitoring with Data Quality Dimensions:** set up a monitoring process that evaluates metadata quality based on defined dimensions.
 - a. Monitor dimensions such as:
 - Accuracy
 - Completeness
 - Consistency
 - Timeliness
 - Validity
 - Uniqueness
 - Accessibility (if, and where applicable)
 - b. Ensure monitoring activities are directly tied to metadata quality KPIs defined in Section 7.2.
- ii. **Establish Thresholds for Quality Evaluation:** Set measurable quality thresholds for each metadata dimension.
 - a. Define thresholds using the Entity's data catalog and metadata management policy or KPI targets (e.g., "≥95% completeness").
 - b. Use these thresholds to determine whether metadata entries are compliant or need remediation.
- iii. **Integrate Monitoring into Operational Processes:** Ensure quality monitoring is not a one-off activity but embedded in routine practice.
 - a. Conduct metadata quality reviews on a scheduled basis (e.g., monthly, quarterly).
 - b. Assign responsibility for monitoring execution to the Data Quality Specialist and Metadata Specialist.
 - c. Capture monitoring results in a structured format (e.g., scorecard and / or dashboard).



Tip

- Start with a few high-impact dimensions before expanding.
- Use existing data catalog reports or data exports for automated monitoring where possible.
- Align thresholds with stewardship expectations to trigger review actions when necessary.



Key Message / Information

Aligning metadata quality monitoring with data quality standards ensures that issues are identified early, tracked consistently, and used to drive targeted improvements.

7.3.B
(1/2)

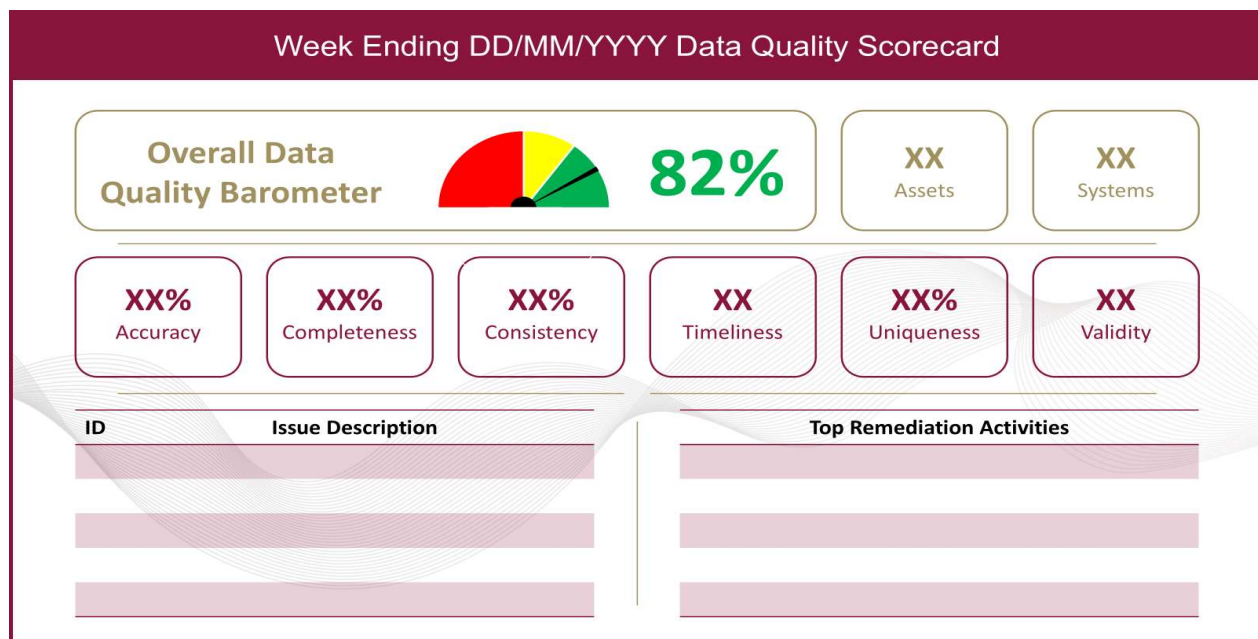
Generate Metadata Quality Scorecards: To visualize and communicate the results of metadata quality monitoring, the Entity must create scorecards that track performance against predefined thresholds. These scorecards help stakeholders quickly understand where metadata meets quality expectations and where it requires attention or remediation.

- i. **Design the Metadata Quality Scorecard Structure:** Create a standardized layout for presenting metadata quality results.
 - a. Include key quality dimensions such as:
 - Accuracy
 - Completeness
 - Consistency
 - Timeliness
 - Validity
 - Uniqueness
 - Accessibility (if, and where applicable)
 - b. For each dimension, display:
 - The current performance (% or score)
 - The defined threshold or target
 - A visual status indicator (e.g., red/yellow/green)

Asset Guidance

The **Data Quality Scorecard Template** is a type of report which focuses on comparing the Data Quality metrics with the thresholds, highlighting areas which do not meet the thresholds (typically with red-yellow-green colors). The Entity can leverage this asset when developing its metadata quality scorecards.

Illustrative



7.3.B
Cont.
(2/2)

- ii. **Populate the Scorecard Using Monitoring Results:** Use monitoring data (from 7.3.A) to complete the scorecard at regular intervals.
 - a. Source data from metadata exports, system reports, or catalog logs
 - b. Record the number of assets reviewed and total metrics evaluated
 - c. Highlight entries or dimensions that fall below threshold
- iii. **Include Issue Descriptions and Remediation Highlights:** Use the scorecard to trigger action and track follow-through.
 - a. Add a section for logging key issues (e.g., “50 attributes missing definitions”)
 - b. Summarize top remediation activities initiated (e.g., steward assignment, glossary updates)
 - c. Track changes over time to reflect improvements



Tip

- Use conditional formatting or gauges to make performance signals clear.
- Keep the scorecard to 1–2 pages for executive readability.
- Maintain a versioned archive of all scorecards for trend analysis.



Key Message / Information

Metadata quality scorecards provide a clear, visual summary of how well the Entity is managing its metadata. They make it easier to track quality, report status, and take action when needed.

7.3.C
(1/3)

Develop Metadata Quality Dashboards: To support executive decision-making and metadata governance, the Entity must develop interactive dashboards that present real-time or periodic insights into metadata quality. Dashboards allow governance teams to track trends, compare performance across domains, and assess the overall health of metadata across the organization.

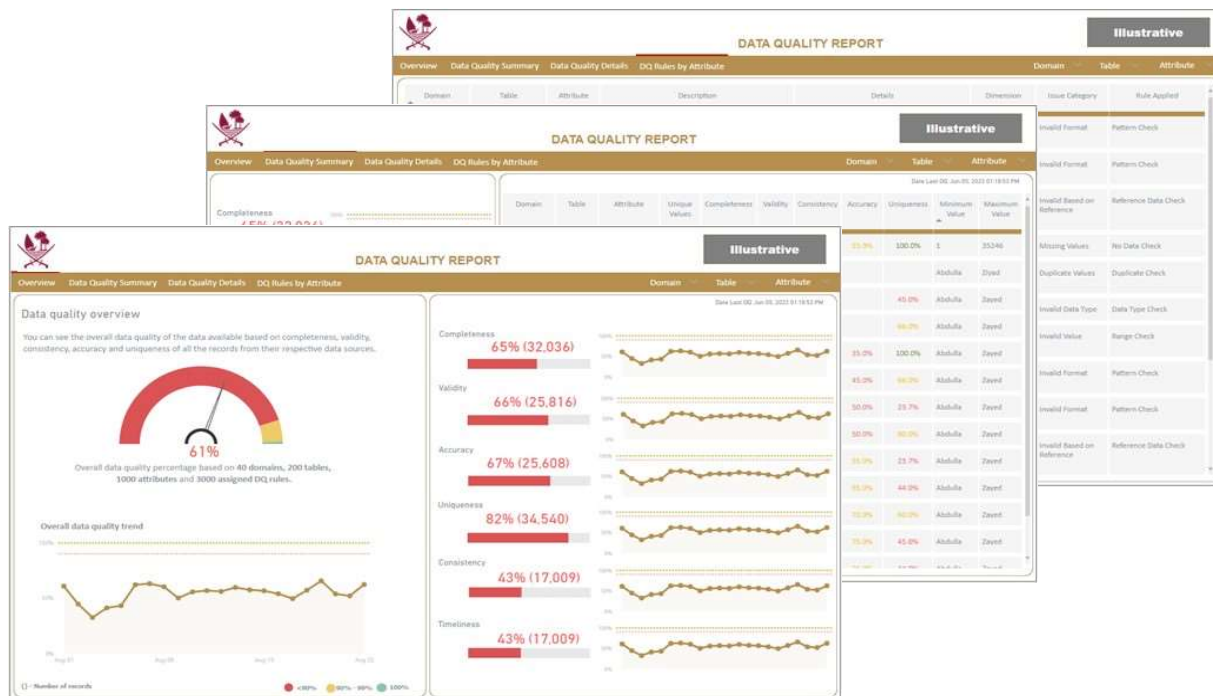
- i. **Define Dashboard Objectives and Audience:** Clarify the intended use and target viewers of the dashboard.
 - a. Create views tailored for different audiences:
 - **Executive Summary View:** High-level overview of metadata health without detailed technical content
 - **Governance Teams:** Detailed quality metrics with filters for remediation
 - **Data Stewards and Specialists:** Operational insights to guide quality tasks
 - b. Align use cases with key needs such as trend analysis, KPI performance, and reporting to the DGO.
- ii. **Design Dashboard Content and Features:** Incorporate features that promote clarity, relevance, and decision-making value. Include the following elements:

- **Executive Summary View:** Provide a high-level overview of metadata quality metrics, enabling executives to quickly assess overall metadata health without delving into detailed operational specifics
- **Aggregated Insights:** Aggregate data from various sources to present summarized scores for key metadata quality dimensions, such as accuracy, completeness, and consistency, ensuring a comprehensive view of metadata health across the Entity
- **Visual Clarity:** Use clear visualizations, such as bar charts and pie charts, to intuitively convey trends and insights, making it easy for executives to interpret complex metadata information quickly
- **KPIs:** Display essential KPIs that measure the effectiveness of metadata quality management efforts, allowing executives to monitor progress and make informed decisions on metadata initiatives
- **Trend Analysis:** Include historical comparisons and trend visualizations to help executives understand how metadata quality has evolved over time, aiding in forecasting and resource allocation for future improvements

Asset Guidance

A Data Quality Dashboard provides real-time insights into the quality of data within an entity. It displays key metrics such as accuracy, completeness, and consistency, enabling stakeholders to monitor performance at a glance. The dashboard facilitates quick identification of data quality issues and trends, supporting proactive remediation efforts. By centralizing data quality information, it enhances decision-making and drives continuous improvement initiatives. **The Entity can leverage this illustrative example for guidance on what a Metadata Quality Dashboard can look like visually.**

Illustrative



7.3.C
Cont.
(3/3)

- ii. **Build and Maintain the Dashboard:** Implement the dashboard using existing tools and assign responsibilities for updates.
- Use business intelligence platforms such as Power BI, Tableau, or the Entity's existing analytics tools.
 - If the data catalog tool includes built-in reporting or custom dashboard features, the Entity should leverage these capabilities for faster integration and direct access to metadata insights.
 - Automate data sourcing from the KPI Register, metadata system logs, or catalog exports to reduce manual effort.
 - Assign responsibility for dashboard updates and access management to the Data Quality Specialist or relevant team.

**Tip**

- Design dashboards for multiple audiences but keep navigation intuitive.
- Refresh dashboards at the same frequency as the KPI Register to ensure alignment.
- Use color coding and trend lines to highlight patterns and changes over time.

**Key Message / Information**

Dashboards enable real-time visibility into metadata quality across the Entity. They help stakeholders understand performance, track trends, and make informed governance decisions.

7.3.D
(1/2)

Share Metadata Quality Scorecards and Dashboards with DGO: To promote transparency and support national oversight, the Entity must regularly share its metadata quality scorecards and dashboards with the National DGO. This step ensures that the DGO is informed of metadata health, ongoing improvement efforts, and alignment with national quality standards.

- Establish a Reporting Schedule:** The entity must align with the DGO on the required frequency as to how often scorecards and dashboards are to be shared with the DGO.
 - Determine a reporting frequency (e.g., monthly or quarterly), aligned with internal KPI monitoring cycles.
 - Align the schedule with other governance reporting requirements to avoid duplication.
- Compile the Reporting Package:** Prepare a consistent set of documents and visuals for submission.
 - Include:
 - Latest Metadata Quality Scorecard
 - Most recent Metadata Quality Dashboard export or summary view
 - Any accompanying explanations or issue summaries
 - Summarize metadata quality status, dimensions tracked, areas of concern, and any ongoing remediation activities.

7.3.D
Cont.
(2/2)

- iii. **Share with the DGO and Maintain Submission Records:** Send reports through official communication channels and retain copies.
- Submit reports to the DGO via email or the relevant governance portal as per the requirements outlined by NPC at the respective point in time.
 - Store a copy of each submission with timestamp and submission owner in the Entity's governance repository.
 - Follow up if clarification or additional information is requested.



Key Message / Information

Regularly sharing scorecards and dashboards with the DGO ensures compliance, builds trust, and supports coordinated efforts to improve metadata quality across government entities.

7.3.E
(1/2)

Set Up Automated Notifications for Metadata Updates: To improve transparency and user engagement, the Entity must configure automated notifications within the data catalog tool to alert users of key metadata events. These notifications ensure that Data Stewards, Owners, and other stakeholders are informed when metadata is updated, reviewed, or flagged for action.

A

- Identify Notification Use Cases:** Determine which events within the catalog should trigger a notification.
 - Typical use cases include:
 - Metadata field updates (e.g., glossary term added, description changed)
 - Review reminders (e.g., scheduled metadata check is due)
 - Quality issues flagged (e.g., missing classification or incomplete entries)
 - Trust certificate assigned or removed
 - Align notification triggers with metadata governance rules (e.g., update cycles defined in Section 5.4).
- Configure Notifications in the Catalog Tool:** Use the catalog's built-in functionality to set up and manage alerts.
 - Where supported, configure:
 - Role-based notifications (e.g., only notify the assigned steward or owner)
 - Email or in-tool notifications
 - Frequency or timing (e.g., immediately, daily digest, weekly summary)
 - Test notifications using sample events to confirm correct routing and messaging.
- Document Notification Logic and Responsibilities:** Ensure the Entity can manage and update notification settings over time.
 - Maintain documentation describing:
 - Notification rules and triggers

7.3.E
Cont.
(2/2)

- Roles receiving each type of notification
- Contact points for troubleshooting or change requests

b. Assign a system admin or Metadata Specialist to manage notification configurations.



Tip

- Avoid alert fatigue by prioritizing critical events.
- If the catalog lacks built-in notifications, explore integration with external tools (e.g., Teams, email platforms).
- Use notifications to reinforce accountability for stewardship and metadata quality reviews.



Key Message / Information

Automated notifications help ensure the right people are informed at the right time, supporting proactive stewardship and reducing the risk of outdated or neglected metadata.

7.3.F
(1/2)

Implement User Activity Tracking in the Data Catalog Tool: To gain visibility into how metadata is being used and to strengthen governance oversight, the Entity must activate user activity tracking features within the data catalog tool. This allows the Entity to monitor key actions such as logins, searches, metadata queries, and navigation behavior, providing valuable insights into catalog adoption and engagement trends.

- i. **Identify Activity Metrics to Track:** Define which user actions should be logged and monitored within the catalog.
 - a. Typical activities to track include:
 - Logins and session frequency
 - Search queries and metadata views
 - Downloads or metadata exports
 - Metadata updates submitted or approved
 - Glossary term usage or tagging activity
 - b. Align tracking requirements with the KPIs defined in Section 7.1.
- ii. **Configure Activity Tracking Capabilities:** Enable and test tracking features in the catalog tool or associated analytics platform.
 - a. If the catalog has native tracking capabilities, ensure logging is activated and working.
 - b. Where needed, integrate with third-party analytics tools (e.g., custom dashboards) to capture usage patterns.
 - c. Confirm compliance with the Entity's privacy and IT security policies for user monitoring.

A

7.3.F
Cont.
(2/2)

- i. **Use Activity Data to Inform Governance and Improvement:** Leverage tracking insights to enhance metadata governance and tool adoption.
 - a. Use activity data to:
 - Identify low-engagement domains or datasets
 - Highlight popular assets and high-traffic search terms
 - Prioritize metadata improvement efforts where usage is high
 - Report catalog usage trends to leadership and / or DGO
 - b. Share usage summaries regularly with Data Governance and Stewardship roles to encourage proactive engagement.

**Tip**

- Visualize usage patterns using heatmaps, bar charts, or trend lines.
- Use insights to tailor training, communications, or metadata refinement efforts.

**Key Message / Information**

Tracking user activity enables the Entity to understand how the catalog is being used, identify areas of high or low engagement, and make informed decisions to improve metadata access and visibility.

RACI Matrix – Metadata & Data Catalog Monitoring & Reporting

Indicative

Sr No.	Activity	DGO	Data Management and Security Director	Data Management and Governance Section Head	Metadata Specialist	Business Data Analyst	Data Visualization Officer	Data Quality Specialist	Data Steward	IT Team
7.3.A	Establish Metadata Quality Monitoring Aligned with Data Quality Standards		I	A	R			R	C	
7.3.B	Generate Metadata Quality Scorecards		I	A	C	R	R	C	C	
7.3.C	Develop Metadata Quality Dashboards		I	A	C	R	R	C	C	
7.3.D	Share Metadata Quality Scorecards and Dashboards with DGO	I/C	I	A	R					
7.3.E	Set Up Automated Notifications for Metadata Updates			A	R			C		R
7.3.F	Implement User Activity Tracking in the Data Catalog Tool			A	R			C		R

RACI Matrix Legend: **R:** Responsible **A:** Accountable **C:** Consulted **I:** Informed

Based on this Activity, the Entity can



Monitor and report on metadata quality and usage

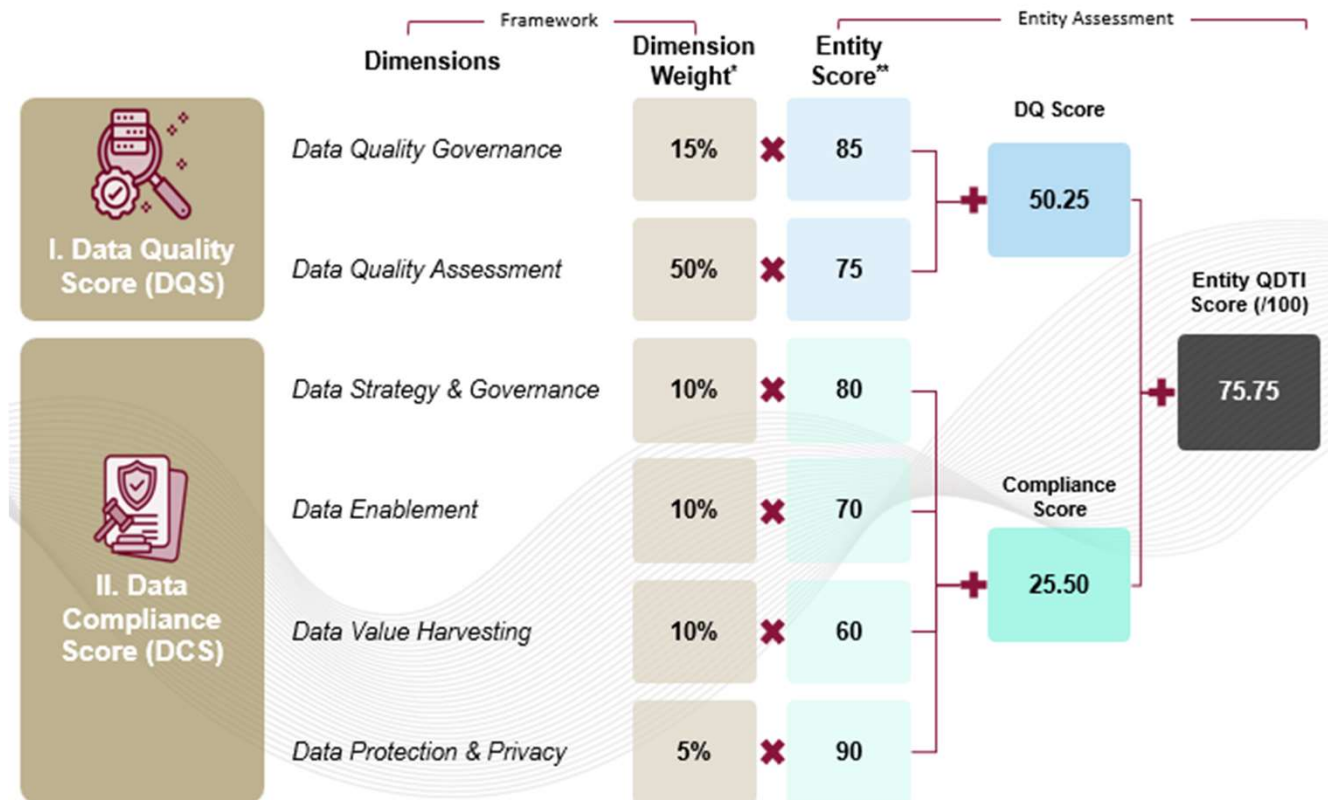


Engage stakeholders through automated alerts and dashboards

7.4 QDTI

The Qatar Data Trust Index (QDTI) is designed to measure and enhance data integrity across national entities by promoting adherence to governance standards and ensuring the accuracy, reliability, and responsible management of data. This initiative aims to build trust and support a robust digital economy. The overall QDTI score is derived from two dimensions: the Data Quality Score (DQS) and the Data Compliance Score (DCS), which together combine to determine the Entity's QDTI score.

This section outlines the steps needed to gather the necessary information for calculating the DCS.



***Note:** The sum of the weights across all dimensions should add up to 100%

****Note:** This score is calculated by computing the weighted average score of all the sub-dimensions under each respective Dimension (scores are on a scale of 0 to 100)

Figure 11: Illustrative QDTI Scoring Methodology for an Entity

7.4.A

Initiate Data Catalog and Metadata Management Compliance Assessment: The Data Management and Governance Section Head assigns the Data Compliance Specialist to oversee the assessment process. The specialist is responsible for managing the evaluation of the Entity's adherence to the National Data Catalog & Metadata Management Standards.



Key Message / Information

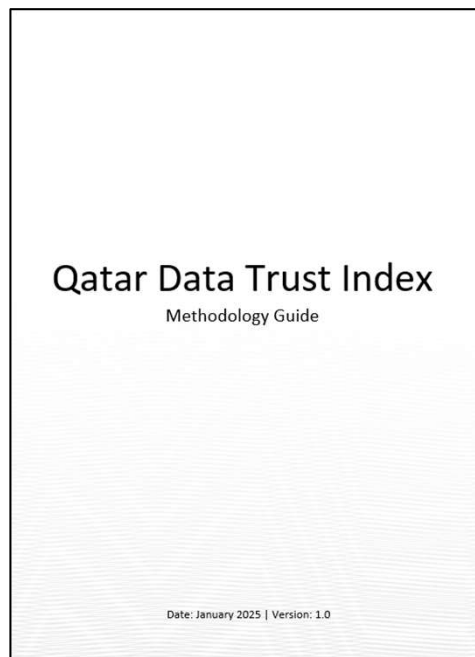
The Data Catalog and Metadata Management Domain falls under the Data Enablement Dimension in the National Data Management Framework and, consequently, within the QDTI Dimension.

7.4.B

Conduct Data Catalog and Metadata Management Assessment: Initiate the self-assessment to evaluate adherence to the National Data Catalog and Metadata Management Domain Standards. This assessment will ensure compliance and accountability while identifying areas for improvement.

 Asset Guidance

The **Qatar Data Trust Index Methodology Guide** can be leveraged to guide the Entity through the steps required to conduct the self-assessment.

Illustrative **Asset Guidance**

The **QDTI Assessment Template** can be used to document compliance with the National Data Standards. This template is intended for use prior to the DGO launching the self-assessment on its platform to calculate the overall QDTI Score.

Illustrative

Domain	Control	Control Description	Specification
DQM	DQM.1.1: Data Quality Policy	As part of the Data Quality Policy control, the Entity shall establish and publish a Data Quality Management Policy.	DQM.1.1.1: Data Quality Policy Creation
DQM	DQM.1.1: Data Quality Policy	As part of the Data Quality Policy control, the Entity shall establish and publish a Data Quality Management Policy.	DQM.1.1.2: Data Quality Policy Publication
DQM	DQM.1.2: Data Quality Planning	As part of the Data Quality Planning control, the Entity shall profile its data and develop a data quality plan.	DQM.1.2.1: Data Profiling
DQM	DQM.1.2: Data Quality Planning	As part of the Data Quality Planning control, the Entity shall profile its data and develop a data quality plan.	DQM.1.2.2: Data Quality Plan

Control Specification	CapabilityLevel	Compliance
The Entity shall create a data quality policy in alignment with (NQAF) published by the NPC.	Foundational	Compliant
The Entity shall publish its data quality policy	Foundational	Compliant
The Entity shall identify CDEs and perform initial data profiling for the identified CDEs.	Foundational	Compliant
Based on the initial data profiling results, the Entity shall develop a data quality plan, in alignment with the Entity's data strategy.	Foundational	Compliant

**Key Message / Information**

The DGO will launch the self-assessment on its platform and will provide toolkits and host workshops to guide entities through the self-assessment process during the first year.

7.4.C

Submit Data Catalog and Metadata Management Score to the DGO. Submit the Data Catalog and Metadata Management Compliance Score to the DGO for evaluation



Key Message / Information

The DGO will calculate the Entity's overall Qatar Data Trust Index (QDTI) score only after the Entity has completed both the Data Quality Score (DQS) assessment and the required self-assessments for all other data management domains to determine the Data Compliance Score (DCS). Once all assessments are completed, the DGO will aggregate the compliance scores across domains to finalize the DCS, which will then be combined with the DQS to determine the Entity's overall QDTI score.

RACI Matrix - QDTI

Indicative

Sr No.	Activity	DGO	Data Management & Security Director	Data Management and Governance Section Head	Data Compliance Specialist	Data Governance Specialist
7.4.A	Initiate Data Catalog and Metadata Management Compliance Assessment		I	A	R	
7.4.B	Conduct Data Catalog and Metadata Management Assessment		I	A	R	C
7.4.C	Submit Data Catalog and Metadata Management Score to the DGO	I	I	A	R	I

RACI Matrix Legend: **R:** Responsible **A:** Accountable **C:** Consulted **I:** Informed

Based on this Activity, the Entity can



Calculate DCMM Compliance Score

8. Appendix



8.1. Templates and Frameworks

Asset No.	Asset Name	Description	File Name
1	Data Catalog & Metadata Management Policy Template	Template containing a sample table of contents the Entity can refer to when drafting its policy.	NPC_DGO_QDKC_DCMM_Data Catalog & Metadata Management Policy Template
2	Data Management Policy Communication Email Template	Template containing a sample email the Entity can use to announce the publishing of the new policy.	NPC_DGO_QDKC_General_Data Management Policy Communication Email Template
3	Initiative Card Template	Template used to outline and track the details of a specific initiative.	NPC_DGO_QDKC_General_Initiative Card Template
4	Data Management Domain Plan Template	Template that helps the Entity capture an overview of identified initiatives, detail their sub-activities, owners, stakeholders, and activity timeframe.	NPC_DGO_QDKC_General_Data Management Domain Plan Template
5	Data Catalog Template	Template containing the business glossary template, dataset inventory template, attributes inventory template, and relational database metadata schema.	NPC_DGO_QDKC_DCMM_Data Catalog Template
6	Change Management Communication Plan Email Template	Sample email template the Entity can leverage to announce changes across the Entity.	NPC_DGO_QDKC_General_Change Management Communication Plan - Email Template
7	Data Management Change Management Template	Template containing a training plan template that the Entity can use to design a training plan for promoting and upskilling its staff.	NPC_DGO_QDKC_General_Data Management Change Management Template
8	Data Catalog Tool Selection Criteria Template	Template that helps the Entity document mandatory and additional data catalog tool features, list various tool options, and specify feature and cost weightings	NPC_DGO_QDKC_DCMM_Data Catalog Tool Selection Criteria Template
9	Data Management KPIs Register Template	Template containing a table that helps the Entity define KPIs.	NPC_DGO_QDKC_General_Data Management KPIs Register Template

Asset No.	Asset Name	Description	File Name
10	Data Quality Scorecard	Template containing performance metrics for evaluating data quality against standards, helping track improvements and communicate status to stakeholders.	NPC_DGO_QDKC_DQ_Data Quality Scorecard
11	Source Systems Analysis Template	The Source Systems Analysis Template offers a standardized approach to gathering information on each source system.	NPC_DGO_QDKC_General_Source Systems Analysis Template
12	Qatar Data Trust Index Methodology Guide	The Qatar Data Trust Index Methodology Guide can be leveraged to guide the Entity through the compliance self-assessment.	22012025_NPC_QDTI Methodology Guide_V1.0
13	QDTI Assessment Template	The QDTI Assessment Template can be used to document compliance with the National Data Standards.	23012025_NPC_QDTI Assessment Template_V1.0



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