

National Data Management Guidelines

Statistics and Analytics

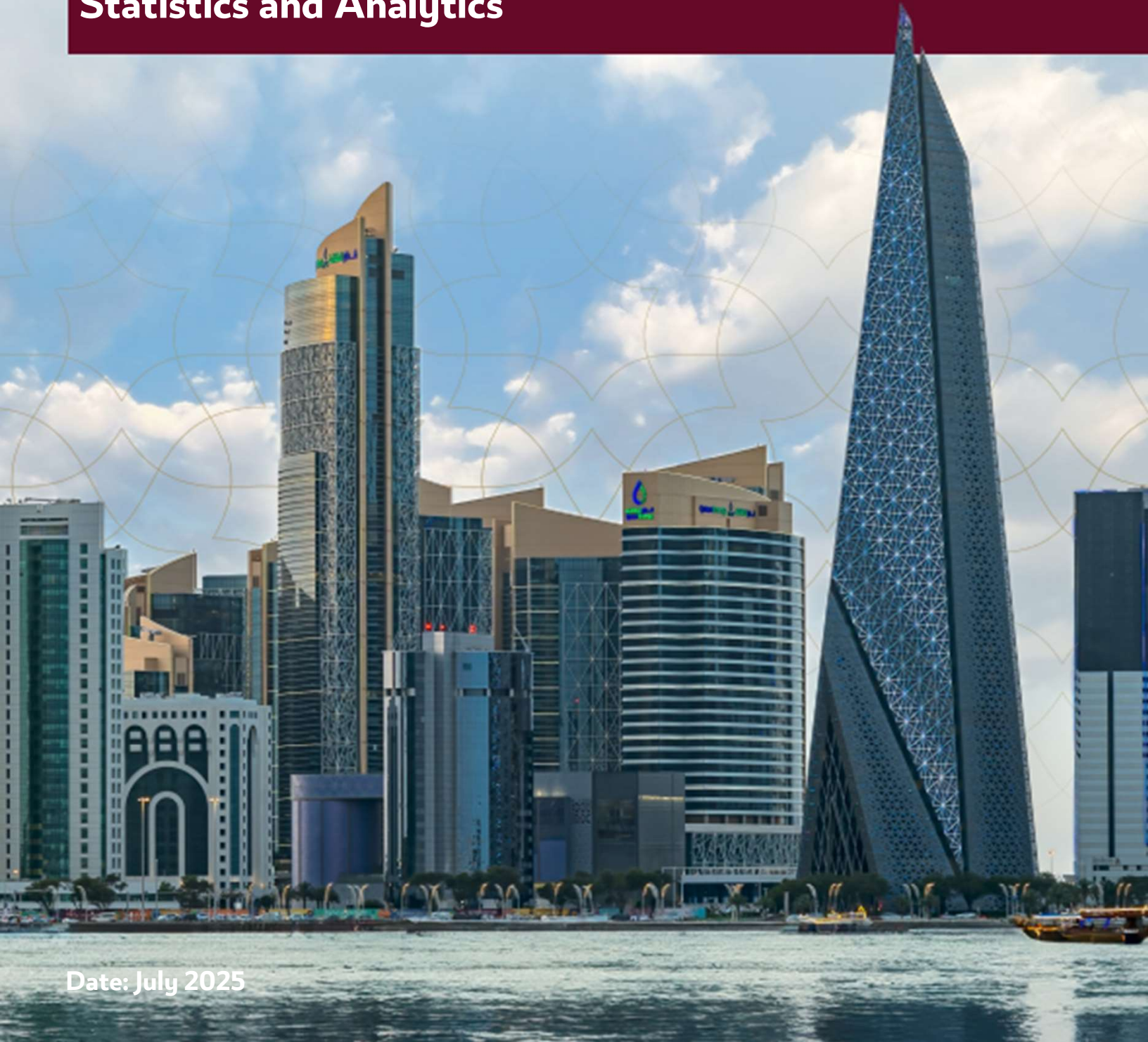


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1. Statistics & Analytics Domain Introduction



1.1 Domain Overview

The Statistics and Analytics domain equips Entities to develop and sustain an advanced, secure, and user-oriented analytics environment that delivers measurable value across national and organizational priorities. It guides the Entity from strategic planning through technical implementation and operational monitoring of prioritized statistics indicators and analytics use cases, ensuring each is designed, delivered, and maintained with traceability, usability, and performance in mind.

This domain provides practical, end-to-end guidance to identify and prioritize analytics needs, design platforms and tools, implement secure and standardized outputs, and track the impact of deployed analytics assets. It supports both leadership decision-making and delivery team execution, enabling integration across business, data, and technical roles. All guidance is structured to align with the National Data Standards and QNV 2030 goals, while supporting evolving sector needs and long-term reusability.

Key Components of the Statistics and Analytics Domain

2. Statistics and Analytics Planning

This phase enables the Entity to identify, prioritize, and prepare high-value analytics use cases and statistical indicators for implementation. It ensures each initiative is clearly defined, aligned with national and internal priorities, and backed by available data and implementation feasibility.

- **Statistics indicators and Analytics Use Case Identification and Prioritization:** Identifies and prioritizes high-impact analytics use cases and indicators using strategic alignment and feasibility criteria.
- **Statistics Indicators and Analytics Use Case Detailing:** Develops structured charters that define scope, business context, logic, technical requirements, and delivery expectations.
- **Statistics Indicators and Analytics Use Case Implementation Plan:** Converts charters into detailed implementation plans with clear phasing, resource assignments, and validation activities.
- **Statistics Indicators and Analytics Use Case Data Sourcing Plan:** Validates data availability, confirms classification, and defines access plans for required datasets and CDEs.

3. Statistics and Analytics Design

This phase defines the technical design foundation for analytics delivery, including platforms, tools, and reporting environments. It ensures all components are secure, scalable, and aligned with user and governance needs.

- **Statistics and Analytics Platform Design:** Defines platform architecture, user access, data integration, and UI framework to support content onboarding and delivery.
- **Reporting and Dashboards Design Principles:** Establishes standardized design principles for presenting outputs across dashboards and reports to ensure usability, accessibility, and visual consistency.

4. Statistics and Analytics Implementation

This phase operationalizes analytics plans by deploying platforms and tools and implementing approved use cases and indicators. Activities are executed within secure environments and follow structured sequencing and validation protocols.

- **Statistics and Analytics Platform Implementation:** Builds, integrates, and launches the Statistics and Analytics platform with validated architecture, user interface, and monitoring mechanisms.
- **Statistics Indicators and Analytics Use Case Implementation:** Implements analytics use cases and statistical indicators, preparing data, building logic or models, rendering outputs, and publishing to the Statistics and Analytics Platform with validation and maintenance procedures.

5. Statistics and Analytics Operations

This phase establishes the model for ongoing monitoring, usability, and value realization of published analytics content. It ensures the Entity can measure performance, respond to evolving needs, and drive continuous improvement.

- **Statistics and Analytics KPIs Portfolio:** Defines and tracks performance indicators for statistics and analytics implementation, adoption, and impact.
- **Statistics and Analytics User Guide:** Provides instructional guidance to support user understanding, usage, and correct interpretation of analytics outputs.
- **Statistics Indicators and Analytics Use Case Performance Monitoring:** Enables structured monitoring, feedback, and enhancement of published content throughout its lifecycle.
- **QDTI:** Supports national-level compliance assessment through the Qatar Data Trust Index, evaluating data quality and compliance across published indicators.

6. Appendix

This section consolidates all templates and reference materials used across the Statistics and Analytics domain guidelines for consistent application and reuse.

- **Templates and Frameworks:** Provides structured tools, templates, and examples to support implementation, monitoring, and governance across all domain activities.

1.2 Target Audience

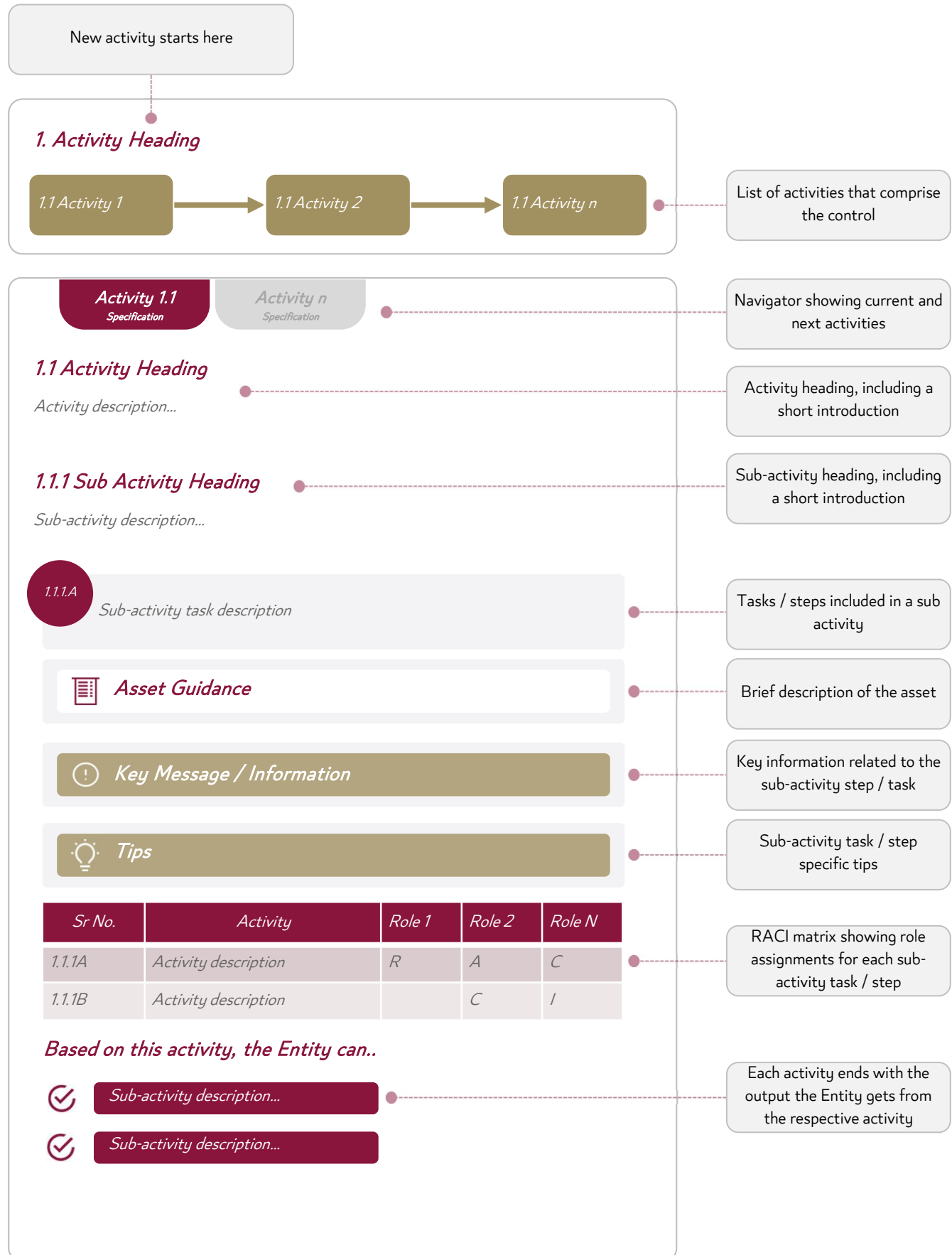
This handbook is intended for the Data Management and Security Director. It is also suitable for team leads and other individuals responsible for, or involved in, the design, development, or consumption of statistics and analytics solutions. It serves as a practical resource for government entities, guiding the implementation of statistics indicators, analytics use cases, and their supporting platforms and tools—ensuring alignment with national data strategies, statistical priorities, and operational decision-making needs.

1.3 Abbreviations and Glossary

Abbreviation/Term	Long Name / Definition
Artificial Intelligence (AI)	Techniques enabling machines to mimic human intelligence and behavior.
Application Programming Interface (API)	A set of rules allowing systems to communicate and exchange data.
Business Intelligence (BI)	Tools and systems for analyzing business data and supporting decision-making.
Comma-Separated Values (CSV)	A simple text format for storing tabular data.
Development Environment (DEV)	A technical environment where indicators are built, tested, and refined before being promoted to staging or production. Used for development, debugging, and initial QA.
Exploratory Data Analysis (EDA)	Initial data analysis approach to discover patterns and anomalies.
Extract, Transform, Load (ETL)	A process for moving and preparing data from source to destination systems.
Generic Statistical Business Process Model (GSBPM)	A global standard defining the phases and subprocesses of producing official statistics.
Key Performance Indicator (KPI)	A measurable value indicating performance against strategic objectives.
Machine Learning (ML)	A branch of AI where systems learn from data without explicit programming.
Third National Development Strategy (NDS3)	Qatar's strategic development agenda for 2024–2030, guiding national performance measurement.
Production Environment (PROD)	The live environment where finalized indicators are hosted, refreshed, and accessed by end users through the Statistics & Analytics Platform.
Qatar Data Knowledge Case (QDKC)	Government guideline for implementing national data governance standards.
Qatar National Vision (QNV)	The long-term vision guiding the country's policy and planning priorities.
Responsible, Accountable, Consulted, Informed (RACI)	A framework for assigning project roles and responsibilities.
Statistics and Analytics (S&A)	The domain concerned with generating statistical insights and analytical outputs.
Subject Matter Expert (SME)	An individual with in-depth knowledge of a specific topic or business area.
Structured Query Language (SQL)	A standard language used to manage and query relational databases.

Abbreviation/Term	Definition
Single Sign-On (SSO)	An authentication method enabling users to log in once to access multiple systems.
User Acceptance Testing (UAT)	Final testing phase where users validate a system before launch.
User Interface(UI)	The front-end through which users interact with a software application.
User Experience (UX)	The overall experience a person has when interacting with a digital system.
QDTI	Qatar Data Trust Index

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 & 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.

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.
Information Security and Risk Management Section Head	The Information Security and Risk Management Section Head is responsible for overseeing the Entity's cybersecurity agenda, integrating risk management and compliance into governance frameworks. This role ensures the protection of information assets by implementing robust security measures, monitoring risks, and fostering a culture of security awareness. The Section Head collaborates across departments to align security initiatives with organizational goals and regulatory requirements, ensuring resilience against cyber threats and compliance with national and international standards.
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.
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.
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.

Stakeholder	Role Description
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.
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.
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 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.
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.

Stakeholder	Role Description
Data Engineer	The Data Engineer transforms data into a format that can be easily analyzed and utilized. The Data Engineer works closely with other stakeholders to ensure data quality is maintained and implemented systems adhere to the highest possible standards.
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.

1.6 Key Success Factors

Strategic Alignment with National and Sectoral Priorities: Ensure that statistical indicators and analytics use cases are directly linked to the Entity's strategic objectives and broader government initiatives. Alignment reinforces relevance, facilitates executive sponsorship, and prioritizes resource investment.

Clear Ownership and Data Stewardship: Assign explicit ownership for each indicator and analytics use case, supported by responsible data stewards. Ownership drives accountability across development, quality assurance, and ongoing maintenance.

High-Quality and Trusted Data Foundations: Ensure indicators and use cases are built on validated, well-governed data from authoritative sources. Data integrity and consistency are prerequisites for producing credible insights and statistical outputs.

Fit-for-Purpose Technology Platform: Deploy a scalable, secure, and interoperable platform capable of rendering statistical indicators and analytics outputs. The platform must support varied output types (e.g., dashboards, APIs, reports) and user needs (e.g., policy, planning, and executive stakeholders).

Balanced Portfolio of Analytics and Indicators: Curate a portfolio that includes both forward-looking analytics (e.g., forecasting, risk detection) and essential statistical indicators (e.g., service usage, demographic trends). This balance ensures coverage of both operational and strategic decision-making.

Stakeholder-Driven Prioritization: Engage internal and external stakeholders in identifying and prioritizing indicators and use cases. Their input ensures the initiative addresses real-world needs and secures buy-in for implementation.

Reusability and Standardization: Design analytics logic, metrics definitions, and data pipelines for reuse across use cases and departments. Standardized templates, taxonomies, and methods improve maintainability and foster cross-entity consistency.

Embedded Privacy, Ethics, and Transparency: Integrate principles of responsible analytics — including data minimization, anonymization, and explainability. Transparency fosters public trust, especially for citizen-facing dashboards or models influencing service delivery.

Phased Implementation and Agile Iteration: Implement use cases and indicators in iterative waves, allowing for validation, feedback, and refinement. Agile delivery models accommodate evolving business needs and reduce time to value.

Continuous Monitoring and Improvement: Track the usage, impact, and quality of analytics and indicator outputs. Regular reviews enable refinement of outputs, archiving of outdated content, and alignment with emerging priorities.

1.7 Compliance with National Data Standards

National Data Standards		QDKC
Control	Specification	Activity
SA.1.1 Statistics and Analytics Planning	SA.1.1.1 Statistics Indicators and Analytics Use Case Identification and Prioritization 	2.1 Statistics Indicators and Analytics Use Case Identification and Prioritization
	SA.1.1.2 Statistics Indicators and Analytics Use Case Detailing 	2.2 Statistics Indicators and Analytics Use Case Detailing
	SA.1.1.3 Statistics Indicators and Analytics Use Case Implementation Plan 	2.3 Statistics Indicators and Analytics Use Case Implementation Plan
	SA.1.1.4 Statistics and Analytics Use Case Data Sourcing Plan 	2.4 Statistics and Analytics Use Case Data Sourcing Plan
SA.2.1 Statistics and Analytics Design	SA.2.1.1 Statistics and Analytics Platform Design 	3.1 Statistics and Analytics Platform Design
	SA.2.1.2 Reporting and Dashboards Design Principles 	3.2 Reporting and Dashboards Design Principles
SA.2.2 Statistics and Analytics Implementation	SA.2.2.1 Statistics and Analytics Platform Implementation 	4.1 Statistics and Analytics Platform Implementation
	SA.2.2.2 Statistics Indicators and Analytics Use Case Implementation 	4.2 Statistics Indicators and Analytics Use Case Implementation
SA.3.1 Statistics and Analytics Operations	SA.3.1.1 Statistics and Analytics KPIs Portfolio 	5.1 Statistics and Analytics KPIs Portfolio
	SA.3.1.2 Statistics and Analytics User Guide 	5.2 Statistics and Analytics User Guide
	SA.3.1.3 Statistics and Analytics Use Case Performance Monitoring 	5.3 Statistics and Analytics Use Case Performance Monitoring

Legend: Capability Level



Foundational

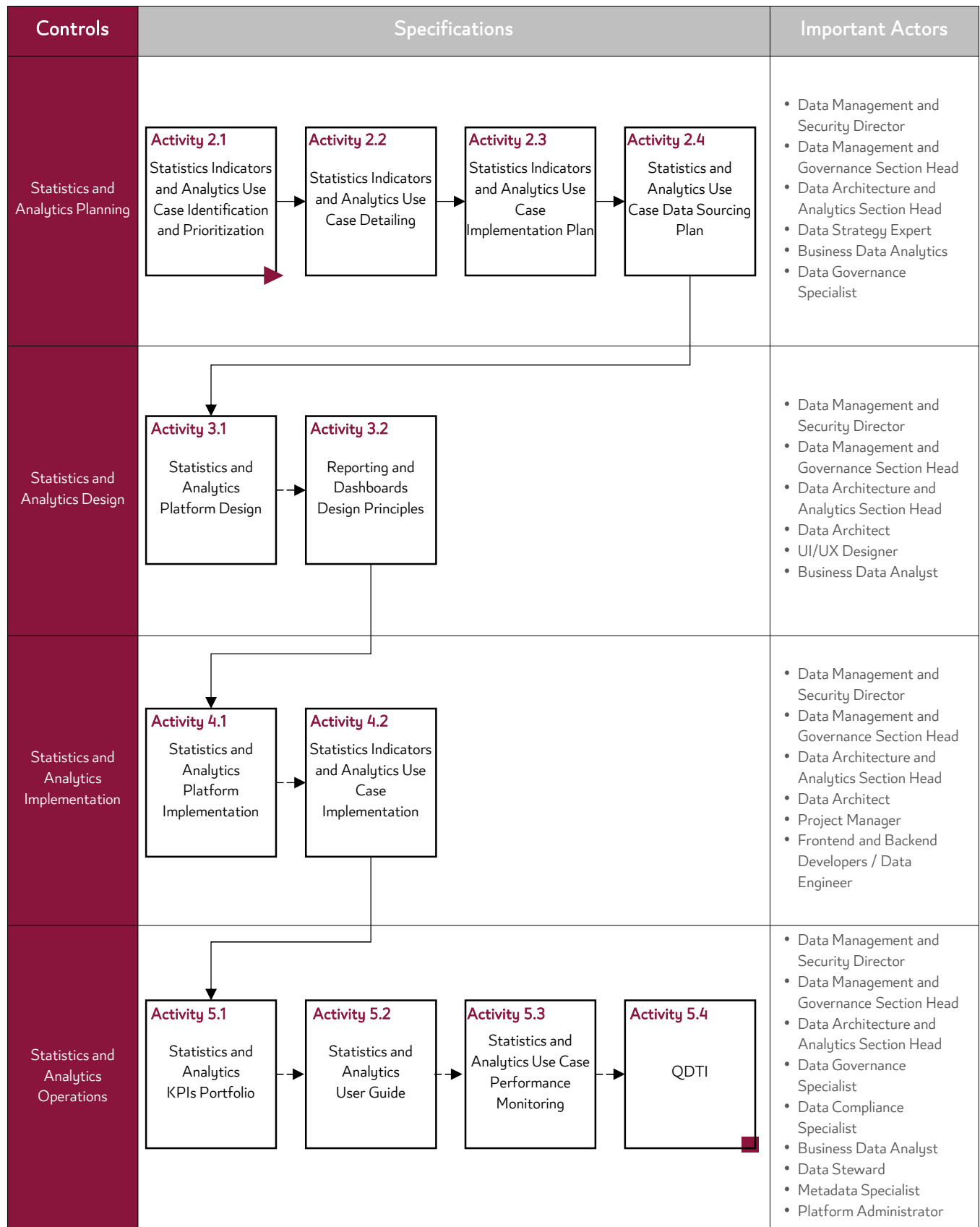


Advanced



Very Advanced

1.8 Domain Level Process Map



2. Statistics and Analytics Planning



2. Statistics and Analytics Planning

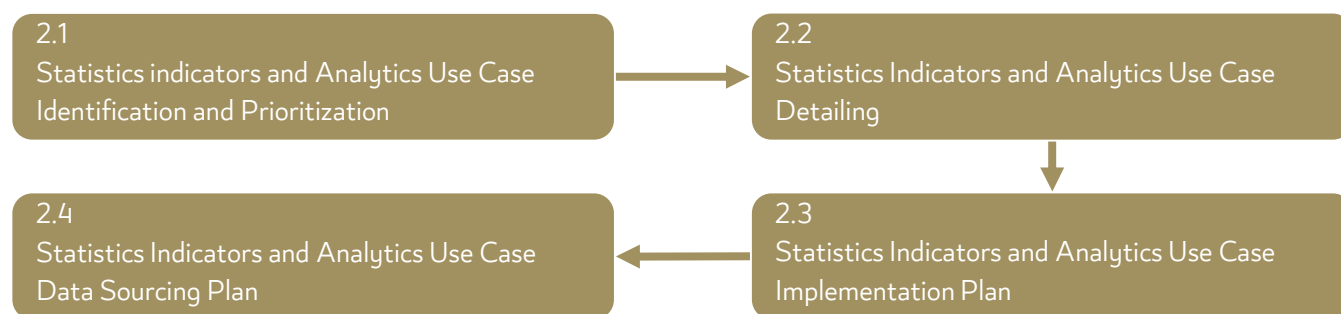
What does Statistics and Analytics Planning involve, and why is it important for the Entity?

Statistics and Analytics Planning enables the Entity to define, structure, and prepare prioritized indicators and analytics use cases for implementation. It ensures each is developed with clear strategic relevance, technical definition, and delivery feasibility, transforming planning needs into actionable, implementation-ready solutions. The process ensures alignment with both internal priorities and national planning needs, including but not limited to NDS3 outcomes, policy targets, and cross-government reporting obligations.

The section is composed of four integrated activities that guide the Entity from initial identification through to implementation readiness:

- **Statistics Indicators and Analytics Use Case Identification and Prioritization:** Identifies and prioritizes high-impact indicators and analytics use cases based on strategic alignment and feasibility.
- **Statistics Indicators and Analytics Use Case Detailing:** Develops structured charters that define each indicator or use case's purpose, calculation logic, data needs, and delivery model.
- **Statistics Indicators and Analytics Use Case Implementation Plan:** Converts approved charters into detailed implementation plans with confirmed timelines, resource assignments, testing activities, and acceptance criteria.
- **Statistics Indicators and Analytics Use Case Data Sourcing Plan:** Validates the availability, classification, and access of all required datasets and CDEs needed to support implementation.

Together, these activities ensure that statistical and analytical assets are prioritized based on value, designed with precision, and supported by the necessary data and delivery mechanisms.



Guiding Principles for Statistics and Analytics Planning

1. **Anchor to National and Sector Priorities:** Ensure statistics and analytics initiatives reflect both national development goals and internal strategy needs.
2. **Advance from Need to Execution:** Progress from identifying high-value use cases and indicators to preparing detailed, actionable implementation plans.
3. **Promote Traceability and Reuse:** Document each indicator and use case clearly to support transparency, reuse, and future validation.
4. **Resolve Data Dependencies Early:** Identify and address data access, sourcing, and integration issues before build activities begin.
5. **Drive Coordination Across Roles:** Assign clear responsibilities across business, data, IT, and analytics teams to ensure delivery accountability.

2.1 Statistics Indicators and Analytics Use Case Identification and Prioritization

This activity helps the Entity identify, evaluate, and prioritize high-value indicators and analytics use cases. It ensures all selections and priorities are validated, high-impact, feasible, and aligned to real strategic needs.

2.1.1 Analytics Use Case Identification and Prioritization

This activity enables the Entity to identify and prioritize analytics use cases that directly support its strategic and operational priorities. It ensures that each use case is anchored in validated business objectives, and that those use cases are assessed based on their impact and feasibility. Through structured steps and stakeholder collaboration, the Entity builds a focused, actionable analytics use case portfolio ready for design and implementation.

Process – Analytics Use Case Identification and Prioritization

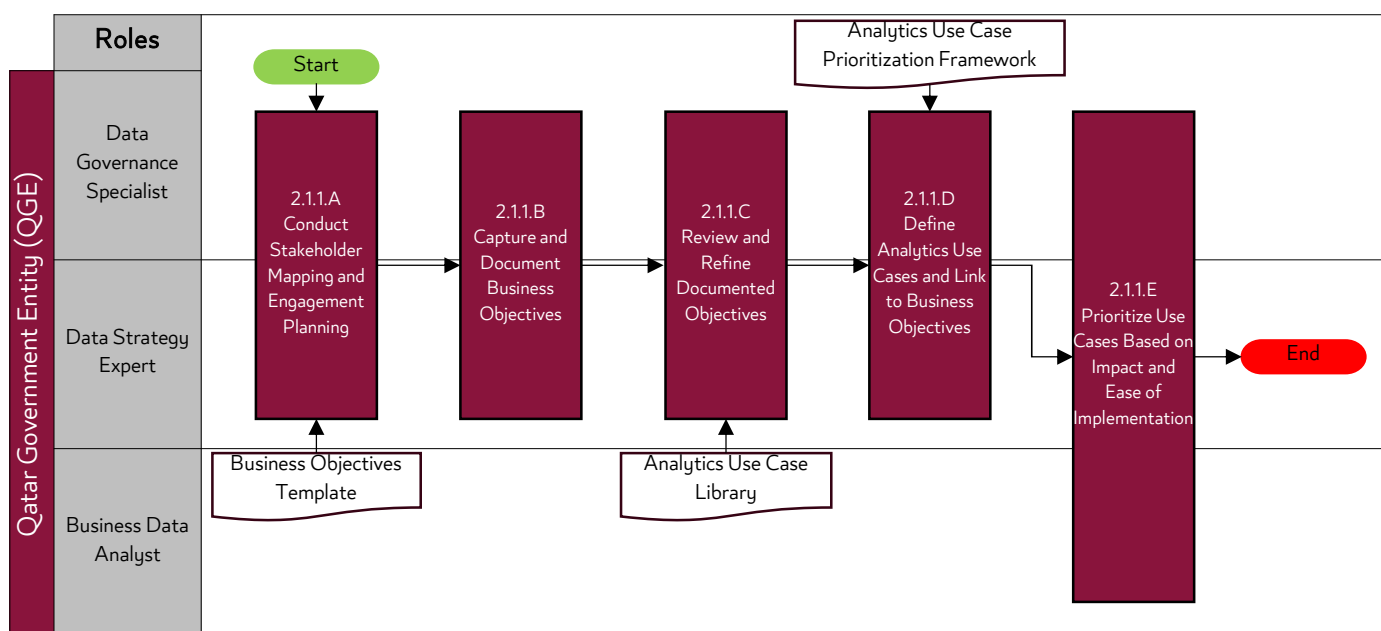


Figure 1: Analytics Use Case Identification and Prioritization Process Map

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)

2.1.1.A
(1/2)

Conduct Stakeholder Mapping and Engagement Planning: Identify and prepare the stakeholders who will contribute to the development of business objectives. The Data Strategy Expert leads this effort to ensure all relevant business and technical roles are engaged, while the Data Governance Specialist ensures completeness and alignment with the current Operating Model. This step lays the foundation for structured, representative input across the Entity.

- i. **Identify relevant business and technical stakeholders:** The Data Strategy Expert identifies relevant stakeholders across the organization, and the Data Governance Specialist ensures coverage based on governance role definitions.
 - a. Develop a stakeholder map that reflects the Entity's business functions and data domains.
 - Include all departments that contribute to planning, compliance, service delivery, and analytics.
 - Leverage any existing Entity operating model to confirm role coverage and representation.

2.1.1.A
Cont.
(2/2)

- b. Confirm stakeholder roles and validate nominations with executive sponsors.
 - Ensure that each stakeholder has the authority and insight to speak on behalf of their domain.
 - Prioritize roles including but not limited to:
 - Section Heads
 - Business SMEs
 - Data Owners
- ii. **Define engagement approach and schedule:** The Data Strategy Expert determines the engagement methods, while the Data Governance Specialist creates and manages the execution plan.
 - a. Select appropriate engagement formats based on stakeholder level and context.
 - Use workshops for collaborative departments, and interviews for senior or specialized roles.
 - Consider surveys for broader inputs or validation across departments.
 - b. Develop a stakeholder engagement plan with clear sequencing and timelines.
 - Map each stakeholder to a session format, date, and facilitator.
 - Integrate with internal planning calendars to avoid scheduling conflicts.
 - c. Assign facilitation (e.g., workshop facilitation) roles and confirm availability.
 - Allocate leads and note-takers for each session.
 - Confirm dependencies such as translation, logistics, or data access if applicable.
- iii. **Communicate objective of engagement to stakeholders:** The Data Governance Specialist leads communication efforts and prepares stakeholders for their role in the process.
 - a. Prepare and distribute briefing materials ahead of each engagement.
 - Include a summary of the data strategy effort, the purpose of business objective collection, and expectations from each participant.
 - Attach a copy of the Business Objectives Template with guidance notes.
 - b. Set expectations for the type and quality of input required.
 - Emphasize the connection between stakeholder input and downstream analytics use case development.
 - Reinforce that submissions must be strategic, measurable, and time-bound where possible.



Key Message / Information

Engaging the right mix of business and technical stakeholders is critical to defining a strategy rooted in real needs. Without inclusive stakeholder mapping, key priorities and pain points risk being missed entirely.

2.1.1.B
(1/2)

Reference and Update Business Objectives: This step guides the Entity to ground analytics use case identification in strategic business needs by referencing the validated business objectives documented under **Activity 2.1** in the **Data Management Strategy & Governance domain**. These objectives, once confirmed as current and relevant, provide a reliable anchor for identifying analytics use cases that deliver value and address high-priority needs.

The Data Strategy Expert and Data Governance Specialist jointly assess the status of the previously defined business objectives. If the business objectives were developed within the last 12 months, the Entity may enrich the list with additional objectives reflecting new or emerging needs. If the objectives are older than 12 months, the Entity must treat this step as part of its annual data strategy refresh and initiate a structured update of business objectives. Updated objectives must be integrated into the refreshed data strategy and shared with the DGO where required.

This process ensures that analytics use case development is consistently aligned with current strategic intent and that any shifts in business direction are reflected before proceeding to downstream activities such as chartering and implementation.

- i. **Assess recency and relevance of business objectives:** The Data Strategy Expert leads the assessment of the current Business Objectives Register to determine whether it remains fit for purpose.
 - a. Review existing Business Objectives Register.
 - Check the timestamp and metadata to confirm when the objectives were last gathered.
 - Confirm whether updates have already been triggered through annual reviews or other planning exercises.
 - Engage key stakeholders to confirm that previously defined business objectives remain relevant, and to gather insights on any actions or initiatives undertaken to date in support of those objectives.
 - b. Apply decision rules based on recency.
 - If objectives are <12 months old, proceed to enrichment only if needed.
 - If objectives are ≥12 months old, initiate a business objective refresh process (ideally) aligned to the Entity's data strategy update cycle.
- ii. **Add or Refresh Business Objectives Based on Recency:** Depending on the recency of the existing business objectives, the Entity may either add new objectives (optional) or trigger a structured refresh.
 - a. Add new objectives only if needed (for objectives <12 months old).
 - Avoid modifying previously documented objectives unless errors or misalignment are identified.
 - Engage departments only to identify new or emerging objectives that have arisen since the last update.
 - Use targeted engagements (e.g., focused interviews, short-form surveys) to minimize redundancy.

2.1.1.B
Cont.
(2/3)

- Document any new objectives using the approved Business Objectives Template and version them separately.



Key Message / Information

For detailed guidelines on gathering business objectives, refer to Activity 2.1.B within the Data Management Strategy and Governance domain guidelines.

- Refresh business objectives (for objectives ≥ 12 months old).
 - Reinitiate the business objective gathering process.
 - Re-engage stakeholders, validate objective quality, and consolidate updates in a refreshed Business Objectives Register.
 - Apply version control to differentiate the updated set from the previous year's objectives.



Asset Guidance

The **Business Objectives Template** serves as a structured tool to document and align on the Entity's overarching business objectives.

Illustrative

المجلس الوطني للتخطيط National Planning Council مجلس التخطيط الوطني					
Business Objectives					
The following table can be used to capture high-level information about the Entity's overarching business objectives					
Field	Description				
Objective ID	A unique identifier for each business objective (e.g., OBJ001, OBJ002).				
Objective Name	A concise name summarizing the business objective (e.g., "Enhance Data Quality").				
Objective Description	A detailed explanation of the objective, its purpose, and its expected outcomes.				
Business Domain	The high-level area of government operations the business objective supports.				
Objective Type	Categorize the objective (e.g., Strategic, Operational, Regulatory Compliance etc.).				
Dependencies or Risks	Note any dependencies, constraints, or risks that could impact the objective (e.g., dependent on timely deployment of the enterprise data platform).				
Key Metrics	Measurable indicators to track the success of the objective (e.g., KPI targets).				
Business Priority	Priority of the objective (e.g., High, Medium, Low).				
Stakeholders Involved	A description of the roles and responsibilities of stakeholders in achieving the objective.				
Departments Involved	List of departments or teams responsible for or impacted by the objective.				
Target Timeframe	The high-level timeline to achieve the objective (e.g., Q2 2026).				
Comments	Any additional notes, clarifications, or context about the objective.				

Objective ID	Objective Name	Objective Description	Business Domain	Objective Type	Dependencies or Risks

Key Metrics	Business Priority	Departments Involved	Stakeholders Involved	Target Timeframe	Comments

- Ensure alignment with the updated data strategy.
 - Submit all new or refreshed objectives to the Data Strategy focal point for incorporation into the Entity's annual strategy refresh.
 - Confirm that revised objectives are used as the foundation for downstream analytics use case identification and chartering.

2.1.1.B
Cont.
(3/3)

- iii. **Validate completeness and traceability:** The Data Governance Specialist ensures that the enriched or refreshed objectives are documented fully and consistently.
- a. Validate structure and metadata fields.
 - Ensure each objective includes ID, type, business domain, KPIs, and owners.
 - Apply standardized naming conventions and audit trails.
 - b. Confirm traceability to analytics use case development
 - Cross-reference objectives with upcoming use case planning.
 - Ensure each objective can logically inform at least one analytics use case.



Key Message / Information

Referencing and validating business objectives ensures analytics initiatives are aligned with the Entity's most current strategic priorities. Entities must treat business objectives as dynamic inputs, refreshed annually or updated when business needs evolve, to ensure relevance and maximize the value of analytics efforts.

2.1.1.C
(1/2)

Review and Refine Documented Objectives: Review collected business objectives with stakeholders to ensure accuracy, alignment, and strategic relevance. The Data Strategy Expert facilitates the review process, while the Data Governance Specialist ensures objectives are documented consistently and reflect the intended outcomes of each department.

- i. **Conduct collaborative review sessions with stakeholders:** The Data Strategy Expert leads the objective validation sessions, while the Data Governance Specialist coordinates review materials and manages updates.
 - a. Schedule and facilitate review sessions with individual departments or functional groups.
 - Present each department's submitted objectives and walk through them line by line.
 - Use the Business Objectives Register as the reference document for these sessions.
 - b. Guide stakeholders in assessing clarity, alignment, and strategic validity of each objective.
 - Encourage discussion to ensure wording accurately reflects departmental intent.
 - Highlight any vague, duplicative, or misaligned objectives for refinement.
 - c. Document key decisions, updates, and final ownership of each objective.
 - Capture revised language directly into the template or register.
 - Confirm responsible department and timeline commitment where applicable.
- ii. **Group objectives into value clusters:** The Data Strategy Expert leads an internal exercise to group documented objectives into value clusters to support prioritization, roadmap development, and cross-functional alignment.

2.1.1.C
Cont.
(2/2)

- a. Cluster objectives using available fields, particularly Objective Type and Business Domain.
 - For example, identify all "Operational" objectives in the "Service Delivery" domain.
 - Use combinations of these fields to spot overlaps, shared focus areas, or gaps.
 - b. Organize objectives into (e.g., 3–6) value clusters to guide downstream alignment. Examples may include but are not limited to:
 - **Public Transparency:** enabling open data, dashboards, or citizen-facing insights
 - **Service Innovation:** introducing new digital services or personalization
 - **Workforce Empowerment:** upskilling teams, self-service analytics, or better internal tools
 - **Data Foundation Strengthening:** improving metadata, master data, or data quality at scale
 - c. Identify objectives that require cross-functional coordination or special oversight.
 - Note interdependencies that may affect implementation sequencing.
 - Flag enterprise-wide objectives for steering committee or executive-level review.
- iii. **Finalize and version-control the Business Objectives Register:** The Data Governance Specialist maintains the official record of validated objectives and ensures it is structured to support downstream planning. Value clusters assigned in the previous step are also recorded to enable thematic analysis and roadmap development.
- a. Apply final edits and standardize formatting in the Business Objectives Register.
 - Ensure consistency in structure, language, codes, and field population across all entries.
 - Assign version control details and objective IDs (e.g., OBJ001, OBJ002).
 - Optionally include a new internal field (e.g., "Value Cluster") to capture the assigned cluster (e.g., Public Transparency, Service Innovation).
 - b. Archive prior versions and maintain a complete audit trail.
 - Store original drafts and review notes in a traceable format for accountability.
 - Record all changes, final approvals, and stakeholder validations.
 - c. Store the final register in a centralized, access-controlled location.
 - Ensure access for authorized strategy, governance, and planning teams.
 - Prepare the register for integration with downstream activities like use case mapping, prioritization, and roadmap design.



Key Message / Information

Collaborative validation helps eliminate ambiguity, duplication, and misalignment. It ensures that each objective accurately reflects departmental intent and contributes meaningfully to the data strategy.

2.1.1.D
(1/2)

Define Analytics Use Cases and Link to Business Objectives: This step guides the Entity to define a longlist of analytics use cases that directly support relevant business objectives. The Data Strategy Expert leads the process of identifying areas where data can enhance decision-making, performance monitoring, or insight generation. The Business Data Analyst and Data Stewards support documentation and validation to ensure traceability and alignment with business priorities.

- i. **Identify use cases aligned to business objectives:** The Data Strategy Expert facilitates workshops or interviews to identify opportunities for data and analytics to support specific objectives.
 - a. Review the finalized Business Objectives Register and highlight objectives that require monitoring, forecasting, insight generation, or decision support.
 - Prioritize objectives categorized as Strategic or Operational.
 - Use value clusters (e.g., Public Transparency) to guide discussions.
 - b. Engage business stakeholders to propose use cases linked to their objectives.
 - Ask targeted prompts such as:
 - “Where could insights improve planning or delivery?”
 - “What do you wish you could monitor or predict?”
 - Encourage suggestions from both business and technical teams.
 - c. Confirm that each proposed use case supports one or more validated objectives.
 - Eliminate ideas not grounded in documented objectives.
 - Ensure alignment with the Entity’s and department’s strategic direction.
- ii. **Populate the Analytics Use Case Library:** The Business Data Analyst and Data Stewards document all qualified use cases in the Analytics Use Case Library using the standardized template.
 - a. Complete all required fields:
 - Use Case ID
 - Use Case Title
 - Use Case Description
 - Value Cluster
 - Linked Business Objective(s)
 - Analytics Type (Descriptive, Diagnostic, Predictive, Prescriptive)
 - Target Audience
 - Department / Function Owner
 - Stakeholders Involved
 - Recommended By
 - b. Ensure consistency, clarity, and traceability across all entries.
 - Link each use case back to its originating objective ID(s).
 - Use clear language and consistent terminology.
 - c. Ensure consistency, clarity, and traceability across all entries.
 - Link each use case back to its originating objective ID(s).
 - Use clear language and consistent terminology.

2.1.1.D
Cont.
(2/2)

Asset Guidance

The **Analytics Use Case Library Template** can be leveraged to capture a longlist of potential analytics use cases along with key contextual information to support evaluation and prioritization.

Illustrative

 المجلس الوطني للتخطيط National Planning Council مجلس التخطيط الوطني State of Qatar	Analytics Use Cases Library Longlist This table captures a longlist of potential analytics use cases along with key contextual information to support evaluation and
---	--

Field	Description
Use Case ID	A unique identifier assigned to each analytics use case.
Use Case Title	A short, descriptive name that summarizes the focus of the use case.
Use Case Description	A brief explanation of what the use case aims to achieve and how it works.
Value Cluster	A value cluster is a strategic grouping of business objectives or use cases that share a common intent, outcome, or thematic focus (e.g., Public Transparency, Service Innovation)
Linked Business Objective(s)	The objective (objective ID) that the use case supports or addresses.
Analytics Type	The category of analytics applied (e.g., descriptive, diagnostic, predictive, prescriptive).
Target Audience	The primary users or decision-makers who will benefit from the use case.
Department / Function Owner	The team or unit responsible for sponsoring and delivering the use case.
Stakeholders Involved	Key individuals or groups who need to be engaged or consulted.
Recommended By	The person or entity who proposed or endorsed the use case.

Use Case ID	Use Case Title	Use Case Description	Value Cluster	Linked Business Objective(s)

Analytics Type	Target Audience	Department / Function Owner	Stakeholders Involved	Recommended By

iii. **Validate and prepare use case list for prioritization:** The Data Governance Specialist ensures the full use case inventory is complete, organized, and ready for structured evaluation in the next step.

- Conduct a working session with the Data Strategy Expert and department leads to review the full use case list.
 - Resolve duplicates, unclear entries, or misaligned cases.
 - Refine descriptions and fill missing data as needed.
- Finalize the Analytics Use Case Library for scoring and prioritization.
 - Assign final quality status to each entry.
 - Store the list in a centralized repository with controlled access.



Key Message / Information

Well-defined use cases transform business goals into actionable opportunities for insight. Mapping them to objectives ensures every use case is purposeful and aligned with real organizational value.

2.1.1.E
(1/2)

Prioritize Use Cases Based on Impact and Ease of Implementation: This step guides the Entity to prioritize analytics use cases using the standardized Analytics Use Case Prioritization Framework. The Data Strategy Expert leads this process, supported by the Business Data Analyst and Data Governance Specialist, to ensure use cases are scored across six defined sub-dimensions. Final priority levels are automatically generated through the scoring tool to guide decision-making and roadmap planning.

- i. **Assign scores to each use case based on defined criteria:** The Data Strategy Expert facilitates the scoring process with relevant stakeholders, while the Business Data Analyst supports entry and quality assurance.
 - a. Score each use case across the following Impact sub-dimensions:
 - **Financial Impact:** Expected cost savings or revenue value
 - **Business Impact:** Alignment with strategic goals or critical operations
 - **Business Urgency:** Time-sensitivity due to regulatory or executive drivers
 - b. Score each use case across the following Ease of Implementation sub-dimensions:
 - **Technology Availability:** Availability of required platforms and tools
 - **Data Readiness:** Accessibility and quality of relevant datasets
 - **Skill Availability:** Availability of internal or external delivery capacity
 - c. Enter all scores using the Low/Medium/High scale in the Analytics Use Case Prioritization Library.
 - Ensure each score is informed by stakeholder input, evidence, or system assessment (e.g., for data availability and readiness)
 - Resolve any uncertainties or assumptions through collaborative discussion

Asset Guidance

The **Analytics Use Case Prioritization Framework** consists of **three integrated sheets** designed to guide the evaluation and ranking of analytics use cases. It includes the **Definition Guide** (criteria explanations), **Prioritization Framework** (scoring and quadrant logic), and the **Use Case Prioritization Library** (template to capture and prioritize use cases).

Illustrative

Analytics Use Case Prioritization Library											
The following table reflects the method to qualifying and prioritizing analytics use cases.											
Use Case ID	Use Case Title	Use Case Description	Impact			Overall Impact	Ease of Implementation			Overall Ease of Implementation	Final Priority
			Financial Impact	Business Impact	Business Urgency		Technology Availability	Data Readiness	Skill Availability		

- ii. **Review automated prioritization outputs:** The Business Data Analyst validates the automated calculations generated by the framework.
 - a. Confirm that the tool has automatically generated the following outputs:
 - **Overall Impact** score based on the three Impact sub-dimensions
 - **Overall Ease of Implementation** score based on the three implementation sub-dimensions
 - **Final Priority** label (e.g., Quick Wins) derived from the prioritization matrix

2.1.1.E
Cont.
(2/2)

- b. Review results with the Data Strategy Expert and identify any anomalies.

- Check for inconsistencies across similar use cases
- Flag use cases that may require manual override due to special considerations

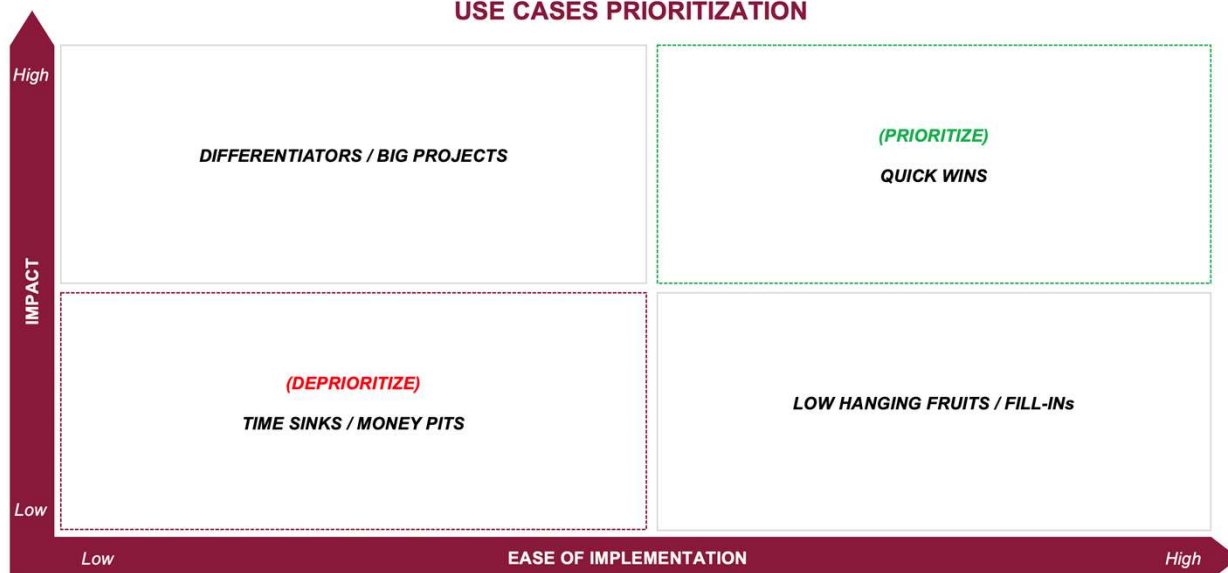
- iii. **Finalize and validate the prioritized use case list:** The Data Governance Specialist ensures the scoring process is complete and the results are ready for decision-making.

- a. Conduct a review session with business, technical, and strategy leads to validate the final rankings.
- Leverage the **Prioritization Matrix** (seen below) to better visualize the distribution of use cases across each quadrant.
 - Align on the top-priority use cases for charter development
 - Revisit low-priority cases if critical to departmental needs



Asset Guidance

USE CASES PRIORITIZATION

Illustrative

- b. Finalize the Analytics Use Case Prioritization Library.

- Lock the template and apply version control
- Store the final list in a centralized location for use in roadmap planning and DGO submission



Key Message / Information

A structured prioritization process enables the Entity to focus on high-value, feasible use cases first. This helps optimize time, budget, and resources while delivering early wins.

RACI Matrix - Analytics Use Case Identification and Prioritization

Indicative

Sr No.	Activity	Data Management and Security Director	Data Management and Governance Section Head	Data Strategy Expert	Business SMEs	Data Stewards	Business Data Analyst	Data Governance Specialist	Data Owners	Data Architect
2.1.1.A	Conduct Stakeholder Mapping and Engagement Planning	A	C	R	C			R	C	
2.1.1.B	Capture and Document Business Objectives	A		R		C	C	R		
2.1.1.C	Review and Refine Documented Objectives	A		R				R		
2.1.1.D	Define Analytics Use Cases and Link to Business Objectives	A		R		C	C	R		
2.1.1.E	Prioritize Use Cases Based on Impact and Feasibility	A		R			R	R		C

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

Based on this Activity, the Entity can



Link analytics use cases to business objectives and strategic priorities



Prioritize use cases based on impact and ease of implementation



Develop a validated analytics use case portfolio for downstream design and execution

2.1.2 Statistics Indicator Identification and Prioritization

This activity guides the Entity through a structured process to identify, evaluate, and prioritize statistical indicators that align with National and internal strategic goals, policy mandates, and operational monitoring needs. The process ensures that impactful and feasible indicators are advanced for implementation by using standardized documentation and prioritization framework.

Process – Statistics Indicator Identification and Prioritization

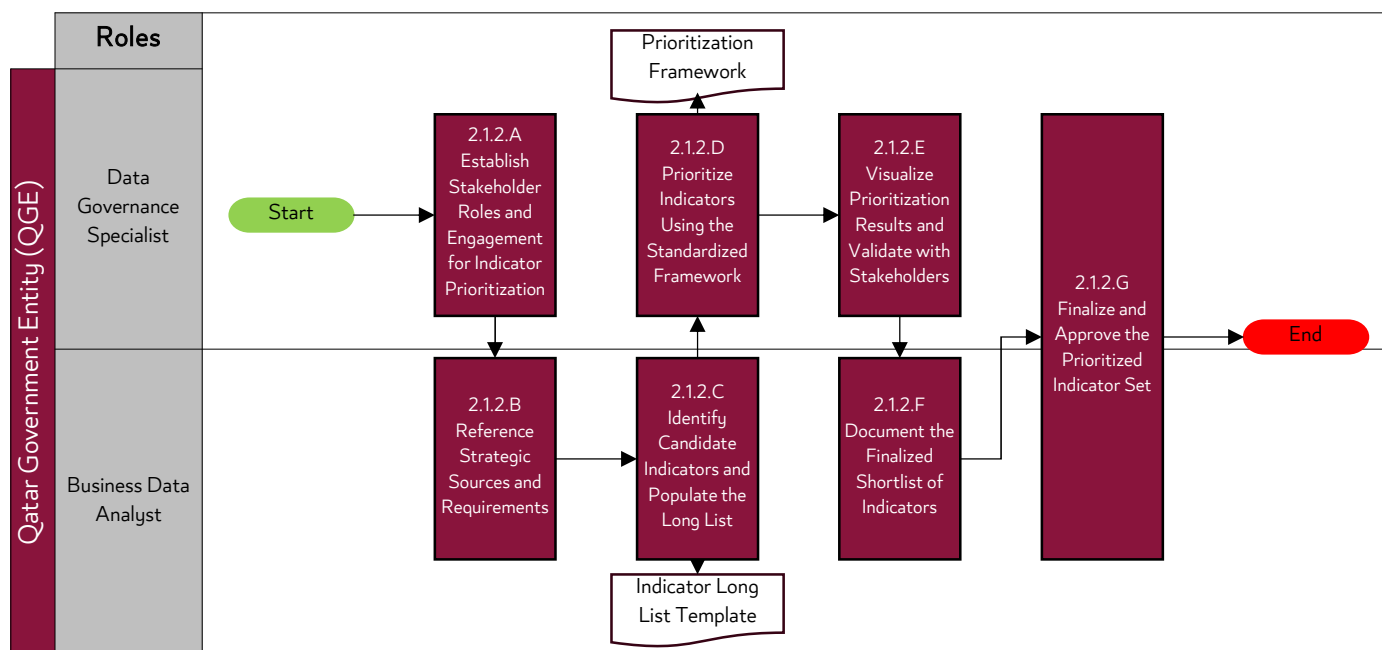


Figure 2: Statistics Indicator Identification and Prioritization Process Map

Legend: Process Step (dark red rectangle), Decision (dark red diamond), Process Start (green oval), Process End (red oval), Document (white rectangle with black border), Off-Page Reference (dark red rectangle with white border).

2.1.2.A
(1/2)

Establish Stakeholder Roles and Engagement for Indicator Prioritization: Define and engage a representative group of business, planning, technical, and governance stakeholders to support indicator identification, scoring, and validation across the Entity. The Data Governance Specialist is responsible for executing this step in collaboration with the Business Data Analyst and with endorsement from the executive sponsor or steering lead.

- i. **Identify contributor roles across departments:** Identify stakeholders who can speak to reporting needs, strategy alignment, and domain-specific indicator use.
 - a. Identify contributor roles across departments
 - Target planning leads, performance managers, sector heads, and service owners
 - Reference the operating model to ensure full coverage across business domains
 - b. Confirm stakeholder coverage for each data or reporting domain
 - Ensure all sectors (e.g., health, education, finance) are represented
 - c. Validate stakeholder nominations with leadership
 - Confirm that each focal point has decision-making authority or operational oversight
 - Secure commitment to participate in identification and prioritization workshops

2.1.2.A
Cont.
(2/2)

- ii. **Assign stakeholder responsibilities across phases of the exercise:** Define each stakeholder's role in indicator identification, review, and scoring.
 - a. Differentiate roles for business, data, and governance inputs
 - Business Owners: propose and validate indicators
 - Data Stewards: assess data readiness
 - Data Governance Leads: coordinate scoring and ensure alignment
 - b. Map each role to a specific phase of the activity
 - Use a RACI (Responsible, Accountable, Consulted, Informed) format if helpful
 - Assign facilitation roles for upcoming workshops or sessions
 - c. Communicate expectations and time commitment
 - Set clear deliverables (e.g., number of indicators, scoring deadlines)
 - Include expected engagement timeline in planning materials
- iii. **Define and document the stakeholder engagement approach:** Establish the format, timeline, and tools that will be used to engage stakeholders effectively.
 - a. Select engagement methods per role type and availability
 - Workshops for collaborative roles; interviews or forms for senior leads
 - Use virtual sessions where needed to increase participation
 - b. Develop a stakeholder engagement calendar
 - Define session objectives, formats, and facilitators
 - Align with internal planning cycles and availability of key roles
 - c. Prepare briefing materials and orientation content
 - Include overview of indicator identification goals, key terms, and the prioritization framework
 - Share templates (long list, scoring guide) in advance

2.1.2.B
(1/3)

Reference Strategic Sources and Requirements: Leverage National strategies and National indicator requirements, regulatory obligations, internal business objectives, and pre-defined analytics use cases to identify candidate indicators for inclusion in the long list. This ensures that all indicators considered for prioritization are relevant, aligned, and derived from real business or policy needs. The Business Data Analyst is responsible for executing this step in consultation with the Data Strategy Expert and the Data Governance Specialist.

- i. **Review national and cross-government sources of indicator demand:** Extract indicators mentioned in national agendas, regulatory requirements, and public sector reporting frameworks.
 - a. Analyze strategic documents such as the NDS3 and sectoral strategies
 - Highlight KPIs, policy targets, or reporting metrics relevant to the Entity's mandate
 - Flag any cross-government or SDG-aligned indicators required at national level

2.1.2.B
Cont.
(2/3)

- b. Review national indicator requirements
 - Note the origin (e.g., policy plan, ministerial instruction) and reporting frequency
 - Confirm if indicators already exist or must be derived from upstream systems
 - c. Build a working list of externally mandated indicators
 - Compile these into a source tracking sheet or draft register
 - Include descriptions, source documents, and responsible government body
- ii. **Extract internal indicators from strategic and analytical planning:** Identify indicators implied by internal objectives or use cases.
 - a. Review the Business Objectives Register (from Activity 2.1.1)
 - Highlight objectives requiring ongoing measurement or trend tracking
 - Translate high-level outcomes into measurable indicators (e.g., “increase citizen satisfaction” → “citizen satisfaction score”)
 - b. Examine the Analytics Use Case Library (from 2.1.1)
 - Review prioritized analytics use cases to determine where supplementary indicators may be required
 - Identify use cases that would benefit from indicator-level monitoring to track patterns, validate impact, or support decision-making
 - **Example:** For a predictive use case on employee attrition, note the need for an indicator such as “attrition rate” to monitor trends over time
 - c. Create a source-linked candidate indicator working list
 - For each proposed indicator, specify its origin:
 - Strategic Plan
 - Objective ID
 - Use Case ID
 - Use this list as an input to the long list population in Step 2.1.2.C
- iii. **Reinforce source alignment and traceability expectations:** Set the foundation for a long list that is traceable, justifiable, and clearly linked to institutional needs.
 - a. Communicate that indicators must originate from verifiable sources
 - Reinforce this principle in briefing materials and during stakeholder workshops
 - Avoid proposing indicators without strategic, regulatory, or operational justification
 - b. Use this source-linked candidate list to seed the Indicator Long List Template
 - In the next step (2.1.2.C), this input will be formally documented and standardized
 - Encourage early validation with data owners and functional leads

2.1.2.B
Cont.
(3/3)**Key Message / Information**

Entities should not invent indicators in isolation. Every indicator proposed must be traceable to a real need, whether strategic, operational, regulatory, or analytical. Indicators may originate from sources such as Qatar's Third National Development Strategy (NDS3), national indicator requirements, Entity-level business objectives (defined in Activity 2.1.1), analytics use cases (defined in Activity 2.1.1), regulatory or external reporting obligations, and service delivery monitoring and internal performance scorecards

2.1.2.C
(1/2)

Identify Candidate Indicators and Populate the Long List: Consolidate and document all candidate indicators identified from National mandates, strategic documents, regulatory requirements, business objectives, and analytics use cases. Use the standardized Statistics Indicator Long List Template to capture all relevant metadata and ensure traceability across the indicator lifecycle. The Business Data Analyst is responsible for executing this step in collaboration with Data Owners and Sector Leads, and in consultation with the Data Governance Specialist.

- i. **Facilitate working sessions with stakeholders to elicit indicators:** Engage departments and business units to translate strategic needs into measurable indicators.
 - a. Organize department-level or domain-based workshops or interviews
 - Invite focal points identified in Step 2.1.2.A
 - Structure sessions by sector (e.g., Health, Labor, Economy) or function (e.g., Planning, Service Delivery)
 - b. Use guided prompts to elicit relevant indicators
 - Ask: "What KPIs do you track internally?", "What indicators are required for national reporting?", "Which objectives need measurable outputs?"
 - Include prompts based on business objectives and analytics use cases reviewed in Step 2.1.2.B
 - c. Collect any existing indicator documentation or definitions
 - Include legacy Excel trackers, internal dashboards, performance reports, or regulatory filings
 - Review any inconsistencies, duplications, or outdated formulations
- ii. **Document indicators using the Long List Template:** Ensure that each proposed indicator is captured in a consistent, complete, and standardized format.
 - a. Complete all required fields in the template
 - ID, Indicator Name, Business Definition, Formula, Unit, Source Entity, Business Justification
 - Ensure proper formatting and naming conventions

2.1.2.C
Cont.
(2/2)

- a. Validate metadata fields for accuracy and clarity
 - Confirm unit of measure, formula structure, and source entity attribution with the originating department
 - Avoid abbreviations or vague labels; use full and descriptive terms

Asset Guidance

The **Indicator Long List Template** can be leveraged by the Entity to document all candidate indicators. *Illustrative*

 Indicator Long List Template			
The following table can be used to document the long list of Statistics Indicators'			
Field	Description		
ID	Unique identifier assigned to each indicator to reference and track the indicator consistently across various systems, reports, and documentation (combination of indicator category, sector, owning entity name, serial number)		
Indicator Name	Name of the indicator		
Business Definition	A detailed definition of what the indicator measures and its importance.		
Formula	Details the specific formula or procedural steps used to compute the indicator's value		
Unit	The units in which the indicator is measured		
Source Entity	The government entity or entities where the source data is coming from to calculate the indicator		
Business Justification	A brief explanation of why the indicator is relevant to the Entity's strategy, operations, or policy goals. This may include its alignment with national development priorities.		
ID	Indicator Name	Business Definition	Formula
Unit	Source Entity	Business Justification	

- ii. **Review and finalize the long list for scoring:** Ensure that the long list is complete, version-controlled, and ready to be used in the prioritization step.
 - a. Conduct a quality check across the full register
 - Look for missing fields, duplicate indicators, conflicting definitions, or unlinked sources
 - Flag entries needing clarification before prioritization
 - b. Assign unique IDs and apply version control
 - Use the ID format [Category]-[Sector]-[Entity Abbreviation]-[Serial Number]
 - Save as a controlled draft with author/date/version metadata
 - c. Store the Long List in a shared, access-controlled location
 - Provide access to the Data Governance team for scoring in Step 2.1.2.D
 - Lock the register to preserve audit trail once finalized

2.1.2.D
(1/2)

Prioritize Indicators Using the Standardized Framework: Evaluate each indicator in the long list using the outlined Statistics Indicator Prioritization Framework. This enables the Entity to assess indicators across strategic impact and implementation feasibility. The Data Governance Specialist is responsible for leading this step in collaboration with the Business Data Analyst and in consultation with Data Owners, and Strategy stakeholders.

- i. **Prepare the prioritization template and scoring environment:** Ensure readiness to conduct the scoring exercise by configuring the prioritization file and orienting contributors.
 - a. Load the completed long list into the prioritization framework
 - Copy validated indicator records into the Prioritization Template
 - Ensure that each record is uniquely identified and traceable to its source
 - b. Share scoring criteria and sub-dimension definitions with stakeholders
 - Distribute the official prioritization criteria guide (Impact and Ease of Implementation sub-dimensions)
 - c. Confirm scoring participants and roles
 - Assign primary scorers for each sector or indicator group
 - Schedule group or 1-on-1 scoring sessions as needed to facilitate participation
- ii. **Score each indicator across the six sub-dimensions:** Evaluate each indicator using objective, criteria-based scoring to ensure fairness and transparency.
 - a. Score across the three Impact sub-dimensions:
 - **Strategic Alignment:** Contribution to national goals or sector strategies
 - **Business Urgency:** Timeliness and regulatory or executive pressure
 - **Public Value:** Contribution to public dashboards, and service transparency
 - b. Score across the three Ease of Implementation sub-dimensions:
 - **Data Readiness:** Availability, cleanliness, and accessibility of required data
 - **Methodological Complexity:** Simplicity or difficulty of calculation logic
 - **Standardization / Definition Maturity:** Clarity, consistency, and consensus around indicator definition
 - c. Use the High / Medium / Low scale defined in the framework
 - Facilitate real-time or asynchronous scoring based on entity preferences
 - Document justification for each rating where possible to support transparency

Asset Guidance (1/2)

The **Statistics Indicators Prioritization Framework** consists of **three integrated sheets** designed to guide the evaluation and ranking of statistics indicators. It includes the **Definition Guide** (criteria explanations), **Prioritization Framework** (scoring and quadrant logic), and the **Use Case Prioritization Library** (template to capture and prioritize statistics indicators).

2.1.2.D
Cont.
(2/2)
 Asset Guidance
Illustrative



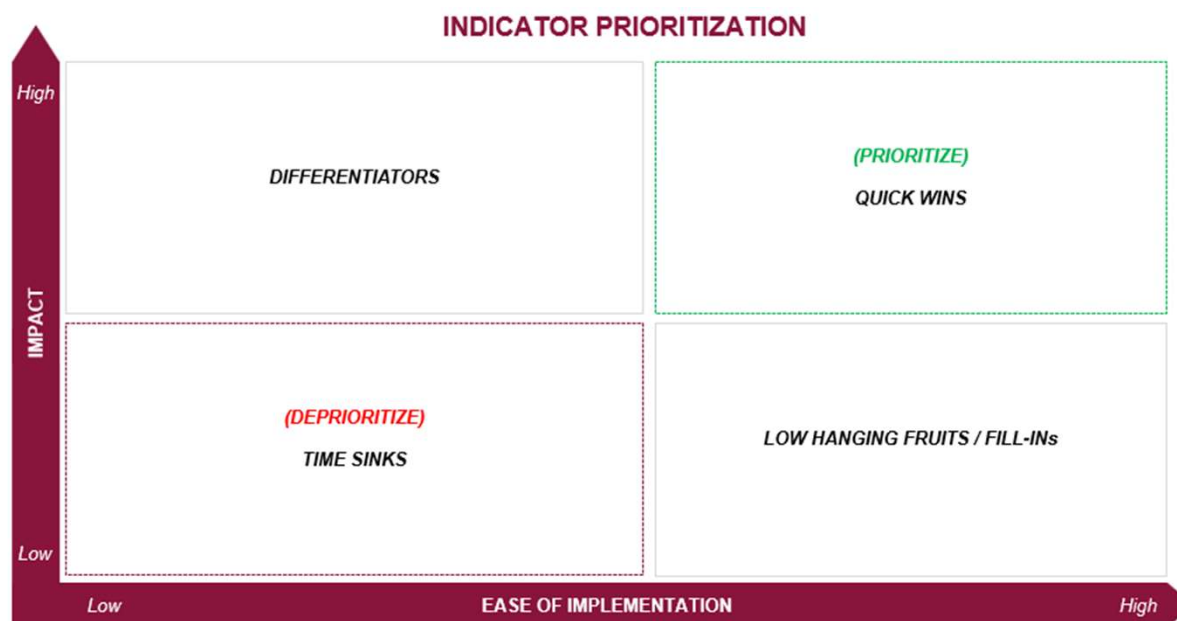
السلطة الفلسطينية
National Statistical Office
مكتب الإحصاء الفلسطيني

Statistics Indicator Prioritization Library

The following table reflects the method to qualifying and prioritizing the statistics indicators.

Indicator ID	Indicator Name	Indicator Business Definition	Impact			Overall Impact	Ease of Implementation			Overall Ease of Implementation	Final Priority
			Strategic Alignment	Business Urgency	Public Value		Data Readiness	Methodological Complexity	Standardization / Definition Maturity		

- ii. **Generate prioritization scores and assign indicator quadrants:** Translate individual sub-dimension scores into final prioritization categories.
- Automatically calculate composite scores for each indicator
 - Leverage the built-in logic of the prioritization template to generate:
 - Overall Impact score
 - Overall Ease of Implementation score
 - Priority label (e.g., Quick Win (PRIORITIZE), Differentiators, Low Hanging Fruits / Fill-ins, Time Sinks (DEPRIORITIZE))
 - Visualize results using the prioritization matrix
 - Plot each indicator on a 2x2 quadrant to support discussion
 - Group indicators by domain or department if needed for review
 - Review and validate scores with key stakeholders
 - Validate outliers or conflicting scores
 - Confirm consensus around top-priority indicators to be moved into shortlisting

 Asset Guidance
Illustrative

2.1.2.E
(1/2)

Visualize Prioritization Results and Validate with Stakeholders: Present the results of the prioritization exercise to relevant stakeholders using the prioritization matrix and summary views. This step enables collaborative validation of scoring outcomes, ensures alignment on top priorities, and confirms which indicators are ready for shortlisting. The Data Governance Specialist is responsible for leading this step in collaboration with the Business Data Analyst and in coordination with Data Owners, Sector Leads, and Strategy Stakeholders.

- i. **Present the prioritization matrix to stakeholders for review:** Use the matrix generated in Step 2.1.2.D as a visual tool to guide discussion and decision-making.
 - a. Display the full prioritization matrix
 - Show the quadrant layout with indicators plotted according to Impact and Ease of Implementation
 - Include summary counts per quadrant (e.g., 12 Quick Wins, 6 Differentiators)
 - b. Prepare tailored views by department, domain, or indicator type
 - Segment the matrix if needed to support more focused departmental reviews
 - Use color coding or filters to improve readability and relevance
 - c. Annotate the matrix with supporting insights or flags
 - Highlight high-value or urgent indicators
 - Flag entries where data readiness or definition clarity may require further discussion
- ii. **Facilitate collaborative review and alignment sessions:** Engage stakeholders in structured validation of the prioritization outcomes.
 - a. Schedule working sessions by domain, department, or indicator cluster
 - Include original scorers and relevant decision-makers
 - Provide printed or digital versions of each department's indicators for reference
 - b. Walk through indicators quadrant by quadrant
 - Discuss whether each indicator's position reflects its strategic value and feasibility
 - Allow stakeholders to challenge scores where needed and provide additional justification
 - c. Document and resolve any discrepancies or escalations
 - Note any requested adjustments to sub-dimension scores
 - Re-score or reclassify indicators only if consensus and rationale are clearly documented
- iii. **Confirm validated priorities and prepare for shortlisting:** Finalize indicator status and transition to the next phase of documentation.
 - a. Lock in the priority label and quadrant for each indicator
 - Label as "Approved for Shortlist," "Deferred," or "Not Selected"

2.1.2.E
Cont.
(2/2)

- Record changes in a validation log with timestamp and approver names
- b. Apply version control to the validated prioritization register
 - Save a finalized version of the matrix and scoring sheet
 - Maintain a backup of the original (pre-validation) file for traceability
- c. Store validated results in a centralized repository
 - Share finalized outputs with Data Stewards, Analytics Leads, and Implementation Teams
 - Use this version as the basis for Step 2.1.2.F – documenting shortlisted indicators

2.1.2.F

Document the Finalized Shortlist of Indicators: Record the final set of prioritized indicators that have been validated through the scoring and review process. This step ensures that all high-priority indicators are traceable, version-controlled, and ready for use in downstream detailing, sourcing, and implementation activities. The Business Data Analyst is responsible for executing this step in collaboration with the Data Owners and Strategy Leads.

- i. **Create an official version of the approved shortlist:** Establish a centralized, clean copy of the validated indicator set.
 - a. Extract only indicators marked as “Approved for Shortlisting” from the prioritization register
 - Retain their original ID, name, and priority quadrant (e.g., Quick Win, Differentiator)
 - Remove any indicators marked as deferred or deprioritized
 - b. Ensure consistency with the validated prioritization results
 - Confirm that all entries reflect the latest review decisions
 - Include source traceability fields (e.g., Long List Reference ID)

2.1.2.G
(1/2)

Finalize and Approve the Prioritized Indicator Set: Complete the review and approval of the statistics indicator short list by applying final quality checks and obtaining stakeholder validation. This step ensures that the selected indicators are fully endorsed, traceable, and implementation-ready. The Data Governance Specialist is responsible for executing this step in collaboration with the Business Data Analyst and in consultation with Sector Leads, Strategy Representatives, and Implementation Focal Points.

- i. **Conduct final quality checks and formatting of the short list:** Ensure the Statistics Indicator short list is complete and structured for governance approval and future reference.
 - a. Validate all shortlisted indicators are documented
 - b. Assign version control metadata
 - Include version number, template owner, last modified date, and review status

2.1.2.G
Cont.
(2/2)

- ii. **Facilitate stakeholder validation and sign-off:** Review the finalized indicator set with relevant stakeholders to confirm endorsement for implementation.
 - a. Organize a validation session with cross-functional stakeholders
 - Include planning leads, sector focal points, data owners, and governance representatives
 - Present a summary of the prioritization process and the resulting shortlist
 - b. Capture and address any final feedback or change requests
 - Allow stakeholders to flag missing indicators or minor corrections
 - Document rationale for any changes and apply revisions where justified
 - c. Obtain formal approval of the prioritized set
 - Record approvals through meeting minutes, sign-off sheets, or digital confirmation
 - Tag indicators as “Approved” within the list
- iii. **Store and publish the approved short list for downstream use:** Preserve the final list as a governance artifact and enable access for implementation teams.
 - a. Save the approved version in a centralized, access-controlled repository
 - Ensure availability to analytics, architecture, and governance teams
 - Archive earlier drafts to maintain full audit trail
 - b. Communicate next steps to relevant stakeholders
 - Share summary output and upcoming activities (e.g., sourcing plan, implementation design)
 - Notify system owners and platform leads of approved indicators requiring onboarding

RACI Matrix - Statistics Indicator Identification and Prioritization

Indicative

Sr No.	Activity	Data Management and Security Director	Data Management and Governance Section Head	IT Team	Data Owners	Data Stewards	Business Data Analyst	Data Governance Specialist	Data Strategy Expert
2.1.2.A	Establish Stakeholder Roles and Engagement for Indicator Prioritization		A				C	R	
2.1.2.B	Reference Strategic Sources and Requirements		A				R	C	C
2.1.2.C	Identify Candidate Indicators and Populate the Long List	I	A		C		R	C	
2.1.2.D	Prioritize Indicators Using the Standardized Framework	I	A				C	R	C
2.1.2.E	Visualize Prioritization Results and Validate with Stakeholders		A				C	R	C
2.1.2.F	Document the Finalized Shortlist of Indicators	I	A	C	C	C	R		
2.1.2.G	Finalize and Approve the Prioritized Indicator Set	C	A/C		C	C	R	R	C

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

Based on this Activity, the Entity can



Link statistical indicators to strategic goals, policies, and reporting needs



Prioritize indicators using a standardized, transparent scoring framework



Develop a validated indicator shortlist for downstream design and implementation

2.2.1 Analytics Use Case Detailing

This activity supports the Entity in translating prioritized indicators and analytics use cases into structured charters. Each charter consolidates business context, data and technical requirements, and prioritization scores, ensuring the solution is feasible, well-defined, and aligned with both internal and national planning priorities.

2.2.1 Analytics Use Case Detailing

This activity guides the Entity to develop structured charters for its prioritized analytics use cases. Each charter outlines the use case's objectives, business value, data and technology requirements, and delivery considerations. The process begins by retrieving the validated prioritized use case list, then proceeds through collaborative drafting, review, and finalization. These charters serve as the foundation for solution design, technical planning, and downstream development.

Process – Analytics Use Case Detailing

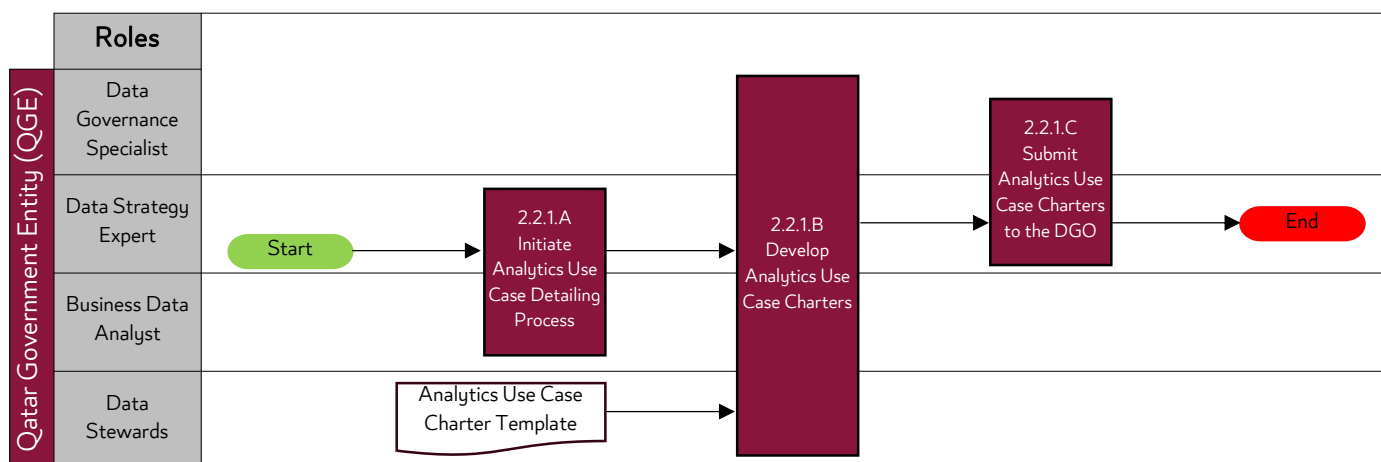


Figure 3: Analytics Use Case Detailing Process Map

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

2.2.1.A

Initiate Analytics Use Case Detailing Process: This step initiates the process of detailing analytics use cases by retrieving the validated and prioritized list developed in Activity 2.1.2. The Data Strategy Expert, in coordination with the Business Data Analyst and Data Governance Specialist, organizes the execution of the detailing process, ensuring readiness of inputs, alignment with stakeholders, and adherence to timelines.

i. Retrieve the prioritized list of analytics use cases

- Confirm the list is approved, complete, and version-controlled
- Ensure each use case includes its ID, title, owner, and link to business objectives

ii. Coordinate planning for the detailing process

- Identify focal points for each use case and confirm availability
- Share templates and timelines with relevant teams to begin drafting charters

Initiating this step ensures that the use case detailing effort is methodical, resource-aligned, and consistent with the prioritization outputs. It also enables efficient sequencing, especially in entities with multiple concurrent analytics initiatives.

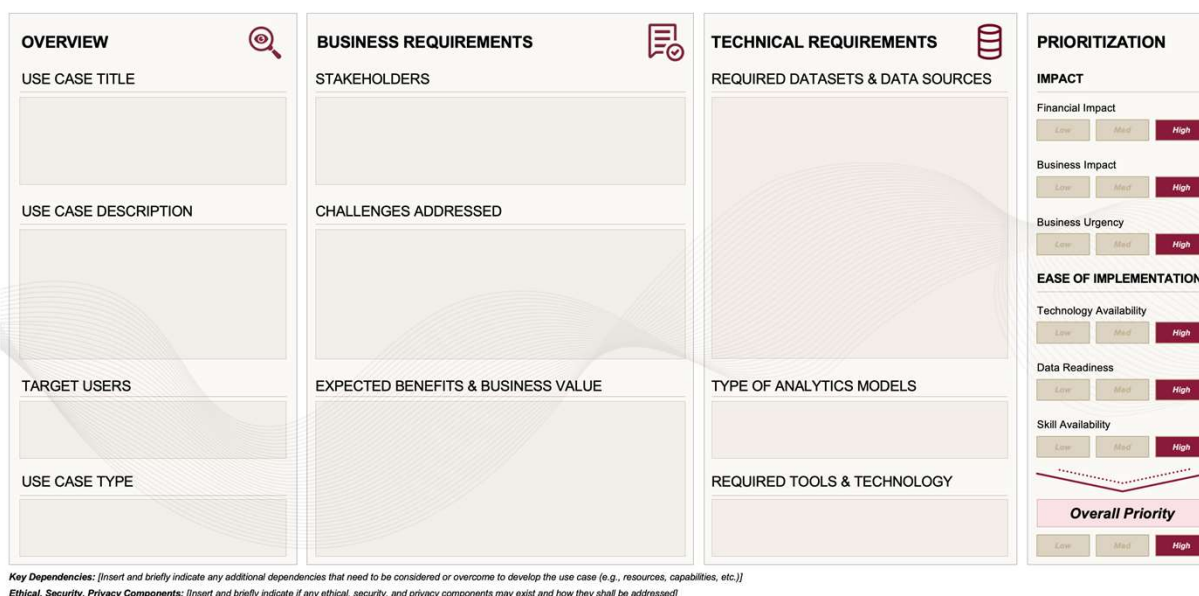
2.2.1.B
(1/2)

Develop Analytics Use Case Charters: This step guides the Entity to develop detailed use case charters for each high-priority analytics use case. The Data Strategy Expert leads the facilitation process, while the Business Data Analyst and Data Stewards support documentation. The Data Governance Specialist ensures consistency and completeness. These charters provide the necessary foundation for technical scoping, planning, and solution design.

Asset Guidance

Illustrative

The **Analytics Use Case Charter Template** can be used to capture and document the key elements of a shortlisted analytics use case. It provides a structured format for summarizing the use case overview, business and technical requirements, dependencies, and prioritization inputs (aligned with the Use Case Prioritization Framework).



The form is divided into four main sections: OVERVIEW, BUSINESS REQUIREMENTS, TECHNICAL REQUIREMENTS, and PRIORITIZATION. Each section contains specific fields for data entry.

OVERVIEW (Icon: Magnifying glass)

- USE CASE TITLE
- USE CASE DESCRIPTION
- TARGET USERS
- USE CASE TYPE

BUSINESS REQUIREMENTS (Icon: Document with list)

- STAKEHOLDERS
- CHALLENGES ADDRESSED
- EXPECTED BENEFITS & BUSINESS VALUE

TECHNICAL REQUIREMENTS (Icon: Database cylinder)

- REQUIRED DATASETS & DATA SOURCES
- TYPE OF ANALYTICS MODELS
- REQUIRED TOOLS & TECHNOLOGY

PRIORITIZATION

- IMPACT**
 - Financial Impact: Low, Med, High
 - Business Impact: Low, Med, High
 - Business Urgency: Low, Med, High
- EASE OF IMPLEMENTATION**
 - Technology Availability: Low, Med, High
 - Data Readiness: Low, Med, High
 - Skill Availability: Low, Med, High
- Overall Priority**: Low, Med, High

Key Dependencies: [Insert and briefly indicate any additional dependencies that need to be considered or overcome to develop the use case (e.g., resources, capabilities, etc.)]
Ethical, Security, Privacy Components: [Insert and briefly indicate if any ethical, security, and privacy components may exist and how they shall be addressed]

- i. **Capture business and strategic context for each use case:** The Data Strategy Expert works with stakeholders to complete the business and value-related sections of the charter.
 - a. Document the use case overview and purpose:
 - Use Case Title and Description
 - Target Users (e.g., policy teams, service managers)
 - Use Case Type (descriptive, diagnostic, predictive, prescriptive)
 - b. Define the business requirements and intent:
 - Stakeholders involved in owning or sponsoring the use case
 - Challenges the use case aims to address
 - Expected Benefits and Business Value to the Entity
 - c. Record key considerations:
 - Dependencies (e.g., resources, approvals, external data access)
 - Ethical, Security, and Privacy Components that must be addressed

2.2.1.B
Cont.
(2/2)

- ii. **Specify technical and analytics delivery requirements:** The Business Data Analyst leads technical scoping and collaborates with Data Stewards and other IT stakeholders.
 - a. Identify data and technology dependencies:
 - Required Datasets and Data Sources (including systems, APIs, or reports)
 - Required Tools and Technology (e.g., BI platforms, machine learning infrastructure)
 - b. Define model and analytical needs:
 - Type of Analytics Models envisioned (e.g., classification, forecasting, clustering)
 - Required technical processes or algorithms if known
 - c. Confirm feasibility and constraints through internal coordination:
 - Engage Data Architects or technical teams where needed
 - Validate assumptions with relevant stakeholders
- iii. **Finalize prioritization scoring within the charter:** The Data Governance Specialist ensures alignment between the use case charter and the prioritization framework.
 - a. Record Low / Medium / High scores for each of the six prioritization sub-dimensions:
 - Financial Impact, Business Impact, Business Urgency
 - Technology Availability, Data Readiness, Skill Availability
 - b. Ensure the prioritization logic is in alignment with the auto-generated Overall Priority field within the Use Case Prioritization Library.
 - Confirm that all fields are populated accurately before finalizing
 - Align scores with the earlier prioritization library, or revise if more detail is now available
 - c. Store completed use case charters in a version-controlled repository.
 - Ensure access by data, IT, and strategy teams
 - Prepare for submission to the National Data Governance Office (if applicable)

**Key Message / Information**

Analytics Use Case Charters translate use case concepts into actionable inputs for initiative card development and the data strategy roadmap (as outlined in Section 3.3.1)

2.2.1.C
(1/2)

Submit Analytics Use Case Charters to the DGO: Submit the finalized analytics use case charters to the DGO for review, validation, and feedback. The Data Governance Specialist coordinates the submission process, while the Data Strategy Expert supports clarification and response to DGO queries. This step ensures that use cases are nationally aligned and meet baseline standards for technical and strategic readiness.

2.2.1.C
Cont.
(2/2)

- i. **Prepare charter submission package for DGO:** The Data Governance Specialist consolidates finalized charters and prepares them for formal submission.
 - a. Compile all finalized and validated high-priority use case charters.
 - Ensure each charter has a unique ID and is traceable to the department of origin
 - Confirm all charters include complete information across business, technical, and prioritization
 - b. Complete a submission cover sheet or summary index for the package.
 - Include metadata such as number of charters, departments represented, and prioritization summary
 - Indicate if any charters are subject to cross-department collaboration or have national dependencies
- ii. **Submit package to the DGO and facilitate review:** The Data Governance Specialist owns the submission and tracking process, with the Data Strategy Expert supporting clarifications.
 - a. Submit the use case charter package to the DGO via the designated platform or official communication channel (as required at the respective point in time).
 - Ensure submission adheres to national template and formatting standards
 - Follow the DGO-prescribed file structure or naming conventions where applicable
 - b. Facilitate a review session or Q&A with the DGO, if requested.
 - Respond to clarifying questions or follow-up data requests
 - Note any DGO feedback or required revisions and track status for future iterations



Key Message / Information

Submitting use case charters to the DGO enables alignment with national priorities and standards. It also opens the door to collaboration and cross-entity integration.

RACI Matrix - Analytics Use Case Detailing

Indicative

Sr No.	Activity	DGO	Data Management and Security Director	Data Management and Governance Section Head	Data Strategy Expert	Business SMEs	Data Stewards	Business Data Analyst	Data Governance Specialist	Data Architect
2.2.1.A	Initiate Analytics Use Case Detailing Process				R			R	C	
2.2.1.B	Develop Analytics Use Case Charters		A		R	C	R	R	R	C
2.2.1.C	Submit Analytics Use Case Charters to the DGO	C/I	A	I	R				R	

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

Based on this Activity, the Entity can



Develop structured analytics use case charters



Submit finalized charters to the DGO for review and national alignment

2.2.2 Statistics Indicator Detailing

This activity guides the Entity in developing indicator charters for all prioritized statistical indicators selected in Activity 2.1.2. Each charter serves as a foundational artifact that captures the indicator’s purpose, data requirements, calculation logic, business value, and implementation readiness. The detailing process is conducted using the standardized Statistics Indicator Charter Template, which consolidates business, technical, and governance inputs into a single reference document. This ensures indicators are well-scoped, fully traceable, and ready to transition into data sourcing, design, and operationalization.

Process – Statistics Indicator Detailing

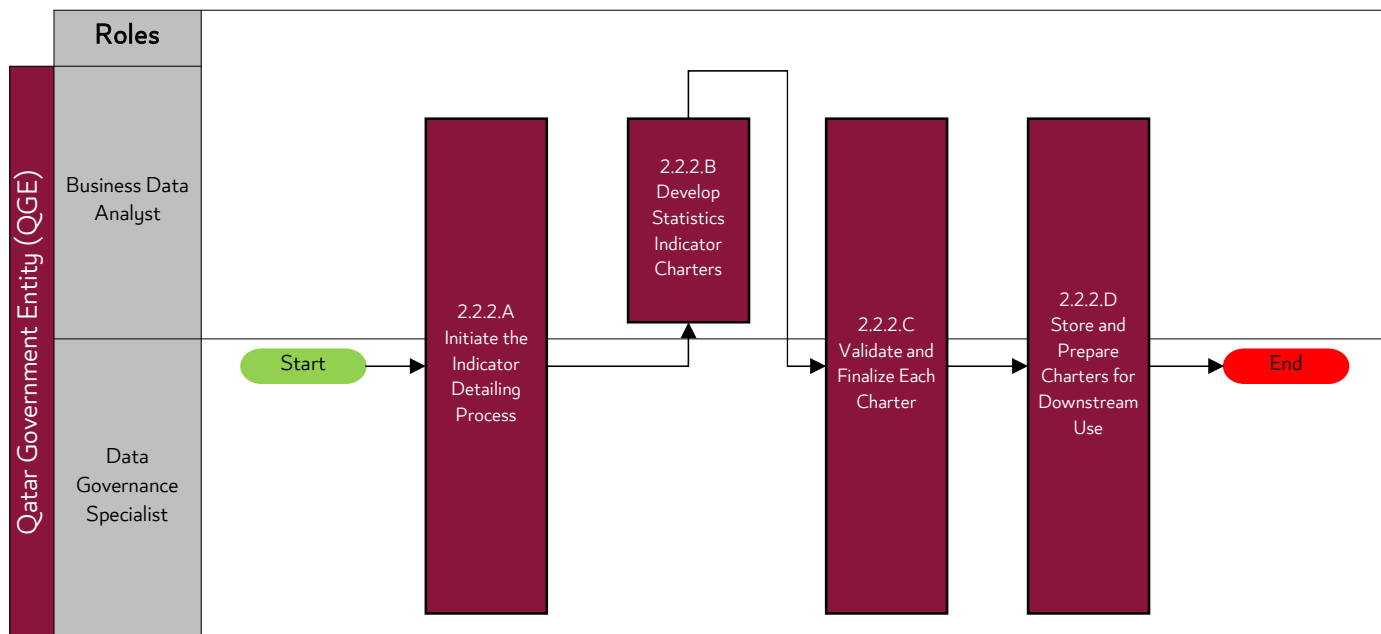


Figure 4: Statistics Indicator Detailing Process Map

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

2.2.2.A
(1/2)

Initiate the Indicator Detailing Process: Launch the detailing process by retrieving the validated and prioritized indicators from Activity 2.1.2 and coordinating with relevant stakeholders. This step ensures that the detailing effort is well-planned, resource-aligned, and consistent with the prioritization logic and data readiness established earlier. The Data Governance Specialist is responsible for executing this step in collaboration with the Business Data Analyst and in consultation with Data Owners.

- i. **Retrieve the finalized Statistics Indicator short list:** Confirm that the prioritized indicators approved in Step 2.1.2 have been validated and are ready for chartering.
 - a. Access the latest version-controlled short list
 - b. Cross-check priority category for sequencing
 - Prioritize "Quick Wins" and "Strategic Bets" for early chartering
 - Flag any deferred indicators for future cycles
 - c. Ensure readiness of the short list for input into charter templates
 - Lock the version being used to ensure auditability
 - Store in a shared location accessible to all charter contributors

2.2.2.A
Cont.
(2/2)

- ii. **Assign indicator focal points and schedule kickoff activities:** Coordinate with subject matter experts and responsible data teams to initiate the drafting process.
- Identify focal points for each indicator or group of indicators
 - Assign based on indicator owner or originating department
 - Include both business leads and data/IT representatives where applicable
 - Schedule orientation sessions or working meetings
 - Present the purpose of the charter, expected contributions, and timelines
 - Allow time for Q&A and review of previous prioritization results
 - Confirm stakeholder availability and capacity to contribute
 - Use a centralized calendar or engagement tracker to avoid conflicts
 - Escalate capacity gaps to leadership where needed

2.2.2.B
(1/2)

Develop Statistics Indicator Charters: Document each prioritized indicator in the standardized Statistics Indicator Charter Template, capturing all required business, technical, and prioritization details. These charters form the basis for downstream data sourcing, integration, and reporting, and ensure each indicator is defined in a clear, structured, and implementation-ready manner. The Business Data Analyst is responsible for completing the charter for each indicator in consultation with the relevant Data Owner, and IT Team as needed.

- Populate the Overview and Business Requirements:** Capture the key details and business context for the indicator.
 - Record the basic metadata
 - Indicator Title
 - Indicator Description
 - Indicator Owner
 - Indicator Type
 - Target Users
 - Record the business requirements
 - Stakeholders
 - Expected Benefits
 - Challenges Addressed
- Document technical requirements and calculation logic:** Specify how the indicator is calculated, what data is used, how often it is refreshed, and the tools & technology required.
 - Define the formula and unit of measurement
 - Include any mathematical expressions, ratios, or aggregation logic
 - Ensure clarity on how the result is derived
 - List required datasets, source systems, and fields
 - Match to the short list metadata: DB Name, Table Name(s), Columns Used

2.2.2.B
Cont.
(2/2)

- c. Record refresh cycle and reporting period
 - Frequency of Update (e.g., monthly, quarterly)

Asset Guidance

The **Statistics Indicator Charter Template** can be used to capture and document the key elements of a shortlisted statistics indicator. It provides a structured format for summarizing the indicator overview, business and technical requirements, and prioritization inputs (aligned with the Indicator Prioritization Framework).

Illustrative

OVERVIEW 	BUSINESS REQUIREMENTS 	TECHNICAL REQUIREMENTS 	PRIORITIZATION
INDICATOR TITLE 	STAKEHOLDERS 	REQUIRED DATASETS & DATA SOURCES 	IMPACT Strategic Alignment Low Med High Business Urgency Low Med High Public Value Low Med High EASE OF IMPLEMENTATION Data Readiness Low Med High Methodological Complexity Low Med High Standardization / Definition Maturity Low Med High Overall Priority Low Med High
INDICATOR DESCRIPTION 	EXPECTED BENEFITS 	CALCULATION METHODOLOGY 	
INDICATOR OWNER 	CHALLENGES ADDRESSED 	UNIT OF MEASUREMENT 	
TARGET USERS 		FREQUENCY OF UPDATE 	
INDICATOR TYPE 		REQUIRED TOOLS & TECHNOLOGY 	

- iii. **Complete prioritization sub-dimension scores:** Reflect the final prioritization scores previously calculated for the indicator.
 - a. Populate each of the six prioritization sub-dimensions using Low / Medium / High scale
 - **Impact:** Strategic Alignment, Business Urgency, Public Value
 - **Ease of Implementation:** Data Readiness, Methodological Complexity, Definition Maturity
 - b. Confirm alignment with the earlier prioritization exercise
 - Use the same scores unless new detail has emerged
 - If adjustments are made, document the rationale and prioritization scoring in the indicator short list document to maintain consistency across documents
 - c. Add the overall priority label or quadrant placement
 - Reference “Quick Win,” “Strategic Bet,” etc., as assigned in 2.1.2

2.2.2.C
(1/2)

Validate and Finalize Each Charter: Conduct structured review sessions to validate the content of each completed Statistics Indicator Charter. This step ensures that all technical, business, and prioritization details are correct, approved, and aligned with expectations before transitioning to sourcing and design. The Data Governance Specialist is responsible for coordinating the review and validation process in collaboration with the Business Data Analyst and in consultation with the originating Data Owners.

- i. **Conduct review sessions to validate charter accuracy:** Present each drafted charter to the appropriate stakeholders for confirmation and feedback.
 - a. Organize review sessions per sector or functional area
 - Schedule individual or group sessions based on indicator groupings
 - Involve the indicator's originating department and associated technical staff
 - b. Walk through each section of the charter with stakeholders
 - Confirm that the indicator definition, data sources, formula, and refresh logic are accurate
 - Review scoring and prioritization quadrant for agreement
 - c. Capture comments and change requests in real time
 - Note required updates or unresolved items
 - Ensure input is traceable to the contributor or team
- ii. **Apply feedback and finalize the charter content:** Revise the charter document based on stakeholder input and complete any missing information.
 - a. Make necessary corrections or clarifications
 - Adjust definitions, sourcing references, or formula logic where required
 - Ensure filters and update frequencies reflect real-world practice
 - b. Confirm resolution of all review comments
 - Check off all revisions requested during the validation session
 - Re-engage stakeholders only if clarification is still required
 - c. Ensure full population of all charter fields
 - No field should be left blank unless marked as "Not Applicable"
 - Verify alignment with the Short List and Prioritization Framework
- iii. **Apply version control and archive final copies:** Ensure the validated charter is officially versioned, locked, and stored for reference and implementation.
 - a. Assign version metadata to the finalized charter
 - Include version number, author, reviewer, approval date, and status
 - Use naming convention aligned with national data standards
 - b. Store charters in a centralized, access-controlled location
 - Ensure availability to teams responsible for data sourcing, analytics, and reporting

2.2.2.C
Cont.
(2/2)

- Restrict editing permissions to protect integrity of final drafts

- c. Flag final charters for use in implementation and sourcing activities
 - Mark as “Validated” or “Approved for Implementation”
 - Prepare for transition into Activities 2.3 (Implementation Planning)



Key Message / Information

For any indicator that is classified as a national indicator, the Entity must maintain regular coordination with the concerned national authority (e.g., Supreme Council).

2.2.2.D

Store and Prepare Charters for Downstream Use: Ensure that finalized indicator charters are version-controlled, securely stored, and made available to implementation, data, and governance teams. This step prepares the approved charters to serve as the foundation for subsequent sourcing, design, and operationalization activities. The Data Governance Specialist is responsible for executing this step in collaboration with the Business Data Analyst and in consultation with the IT Team.

- i. **Apply final version control and approval status:** Ensure each charter is properly labeled, traceable, and locked for editing.
 - a. Finalize version metadata
 - Include version number, status (e.g., “Final”), author, reviewer, and approval date
 - Use standardized file naming convention: [Entity]_[Indicator ID]_Charter_vX.X
 - b. Convert charters to non-editable formats (PDF or locked PPT)
 - Retain original editable version in a restricted-access archive
 - Protect the final version against unauthorized changes
- ii. **Organize and store charters in a centralized repository:** Create a reliable source of truth for all finalized indicator charters.
 - a. Upload charters to a controlled folder within the Entity’s data governance repository
 - Ensure role-based access for Strategy, Data, IT, and Analytics teams
 - b. Maintain audit trail of all final versions
 - Retain previous versions with archive tags
 - Record all changes in a version history or changelog file

RACI Matrix - Statistics Indicator Detailing

Indicative

Sr No.	Activity	Data Management and Security Director	Data Management and Governance Section Head	Data Owners	Business Data Analyst	Data Governance Specialist	IT Team
2.2.2.A	Initiate the Indicator Detailing Process	I	A	C	R	R	
2.2.2.B	Develop Statistics Indicator Charters	I		C	R		C
2.2.2.C	Validate and Finalize Each Charter			C	R	R	
2.2.2.D	Store and Prepare Charters for Downstream Use		A		R	R	C

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

Based on this Activity, the Entity can



Develop structured statistics indicator charters



Submit finalized charters for review and internal or external (if applicable) alignment

2.3 Statistics Indicators & Analytics Use Case Implementation Plan

This section guides the Entity in translating detailed charters into actionable implementation plans for analytics use cases and statistics indicators. It ensures each use case or indicator has defined technical and business requirements, a validated solution design, assigned resources, confirmed hosting and deployment setup, documented acceptance criteria, and a sequenced implementation roadmap.

2.3.1 Analytics Use Case Implementation Plan

This activity translates each approved analytics use case into a structured and coordinated implementation plan. It guides the Entity through defining the high-level solution design, detailing workstreams and tasks, confirming delivery roles, preparing hosting environments, validating resource needs, and establishing acceptance criteria. The resulting plan ensures that each use case is implementation-ready and technically sound, resource-aligned, and positioned for timely execution in line with business objectives.

Process – Analytics Use Case Implementation Plan

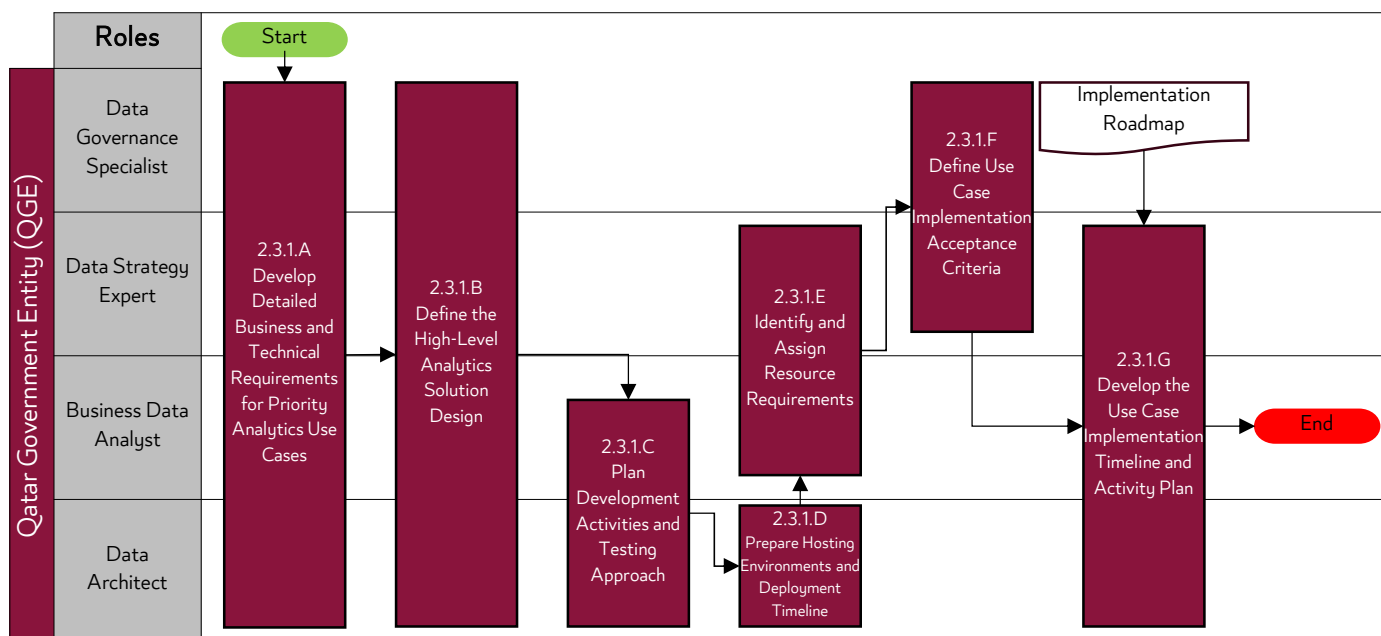


Figure 5: Analytics Use Case Implementation Plan Process Map

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

2.3.1.A
(1/3)

Develop Detailed Business and Technical Requirements for Priority Analytics Use Cases: This step initiates the implementation planning process by consolidating the full set of business and technical requirements for each endorsed analytics use case. It builds on the DGO-approved Use Case Charter by capturing additional delivery inputs, including data needs, logic expectations, system dependencies, and operational conditions, that were not formalized at the charter stage.

The purpose of this step is to ensure that implementation teams have a complete, structured reference to guide solution design, task planning, environment setup, and resourcing. The resulting Business and Technical Requirements Document serves as the anchor input for all remaining activities within 2.3.1 and provides a common foundation for delivery teams, analysts, data engineers, and platform stakeholders.

The Data Strategy Expert leads this step, with support from the Business Data Analyst, Data Architect, Use Case Owner, and relevant SMEs.

2.3.1.A
Cont.
(2/3)

- i. **Reference the Use Case Charter and Confirm Business Context:** The Data Strategy Expert begins by referencing the approved charter and validating that the documented high-level business requirements (e.g., expected benefits, business value) are still current and complete.
 - a. Validate high-level business requirements already captured in the charter
 - Review expected users, value proposition, and business challenges
 - Confirm alignment with Entity priorities, strategic objectives, and planning cycles
 - b. Document new or updated business inputs (if any)
 - Specific delivery expectations (e.g., refresh frequency, report delivery format)
 - Known success thresholds or KPIs
 - Post-launch usage scenarios (e.g., dashboards used in decision forums)
 - c. Confirm traceability between this document and the original charter
 - Include reference to the Use Case Charter ID and version number
- ii. **Define Technical and Data Requirements for Delivery:** The Business Data Analyst and Data Architect outline the necessary technical components required to implement the use case, without prescribing the solution design (this will happen in Activity 2.3.1.B).
 - a. Identify required input datasets and systems
 - List internal systems, databases, or APIs the use case must consume
 - Include any external sources or third-party data dependencies (if applicable)
 - b. Specify required data fields and attributes
 - Highlight key attributes, CDEs, or calculated fields required
 - Note any specific data preparation, merging, or filtering needs (if known)
 - c. Define refresh expectations and latency constraints
 - How often the data must be updated (e.g., daily, monthly, quarterly)
 - Expected time lag between data availability and output refresh
 - d. Capture platform or tool prerequisites
 - Identify analytics or visualization tools required for delivery
 - Document assumed compatibility (e.g., BI platform, scripting environment)
- iii. **Confirm Metadata, Ownership, and Governance Requirements:** The Data Governance Specialist documents the traceability and compliance needs associated with the use case.
 - a. Assign roles for metadata and content ownership
 - Use case owner, data steward, business approver
 - b. Indicate classification and sensitivity of input and output data
 - Top-secret, secret, restricted, internal, public
 - c. Document required metadata fields
 - Source system, variable definitions, calculation methods, update frequency

2.3.1.A
Cont.
(3/3)

- d. Specify documentation required for traceability
 - Scripts, formulas, data dictionaries, or lineage expectations
- iv. **Identify Delivery Constraints, Assumptions, and Risks:** The team outlines potential blockers or considerations that must be known before implementation.
 - a. Record assumptions
 - Data is available and accessible
 - Tools/platforms are licensed or provisioned
 - b. List constraints
 - Known system limitations, data quality gaps, or integration dependencies
 - Timeline considerations (e.g., decisions tied to policy cycles)
 - c. Flag risks that may affect implementation
 - Missing CDEs, manual data processes, external approval delays
- v. **Finalize and Store the Requirements Document:** The Data Strategy Expert compiles all inputs into a structured document for use in Activity 2.3.1.
 - a. Use the following recommended structure
 1. Executive Summary and Charter Reference
 2. Business Use Context and Operational Expectations
 3. Data and Technical Requirements
 4. Metadata and Governance Needs
 5. Risks, Assumptions, and Constraints
 - b. Version-control and store in a shared repository
 - Ensure visibility for platform, data engineering, and architecture teams
 - Reference this document in 2.3.1.A and 2.3.1.B



Key Message / Information

If the Entity lacks visibility into its current data environment, it may defer finalizing the technical sections of the requirements until Activity 2.3.1 - Source System Discovery and Documentation within the **Data Management Strategy and Governance domain** is completed. Insights from that activity can help the Entity validate system references, dataset availability, and attribute-level requirements linked to each use case.



Key Message / Information

This step consolidates all relevant requirements for successful delivery of the analytics use case - grounded in the DGO-endorsed charter, but expanded to include the technical, data, governance, and readiness inputs needed by implementation teams. It serves as the anchor input for the remaining steps in this activity and ensures no strategic gaps remain before development planning begins.

2.3.1.B
(1/2)

Define the High-Level Analytics Solution Design: This step builds on the detailed business and technical requirements defined in 2.3.1.A by translating them into a high-level analytics solution design. The goal is to define how the use case will function from end to end, covering data flow, logic execution, user interaction, and system architecture, in a way that is structured enough for implementation planning, yet flexible enough to accommodate refinement.

The high-level design acts as the bridge between business intent and technical execution. It aligns the delivery team around a common solution vision and provides the foundation for task breakdown (2.3.1.C), infrastructure planning (2.3.1.D), and development sequencing. The Data Strategy Expert leads this step, with support from the Business Data Analyst, Data Architect, and Data Governance Specialist.

- i. **Construct the solution concept and use case flow:** The Data Strategy Expert leads the definition of how the solution will function from end to end, translating business needs into a conceptual flow.
 - a. Identify and describe core functional components
 - Data ingestion layer: e.g., APIs, batch uploads, streaming services
 - Processing & transformation layer: e.g., data pipeline orchestration, wrangling scripts
 - Analytics engine: e.g., dashboards, machine learning models, descriptive statistics
 - Output delivery channels: e.g., BI tools, web portals, PDF reports, APIs
 - b. Map the end-to-end interaction flow
 - From raw data sources through enrichment, processing, and storage to consumption
 - Indicate timing of refreshes (e.g., daily) and intermediate processing steps
 - Include feedback loops where users contribute to or refine outputs
- ii. **Create a high-level technical architecture view:** The Data Architect leads the development of the technical architecture that enables the solution, including platforms, tools, and system integration points.
 - a. Develop an architecture diagram
 - **Logical components:** data sources, ETL layers, databases, analytical tools
 - **Hosting & deployment:** cloud/on-prem/hybrid, single-tenant vs shared platforms
 - **Interface layers:** presentation tools, API endpoints, embedded widgets
 - b. Identify integration points and technical dependencies
 - **Other systems:** e.g., national registers, finance systems, CRM, ERP
 - **Data movement protocols:** API, flat file exchange, database links, streaming connectors
 - **Platform services:** data lake, catalog, identity management, metadata service
 - c. Annotate key technology standards or restrictions
 - Technology stacks or languages (e.g., Python, Power BI, R, Spark)
 - Security zones (e.g., DMZ, private subnet) and compliance requirements (e.g., ISO 27001, GDPR-aligned)

2.3.1.B
Cont.
(2/2)

- iii. **Document assumptions, constraints, and unknowns:** The Business Data Analyst leads the documentation of solution assumptions, known limitations, and open design areas that require future validation.
 - a. State key assumptions
 - Expected data availability or readiness
 - Platform accessibility or licensing already arranged
 - Teams or departments expected to contribute development resources
 - b. Document known constraints
 - Tooling gaps (e.g., unavailable ML platforms)
 - Data limitations (e.g., missing historical records, unstructured sources)
 - Timelines or delivery milestones imposed by leadership
 - c. Flag open questions and unresolved design areas
 - Pending decisions on hosting, architecture options, or access rights
 - Areas requiring further exploration in the next step (e.g., feasibility of APIs, final tech stack choice)
- iv. **Validate the solution design against the use case charter:** The Data Strategy Expert leads the validation of the solution design to ensure alignment with the original use case intent and business objectives.
 - a. Trace solution components back to charter fields
 - Align each major component to:
 - Target Users
 - Expected Benefits
 - Business Challenges
 - Data and analytics Requirements
 - b. Conduct a walk-through session with stakeholders
 - Present the design to the original charter contributors and downstream developers
 - Collect clarifications, refinements, and flag any misalignment with intent or feasibility



Key Message / Information

A high-quality solution design creates a shared understanding of the end-to-end system before development begins. It reduces rework, ensures alignment to the original business problem, and enables informed planning and risk management during implementation.

2.3.1.C
(1/4)

Build Use Case Implementation Plan and Task Structure: This step translates the approved analytics use case charter, business and technical requirements document, and high-level solution design into a structured implementation plan. This plan outlines what needs to be done, in what order, by which roles, and how the implementation will be organized across the data, analytics, and visualization layers.

The purpose is not to build the use case yet, but instead to develop a detailed delivery plan that enables the implementation team (Activity 4.2.1) to proceed with clarity and coordination. The Data Strategy Expert leads this step with support from the Business Data Analyst, Data Scientist, Data Engineer, and Implementation Lead.

- i. **Break down the use case into implementable workstreams:** The Business Data Analyst and Data Architect identify key implementation layers and convert requirements into actionable task lists by stream.
 - a. Define the use case delivery workstreams
 - **Data Engineering:** data sourcing, preparation, cleaning, joining, enrichment
 - **Analytics and Modeling:** rule definition, logic development, model training etc.
 - **Visualization and Output Configuration:** dashboard design, output formatting, export setup
 - **Validation and Business Alignment:** testing, review, documentation, and traceability coordination
 - b. **Convert requirements into tasks.** Break down the use case into detailed implementation tasks covering the full delivery lifecycle from data collection to insight delivery. Examples may include, but are not limited to:
 - **Data collection and discovery**
 - Identify relevant source systems (e.g., CRM, ERP, survey platform)
 - Confirm dataset availability, access rights, and update frequency
 - **Example:** Connect to monthly complaint data and citizen service request logs
 - **Data cleaning and preparation**
 - Remove duplicates, correct data types, handle missing values
 - Perform joins and create derived fields needed for analysis
 - **Example:** Join applicant records with resolution outcomes and calculate turnaround time
 - **Exploratory data analysis (EDA)**
 - Profile key variables and trends (e.g., service usage by district)
 - Identify patterns, outliers, and data gaps
 - **Example:** Identify spikes in complaint volumes during off-season periods
 - **Logic development or model building**
 - Implement business rules (e.g., eligibility filters, scoring rules)
 - Build statistical or machine learning models if required
 - **Example:** Build a decision tree model to classify applicants by likelihood of case escalation

2.3.1.C
Cont.
(2/4)

➤ Model tuning and validation

- Optimize model performance (e.g., cross-validation or parameter tuning)
- Evaluate using metrics (e.g., accuracy, F1 score, lift)
- **Example:** Tune model to improve recall for high-risk applicants

➤ Output development and rendering

- Structure outputs: scores, flags, forecasts, or insights tables
- Build dashboards or visualizations (e.g., Power BI) aligned with user needs
- **Example:** Design a dashboard showing top 10 risk-scored applicants with filters by department and date

➤ Integration and handover

- Package outputs into APIs, tables, or files for use by downstream systems
- Integrate dashboards and results into Statistics and Analytics Platform
- **Example:** Push outputs to the platform's indicator library with metadata and refresh rules

c. Organize tasks by workstream.

- Create task lists by stream (e.g., "Data engineering tasks", "Modeling tasks", "Dashboard configuration tasks")
- Link each task to its originating requirement, referencing the use case business and technical requirements documents defined in 2.3.1.A

ii. **Define team roles and delivery responsibilities:** The Data Strategy Expert and Use Case Owner assign task responsibilities and clarify team integration points for handoff and collaboration.

a. Assign delivery leads for each workstream

- Data Engineer: leads the Data Engineering workstream
- Data Scientist or Analyst: leads the Analytics and Modeling workstream
- Visualization Officer: leads the Visualization / Output Configuration workstream
- Business Data Analyst: leads the Validation and Business Alignment workstream

b. Clarify cross-role collaboration and handoffs

- Define how different delivery roles will coordinate across workstreams, particularly where outputs from one stream serve as inputs to another.
- **Example:** The data scientist delivers a scored dataset to the visualization officer for dashboard rendering

c. Highlight dependencies and coordination needs

- Shared datasets, sequencing needs, tool constraints

iii. **Define pre-delivery testing and validation activities:** The Business Data Analyst defines the scope of testing activities to be performed before deployment, with input from the Data Engineer, Data Scientist, and QA team. This ensures that implementation teams have a clear testing plan, outlining what needs to be validated, by whom, and at what stage of the build, **before formal testing is executed in 4.2.1.F.**

2.3.1.C
Cont.
(3/4)

- a. **Define what will be tested before go-live.** Outline the key aspects of the use case that must be validated to ensure it is production-ready.
 - **Data integrity:** For example, verifying that no nulls exist in mandatory fields such as “region” or “service type”; ensuring joins between datasets (e.g., citizen ID and service records) are complete and accurate
 - **Logic accuracy:** For example, confirming that a rule flagging “high-risk applicants” behaves correctly across edge cases
 - **Refresh behavior:** For example, checking that daily refresh jobs update the dataset as expected without duplicates or lag
 - **Model performance:** For example, validating that a predictive model maintains an accuracy rate above 85% and doesn’t degrade on new data
 - **Output accuracy:** For example, ensuring filters (e.g., by department or month) return the correct subset; verifying that charts display correct values and formatting; confirming that exports generate complete and properly structured files
- b. **Assign test roles.** Clarify who is responsible for conducting each type of test to ensure comprehensive validation.
 - **Data Engineer and QA:** test data pipelines, transformation logic, and refresh automation (e.g., confirming that missing or malformed records are correctly handled during ETL)
 - **Data Engineer and QA:** test data pipelines, transformation logic, and refresh automation (e.g., confirming that missing or malformed records are correctly handled during ETL)
 - **Data Scientist:** test model outputs against expected results, validate performance metrics, and assess behavior on new or unseen inputs
 - **Business Data Analyst:** test the usability and accuracy of outputs (e.g., dashboards or reports), and validate whether they reflect business expectations and decision logic
- c. **Optionally, prepare draft test cases linked to task structure.** Develop a preliminary set of test cases that will be used during implementation (4.2.1) to confirm correctness and completeness.
 - Document the preliminary inputs, outputs, and conditions that will be used to verify each component (e.g., data pipeline, model output, dashboard filter)
 - Keep test cases high-level at this stage, focused on coverage and expected behavior, not detailed scripting
 - The Business Data Analyst coordinates this effort with support from the Data Engineer, Data Scientist, and QA team
 - These drafts will be refined and executed as part of Activity 4.2.1.F
- iv. **Compile the Implementation Plan Document:** The Data Strategy Expert compiles the plan and ensures it is version-controlled and accessible to all implementation stakeholders.
 - a. **Structure the plan with the following sections**

2.3.1.C
Cont.
(4/4)

- Use Case Reference and Scope
- Workstream Breakdown
- Task and Responsibility Matrix
- Key Testing Activities and Roles
- Dependencies and Known Constraints

b. **Store in a dedicated shared folder for handoff to 4.2.1**

- Ensure access for all contributors involved in execution



Key Message / Information

This step creates the structured implementation plan for each use case. It transforms validated requirements and solution design into a practical, role-specific task structure, enabling the implementation team to execute confidently and without ambiguity.

2.3.1.D
(1/2)

Prepare Hosting Environments and Deployment Timeline: This step defines the infrastructure and hosting environments needed for implementing the analytics use case and outlines the deployment timeline from pilot to full release. It includes the preparation of development, staging, and production environments and ensures these are properly configured, secured, and integrated into the wider data platform architecture.

The Data Architect leads this step, supported by Data Engineers and technical operations staff. The deployment timeline is aligned with testing phases, environment availability, and organizational priorities.

- i. **Define the required hosting and runtime environments:** The Data Architect leads the specification of the environments required to host the analytics use case, in collaboration with IT infrastructure and data platform teams.
 - a. Confirm environment types and purpose
 - Development (DEV): For build and initial unit testing
 - Staging/UAT: For user acceptance and pre-production testing
 - Production (PROD): For final deployment and end-user access
 - b. Validate infrastructure readiness
 - Confirm available compute, storage, and network capacity
 - Identify required provisioning steps (e.g., VM setup, database configuration)
 - Verify security controls and access rights (e.g., firewalls, encryption, audit logging)
 - c. Specify deployment architecture per environment
 - Cloud/on-prem/hybrid setup
 - Containerization (e.g., Docker), microservices, or monolithic deployment
 - Identify tools/platforms used (e.g., Azure, GCP, Qlik, Power BI, JupyterHub)

2.3.1.D
Cont.
(2/2)

- ii. **Define environment transition and deployment procedures:** The Data Architect leads the planning of how solution components will move across environments, with support from DevOps and testing leads.
 - a. Document promotion process
 - Define criteria to move from DEV to UAT to PROD
 - Capture approval checkpoints (e.g., UAT sign-off, change control board review)
 - b. Identify automated vs manual deployment steps
 - Use of CI/CD pipelines vs manual file uploads
 - Schedule of release windows and blackout periods
- iii. **Build the implementation deployment timeline:** The Business Data Analyst leads the development of the deployment timeline, in coordination with the Data Strategy Expert and platform teams.
 - a. Define key deployment phases
 - Pilot/MVP release (limited scope or limited users)
 - Full production launch
 - Post-launch stabilization and transition to maintenance
 - b. Set realistic dates and dependencies
 - Account for availability of environments, testing windows, approvals, and user readiness
 - Use the roadmap template to visualize activities across calendar weeks
 - c. Align with related implementation efforts
 - Ensure this use case's deployment schedule aligns with other parallel analytics releases
 - Flag interdependencies or shared infrastructure bottlenecks



Key Message / Information

Establishing clear hosting environments and a realistic deployment timeline ensures that analytics use cases are delivered securely, reliably, and in coordination with other system-wide changes. This step prevents delays caused by environment unavailability or unplanned deployment issues.

2.3.1.E
(1/3)

Identify and Assign Resource Requirements: This step confirms that the Entity has the required human and technical resources to implement the use case as planned. It builds on the task-role assignments from 2.3.1.C by validating whether each stream has adequate capacity, identifying potential gaps in availability or expertise, and determining where external support may be needed.

By grounding the implementation plan in realistic resourcing, this step reduces delivery risk and supports timeline reliability. The Data Strategy Expert and Business Data Analyst lead this step, working with Section Heads and technical leads to align resource availability with expected effort across all phases from build through deployment.

2.3.1.E
Cont.
(2/3)

- i. **Identify roles and expertise required for implementation:** The Data Strategy Expert leads the confirmation of delivery roles for each workstream defined in 2.3.1.C. This step verifies whether all technical and business roles are covered and available, with input from the Data Architect, Data Governance Specialist, and technical teams.
 - a. Technical delivery roles
 - Data Engineers (pipeline development, transformation)
 - Data Visualization Officers (dashboard/report creation)
 - Data Architects (solution design and integration oversight)
 - ML/AI specialists (if predictive or prescriptive analytics are used)
 - b. Business and functional roles
 - Business SMEs (domain input, UAT validation)
 - Analytics Product Owners or Use Case Sponsors
 - Business Data Analysts (requirement translation, testing coordination)
 - c. Governance and enablement roles
 - Data Governance Specialist (compliance, metadata, privacy alignment)
 - Data Stewards (CDE validation, profiling, quality review)
- ii. **Estimate effort and availability for each resource:** The Business Data Analyst estimates delivery effort across phases and validates the availability of each resource to execute their assigned work.
 - a. Define level of effort by phase
 - Planning and design
 - Development and testing
 - Deployment and post-launch support
 - b. Assess availability and scheduling constraints
 - Internal availability (FTE capacity, overlapping project load)
 - External constraints (vendor contract lead time, holiday/leave periods)
 - c. Identify potential resource gaps
 - Skills not currently available in-house
 - Need for temporary support (e.g., contractors, vendor implementation partners)
- iii. **Document resource plan and ownership:** The Business Data Analyst formalizes the resource plan and confirms accountability per workstream with Section Heads and project leads.
 - a. Confirm and document named individuals or roles per workstream, based on the assignments outlined in 2.3.1.C.
 - Match roles to activities outlined in the roadmap or implementation plan
 - Ensure each stream has an accountable lead and supporting contributors
 - b. Clarify responsibilities and interdependencies
 - Use a mini-RACI (or include in broader project RACI) to identify who is Responsible, Accountable, Consulted, and Informed

2.3.1.E
Cont.
(3/3)

- Clarify collaboration points between technical and business teams

- c. Integrate resource plan into the implementation tracker
 - Map assigned resources to the week-by-week roadmap or Gantt chart
 - Update resource tracking as part of use case progress monitoring



Key Message / Information

Clear identification of resource needs ensures that the analytics use case can move from plan to execution without delays. Resource gaps are a leading cause of implementation failure. Proactively addressing them improves delivery speed, quality, and sustainability.

2.3.1.F
(1/2)

Define Use Case Implementation Acceptance Criteria: This step defines the conditions that must be met for the analytics use case to be considered successfully implemented. Acceptance criteria span business, technical, compliance, and user-facing dimensions, ensuring the final solution meets expectations and adheres to national standards for security, privacy, and quality.

The Data Governance Specialist facilitates this step, with input from the Business Sponsor, Data Strategy Expert, and technical teams. These criteria enable go-live decision-making and provide a foundation for monitoring and evaluation.

- i. **Define business and functional acceptance criteria:** The Data Strategy Expert defines success criteria that demonstrate alignment with the use case's original business purpose and functional requirements.
 - a. Confirm functional coverage
 - All features and requirements listed in the use case charter and design documents are delivered
 - Dashboards, models, and outputs produce accurate and complete results
 - b. Validate business user satisfaction
 - UAT feedback demonstrates that the outputs are understandable, relevant, and support actionable decision-making or operational improvement
 - c. Confirm traceability to business objectives
 - The implemented solution demonstrably supports the objective(s) from the Business Objectives Register
 - Value realization metrics are clearly defined and measurable
- ii. **Define technical and operational acceptance criteria:** The Data Architect and platform teams define measurable system-level requirements to confirm operational readiness.
 - a. Validate technical performance
 - System meets performance targets (e.g., load times, query response, uptime)
 - Data refreshes run as scheduled without failure or data loss

2.3.1.F
Cont.
(2/2)

- b. Confirm platform readiness and support model
 - Production environment is stable, monitored, and backed up
 - Access controls, user roles, and permissions are configured and tested
 - Support procedures are in place for issue escalation and change requests
 - c. Verify data quality standards
 - All required CDEs are present, accurate, and validated
 - No critical data quality issues remain unresolved
 - ii. **Define legal, security, and ethical compliance criteria:** The Data Governance Specialist defines legal, privacy, and ethical safeguards in collaboration with IT security and risk management stakeholders.
 - a. Review compliance documentation
 - Data sharing agreements, risk assessments, and consent (where applicable) are documented
 - Security assessments are conducted in line with national standards
 - b. Confirm privacy and ethical safeguards
 - Sensitive or personal data is masked, encrypted, or anonymized as required
 - Models or outputs are tested for bias, misuse, or unintended consequences
 - c. Ensure governance sign-off is obtained
 - Data Governance Specialist formally validates compliance and risk mitigation
 - DGO may be informed or involved for high-risk or cross-entity use cases
 - iv. **Document and approve the acceptance criteria:** The Business Data Analyst documents the criteria, while the Data Strategy Expert facilitates validation and sign-off from all responsible stakeholders.
 - a. Capture the full acceptance checklist in the implementation plan
 - Include criteria in a formal section of the use case implementation plan
 - Align wording with test cases, deployment milestones, and post-launch KPIs
 - b. Obtain sign-off from key stakeholders
 - Data Strategy Expert, Business Sponsor, and Data Governance Specialist review and endorse
 - If applicable, include DGO or Steering Committee for multi-entity or strategic use cases



Key Message / Information

Defining acceptance criteria ensures the analytics use case delivers value with confidence, quality, and compliance. It enables data, business, and governance teams to speak a common language when determining if a solution is ready for go-live.

2.3.1.G
(1/3)

Develop the Use Case Implementation Timeline and Activity Plan: This step translates the detailed task structure and role assignments into a time-bound implementation roadmap. It defines when each workstream will be executed, in what order, by whom, and how progress will be tracked. The roadmap supports proactive coordination, risk visibility, and delivery accountability across teams.

The resulting plan integrates dependencies, resource availability, and platform readiness, ensuring that delivery is sequenced realistically and monitored through a structured implementation tracker. It also serves as the baseline for reporting, course correction, and execution oversight in Activity 4.2.1.

The Business Data Analyst leads this step, with support from the Data Strategy Expert, Data Architect, and relevant implementation stakeholders.

- i. **Define major implementation phases and workstreams:** The Business Data Analyst defines the overall implementation structure and groups related delivery streams for sequencing and monitoring.
 - a. Set common phases across use cases
 - Design finalization, development, testing, deployment, and post-launch support
 - Each phase contains trackable tasks and quality checkpoints
 - b. Group activities by technical or functional stream
 - Examples: build pipelines, develop dashboards, validate CDEs, conduct UAT
 - c. Identify sequence and dependency between activities
 - Define which tasks must precede others
 - Highlight critical paths or high-risk integration points
- ii. **Populate the timeline with weekly activity blocks:** The Business Data Analyst creates a time-based roadmap with clear start/end periods for each workstream.
 - a. Define task durations and start/end dates
 - Specify activity windows per task (e.g., “Week 2–4: Feature engineering”)
 - Ensure logical sequencing across weeks to match effort and resource availability
 - b. Visualize progress across calendar weeks
 - Populate a Gantt-style roadmap view with color-coded progress markers
 - Flag delays, slippage, or overlaps with shading, tags, or callouts
 - c. Align use case roadmap with broader delivery plans
 - Synchronize with platform rollout, other use cases, or sprint schedules
 - Avoid conflict with enterprise-wide deployments or data refresh cycles
- iii. **Assign owners and contributors for each task:** The Data Strategy Expert confirms responsible parties for each roadmap item and ensures resource availability.

2.3.1.G
Cont.
(2/3)

- a. Assign task ownership by role or individual
 - Record leads and contributors per task in the roadmap
 - Confirm participation across all workstreams
 - b. Escalate unresolved ownership gaps
 - Flag tasks with no assigned lead for Section Head or PMO intervention
 - Document shared ownership across teams where applicable
- iv. **Enable tracking and reporting through the roadmap tool:** The Business Data Analyst maintains delivery visibility using the roadmap tracker and shares updates with stakeholders.
- a. Maintain status updates and RAG indicators
 - Track progress as “Not Started,” “In Progress,” or “Completed”
 - Flag risks or delays in the roadmap sheet using color codes or notes
 - b. Use the roadmap as a reporting and coordination tool
 - Share weekly updates with sponsors, Section Heads, and DGO (if applicable)
 - Use the roadmap to support agile stand-ups, retrospectives, or steering meetings

Asset Guidance (1/2)

Illustrative

The **Analytics Use Case Implementation Roadmap** template contains the **Use Case Overview Sheet**, which can be used to document high-level information for each use case, including title, scope, resources, risks, and strategic alignment.



Analytics Use Case Overview Template

This template is used to capture a brief overview of the defined analytics use cases and respective implementation details

Field	Description
Use Case ID	A unique identifier for each analytics use case to facilitate tracking and reference
Use Case Title	Name of the analytics use case
Use Case Description	A short description of the analytics use case, outlining its objectives and expected outcomes
Linked Strategic Initiative	The initiative outlined in the Data Strategy that the use case is support or derived from
Cost	Estimated financial resources required for the use case, including both direct and indirect costs
Resources	A list of resources required for the initiative, such as personnel, technology
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

Use Case ID	Use Case Title	Use Case Description	Linked Strategic Initiative	Cost

Start Date	End Date	Interdependencies	Assumptions	Risks

2.3.1.G
Cont.
(3/3)**Asset Guidance (2/2)***Illustrative*

Additionally, the template contains the **Use Case Plan Sheet**, which can be used to define, plan, and track detailed delivery activities and sub-activities across phases, assign task owners and stakeholders, define timelines, and monitor implementation progress through a Gantt-style activity view.

Use Case ID	Use Case Title	Activities	Sub-activities	Owner	Stakeholder(s)	Status	Activity Timeframes																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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**Key Message / Information**

A structured activity plan ensures that the analytics use case is implemented on time, with clarity on roles, effort, and dependencies. The roadmap enables proactive delivery management and provides visibility for sponsors and governance stakeholders.

RACI Matrix - Analytics Use Case Implementation Plan

Indicative

Sr No.	Activity	Data Management and Security Director	Data Architecture and Analytics Section Head	Data Strategy Expert	Business SMEs	Data Engineer	Business Data Analyst	Data Governance Specialist	Data Architect
2.3.1.A	Develop Detailed Business and Technical Requirements for Priority Analytics Use Cases	I	A	R	C		R	R	R
2.3.1.B	Define the High-Level Analytics Solution Design	I	A	R			R	R	R
2.3.1.C	Plan Development Activities and Testing Approach	I	A				R		R
2.3.1.D	Prepare Hosting Environments and Deployment Timeline		A			C			R
2.3.1.E	Identify and Assign Resource Requirements	I	A	R			R		
2.3.1.F	Define Use Case Implementation Acceptance Criteria		A	R				R	
2.3.1.G	Develop the Use Case Implementation Timeline and Activity Plan	I	A	R			R		R

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

Based on this Activity, the Entity can



Develop a validated foundation for implementation based on charter, requirements, and solution design



Translate analytics use cases into detailed workstreams, tasks, timelines, and responsibilities



Align infrastructure, resources, and testing efforts to ensure timely, coordinated execution across teams

2.3.2 Statistics Indicator Implementation Plan

This activity guides the Entity through planning the implementation of each shortlisted statistics indicator. It builds on the outputs of chartering and detailing to define the specific business, technical, and delivery requirements needed to operationalize each indicator. The process includes documenting the indicator blueprint and user story requirements, identifying technical dependencies, assigning delivery roles, and developing a time-bound activity plan to ensure successful rollout.

Process – Statistics Indicator Implementation Plan

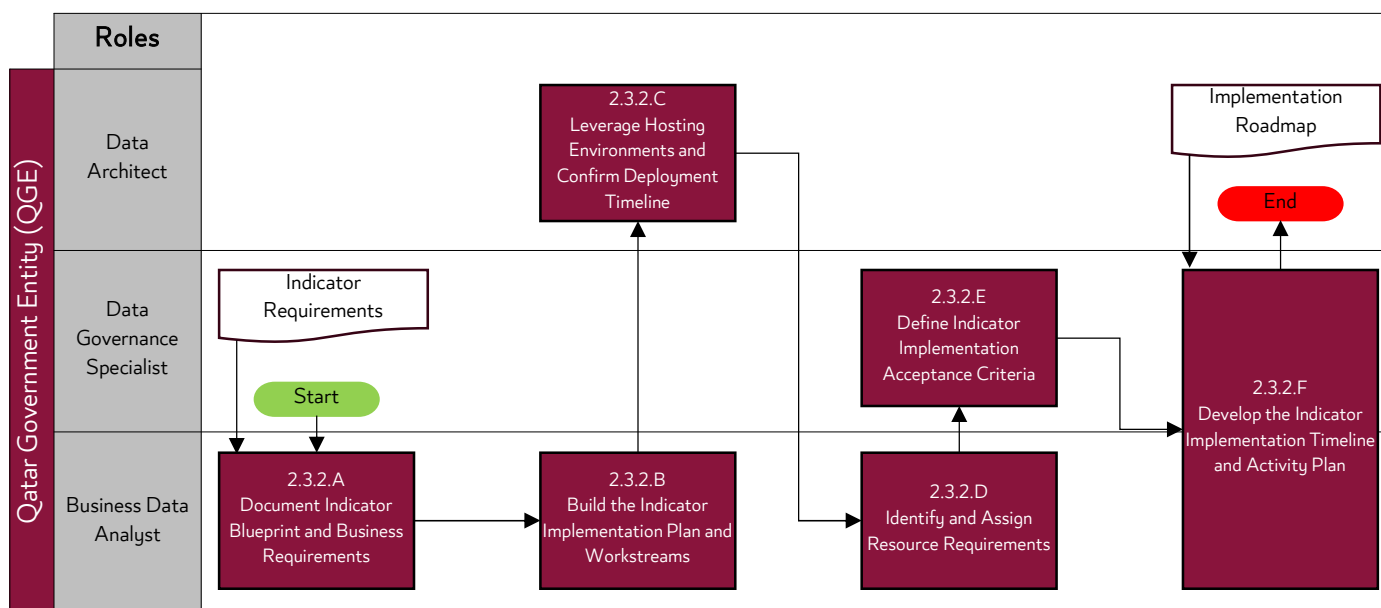


Figure 6: Statistics Indicator Implementation Plan Process Map

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

2.3.2.A
(1/3)

Document Indicator Blueprint and Business Requirements: Capture the full set of business and technical requirements needed to implement each prioritized indicator. This step ensures that implementation teams have a complete and structured view of the indicator's purpose, calculation logic, source data, business expectations, and user needs. All requirements must be documented using the Indicator Requirements Template. The Business Data Analyst is responsible for completing the requirements documentation in consultation with Data Owners, and Business Users.

- i. **Complete the Indicator Blueprint Table:** Document the technical and structural foundations of the indicator.
 - a. Populate indicator identity and strategic alignment fields
 - ID, Name, Source Entity, Shared Entity (if applicable), Product Owner, Sector, and Department
 - Reference NDS3 outcome and QNV pillar if applicable
 - b. Define the indicator logic and measurement methodology
 - Provide the official Indicator Definition
 - Describe the Calculation Methodology (e.g., how metrics are derived or aggregated)
 - Include Calculation Formula in mathematical or procedural form

2.3.2.A
Cont.
(2/3)

a. Specify data sourcing and refresh expectations

- Identify Data Availability status and update frequency
- Capture Baseline Value, Target Value, Data Source Name(s), Dataset Name(s), and Source Types

**Asset Guidance**

The **Indicator Requirements Template** contains the **Indicator Blueprint Table** which can be used to document the technical and structural foundations of the indicator.

Illustrative

Indicator ID	
Indicator Name	Recommended Indicator Dashboard Name
Indicator Source Entity	Indicator Shared Entity
Indicator Product Owner	
Indicator Department	
Indicator Sector	
Indicator QNV Pillar (if applicable)	
Indicator NDS3 National Outcome (if applicable)	
Indicator NDS3 Sectorial Outcome (if applicable)	
Indicator Type	
Indicator Definition	
Indicator Calculation Methodology	
Calculation Formula	
Data	
Data Availability	
Data Update Frequency	
Baseline Value	
Target Value	
Data Source Types	
Data Source Name	
Data Set Name	

ii. **Complete the Indicator Business Requirements Table:** Capture the business-facing requirements that define how the indicator will be used, experienced, and interacted with by end users across the dashboard or reporting interface.

a. Define the target users and user journey context

- Identify who will use this indicator (e.g., planners, policymakers, sector analysts)
- Write a concise User Story (e.g., “As a sector lead, I want to view yield trends to inform policy decisions”)
- Provide a detailed User Story Description that captures usage context, decision points, and end-user expectations

2.3.2.A
Cont.
(3/3)

- b. Define functional dashboard requirements and user experience expectations
 - List dashboard sheets/pages where the indicator will appear
 - Under each sheet, document visual/functional requirements (e.g., KPI card, tooltip info, filters, disclaimers, drill-downs)
 - Specify the data elements that need to appear (e.g, Date, QDTI Score, NDS3 mapping fields if applicable)
- c. Capture navigation, dependencies, and acceptance criteria
 - Describe any navigation features (e.g., breadcrumb navigation, tab structure)
 - List known dependencies
 - Define initial Acceptance Criteria that clarify what must be met for the indicator to be considered delivered (e.g., "Indicator must display most recent year with QDTI Score and NDS3 metadata in tooltip")



Asset Guidance

The **Indicator Requirements Template** contains the **Indicator Business Requirements Table** which can be used to document the business-facing requirements of the indicator.

Illustrative

Indicator ID	Indicator Name		
User			
User Story			
User Story Description			
Functional Requirements	Dashboard Sheet	Requirements	Data
Acceptance Criteria			
Dependencies			
Supporting Links			
Dependencies			
Supporting Links			

2.3.2.B
(1/2)

Build the Indicator Implementation Plan and Workstreams: Translate the indicator's documented blueprint and business requirements into an actionable implementation plan. This includes breaking down the delivery into structured workstreams, assigning roles and responsibilities, and defining the tasks required to configure, validate, and launch the indicator. The Business Data Analyst leads this step, in collaboration with the Data Engineer, Data Architect, Visualization Officer, and Data Governance Specialist.

- i. **Define indicator implementation workstreams:** Organize the delivery of each indicator into logical workstreams based on its lifecycle from data preparation to final rendering.
 - a. Establish standard implementation streams for each indicator:
 - **Data Sourcing and Preparation:** Connect, clean, and transform datasets as needed
 - **Indicator Logic and Calculation:** Implement formula and derivation logic
 - **Visualization and Display Configuration:** Set up how the indicator is rendered in dashboards or reports
 - **Validation and Approval:** Test indicator behavior, review with business owners, and confirm readiness
 - b. Map indicator requirements to workstreams
 - Reference fields in the blueprint and business requirements templates
 - Assign requirements to the appropriate stream (e.g., tooltip logic → Visualization; update frequency → Data Sourcing)
 - c. Document any stream-specific delivery notes or constraints
 - E.g., "Breadcrumb config depends on platform feature"
- ii. **Break down workstreams into discrete implementation tasks:** Convert requirements into specific, actionable steps that can be executed by delivery teams.
 - a. Create task lists for each workstream
 - **Data Sourcing:** establish connections, apply filters, validate CDEs
 - **Logic:** implement formula, apply conditional logic
 - **Visualization:** configure KPI card, tooltips, filters, breadcrumbs
 - **Validation:** check correctness, consistency, completeness
 - b. Reference requirements in task descriptions
 - Link each task to the corresponding section in the requirements document
 - Example: "Tooltip field configuration" → links to tooltip section of the business requirements table
 - c. Identify any task dependencies or sequencing requirements
 - E.g., "Dataset join must be completed before calculation logic is applied"
 - Flag potential delays (e.g., awaiting data refresh) in the delivery tracker
- iii. **Assign delivery roles and responsibilities per stream:** Clarify who is responsible for each set of tasks across the implementation plan.

2.3.2.B
Cont.
(2/2)

- a. Assign accountable leads per workstream
 - **Business Data Analyst:** Requirement translation, coordination, and validation
 - **Data Engineer:** Data sourcing, preparation, and refresh automation
 - **Visualization Officer:** Dashboard configuration, tooltip setup, and visual QA
 - **Data Steward / Governance Specialist:** Metadata validation, CDE checks, privacy/classification
- b. Document inter-stream collaboration points
 - E.g., “Data Engineer delivers cleaned dataset to Data Visualization Officer for KPI card setup”
 - Ensure all handoffs are defined and owned
- c. Log delivery responsibilities in a shared plan
 - Capture in a structured implementation tracker or task table
 - Include estimated effort, responsible party, and dependencies

2.3.2.C
(1/2)

Leverage Hosting Environments and Confirm Deployment Timeline: Map each indicator to the existing platform environments (DEV, UAT, PROD) and define a realistic deployment timeline. This step ensures indicators are hosted, tested, and deployed within the Statistics & Analytics Platform using standard processes and without the need to create new infrastructure. The Data Architect leads this step in collaboration with the Data Engineer, Platform Administrator, and Business Data Analyst.

- i. **Map indicators to existing hosting environments:** Ensure each indicator is deployed across DEV, UAT, and PROD environments.
 - a. Confirm environment paths and usage purpose
 - **DEV:** Build, calculation logic testing, data field configuration
 - **UAT:** User validation of dashboard layout, tooltip content, refresh behavior
 - **PROD:** Finalized indicator output accessible to end users
 - b. Reuse established Statistics & Analytics Platform infrastructure
 - Leverage existing BI tools (e.g., Power BI) and storage layers (e.g., cloud data lake, data warehouse)
 - Confirm no new infrastructure is required
 - c. Validate platform readiness for hosting
 - Confirm permissions, dataset access, refresh automation, and KPI card templates are available in each environment
- ii. **Confirm standard promotion and transition procedures:** Ensure indicators follow approved migration and deployment processes.
 - a. Align deployment with platform release gates
 - Confirm testing and approval are completed before UAT → PROD promotion
 - Schedule change windows or release slots if needed

2.3.2.C
Cont.
(2/2)

- b. Identify automated vs manual deployment steps
 - Confirm whether deployment involves dashboard publication, refresh job scheduling, or API output generation
 - Identify any DevOps or platform support needed (e.g., script run, permission setup)
 - c. Define release ownership and handoff checkpoints
 - Assign clear owners for each environment handoff (e.g., DEV → UAT → PROD)
 - Establish sign-off checkpoints for each transition
- iii. **Define the deployment timeline and align with dependencies:** Establish when each indicator will go live, factoring in readiness, dependencies, and reporting cycles.
- a. Define the deployment phases per indicator
 - **Pilot:** Limited rollout or internal-only launch
 - **Production:** Final delivery to target user groups
 - **Stabilization:** Monitoring, user feedback, refresh validation
 - b. Account for constraints and external dependencies
 - Factor in refresh schedules, platform blackout periods, and concurrent releases
 - Align with external deadlines (e.g., NDS3 reporting, quarterly performance reviews)
 - c. Document and share the deployment schedule
 - Use a shared roadmap or implementation tracker
 - Communicate key dates to analytics, IT, and business leads

2.3.2.D
(1/2)

Identify and Assign Resource Requirements: Confirm that all roles required to implement the prioritized indicators are covered by available personnel or external support. This step ensures the Entity can deliver the implementation plan by clarifying delivery responsibilities, identifying capacity gaps, and assigning roles across the indicator workstreams. The Business Data Analyst leads this step in coordination with Data Engineers, Data Visualization Officers, and the Data Governance Specialist.

- i. **Identify roles and delivery responsibilities for each workstream:** Ensure every task in the indicator implementation plan has an accountable delivery role assigned.
 - a. Confirm core implementation roles for each indicator:
 - **Business Data Analyst:** Requirement translation, coordination, and validation
 - **Data Engineer:** Data sourcing, preparation, and refresh automation
 - **Visualization Officer:** Dashboard configuration, tooltip setup, and visual QA
 - **Data Steward / Governance Specialist:** Metadata validation, CDE checks, privacy/classification
 - b. Assign ownership per implementation stream
 - Map responsible parties to each task in the implementation tracker
 - Assign at least one accountable lead per stream

2.3.2.D
Cont.
(2/2)

- c. Clarify inter-role coordination points
 - Define how Data Engineers hand off datasets to Data Visualization Officers
 - Document how Governance teams review metadata before launch
- ii. **Assess resource availability and potential delivery constraints:** Validate whether internal staff have the capacity and skills to fulfill their assignments.
 - a. Estimate level of effort by delivery phase
 - Design and configuration
 - Testing and validation
 - Deployment and stabilization
 - b. Identify gaps or risks requiring external support
 - Skills not available in-house (e.g., data profiling)
 - Consider need for short-term contractors or vendor support
- iii. **Document the indicator resource plan and delivery assignments:** Finalize the resource mapping and align with Section Heads and stream leads.
 - a. Record resource assignments per task in the implementation plan
 - Include both named individuals and fallback roles where applicable
 - Ensure full traceability from task to assigned owner
 - b. Integrate the resource plan into the overall implementation tracker
 - Cross-reference each task with the responsible delivery role and estimated effort
 - Maintain flexibility for reallocation if schedules change
 - c. Share the confirmed resource plan with project stakeholders
 - Ensure visibility across planning, analytics, IT, and governance teams
 - Use the resource plan to track progress and flag delivery risks in real time

2.3.2.E
(1/2)

Define Indicator Implementation Acceptance Criteria: Establish the business, technical, and compliance criteria that must be met for each indicator to be considered successfully implemented. This ensures alignment among data, governance, and business teams and supports go-live decision-making with clarity and confidence. The Data Governance Specialist facilitates this step in collaboration with the Business Data Analyst, and Indicator Owner, and IT Team.

- i. **Define business and functional acceptance criteria:** Capture the expectations from business stakeholders that define the indicator's intended value and usability.
 - a. Confirm alignment with the indicator's original purpose
 - Revisit the user story and use case from the business requirements template
 - Ensure the delivered indicator reflects the defined objectives, audience, and decision-support needs
 - b. Confirm completeness and correctness of display requirements

2.3.2.E
Cont.
(2/2)

- Tooltip content, page headers, disclaimers, filters, KPI card logic
- Functional expectations such as breadcrumb navigation, disaggregation, and view options
- c. Validate business stakeholder satisfaction through UAT
 - Conduct user acceptance testing to confirm usefulness and usability
 - Log final user approvals or post-UAT feedback as part of sign-off
- ii. **Define technical and operational readiness criteria:** Outline system-level and data-specific expectations for a production-ready deployment.
 - a. Confirm successful refresh execution and data accuracy
 - Indicator refresh runs without error and on schedule
 - All required fields and CDEs are populated with accurate and recent data
 - b. Validate visualization integrity and performance
 - Charts and KPIs display correct values, units, and formatting
 - Filters behave correctly across all dimensions and dashboards
 - c. Ensure platform readiness and support model is in place
 - Indicator is published to the correct environment with appropriate user roles
 - Platform logs, monitoring, and error recovery mechanisms are active
- iii. **Define compliance, metadata, and governance criteria:** Ensure the indicator implementation meets national regulations for classification, documentation, and data handling.
 - a. Verify data classification and privacy compliance
 - Confirm that sensitive fields are masked, anonymized, or omitted as required
 - Validate that access controls reflect user role and sensitivity level
 - b. Confirm metadata completeness
 - All indicator metadata is documented and stored (e.g., source system, formula, frequency)
 - Indicator is linked to relevant national frameworks (e.g., NDS3 outcome, QNV pillar) if applicable
- iv. **Document and approve the acceptance criteria:** Finalize the criteria and confirm agreement from all responsible parties.
 - a. Create an acceptance checklist linked to the implementation plan
 - Reference business, technical, and compliance validation steps
 - Include expected data refresh behavior and visual integrity checkpoints
 - b. Review and sign off with all relevant roles
 - Business Data Analyst, Indicator Owner, Platform Team, and Governance Lead
 - Include steering committee or DGO review if applicable (e.g., national indicators)

2.3.2.F
(1/3)

Develop the Indicator Implementation Timeline and Activity Plan: Translate the indicator's workstreams, tasks, and resource assignments into a time-bound implementation roadmap. This step ensures all activities are properly sequenced, assigned, and scheduled for delivery, and that progress can be tracked through structured templates and visual tools. The Business Data Analyst and Data Governance Specialist lead this step in collaboration with the Data Strategy Expert, Data Engineer, and Data Visualization Officer.

- i. **Complete the Statistics Indicator Overview Table:** Create a one-page summary for each indicator to capture key scope, timing, and risk information.
 - a. Populate the following fields for each indicator:
 - Indicator ID
 - Indicator Name
 - Indicator Description
 - Linked Strategic Outcome (e.g., NDS3, QNV Pillar)
 - Owner Department and Indicator Sponsor
 - Start Date and End Date
 - Interdependencies (systems, datasets, approvals)
 - Assumptions and Risks
 - b. Use the overview to confirm scope and alignment
 - Validate against charter and implementation plan
 - Review with stakeholders before moving to activity breakdown

Asset Guidance

The **Statistics Indicator Implementation Roadmap** template contains the **Statistics Indicator Overview Sheet**, which can be used to document high-level information for each statistics indicator, including name, description, assumptions, risks, and strategic alignment. *Illustrative*

Statistics Indicator Overview Template					
This template is used to capture a brief overview of the defined statistics indicators and respective implementation details					
Field	Description				
Indicator ID	A unique identifier for each indicator, traceable to the original long list and charter.				
Indicator Name	Official name of the indicator as defined in the charter and blueprint.				
Indicator Description	A short, functional summary of what the indicator measures and how it supports decision-making.				
Linked Strategic Outcome	Reference to the national outcome, sectoral objective, or policy area the indicator supports (e.g., NDS3 outcome, QNV pillar).				
Owner Department	Department or functional unit responsible for the ongoing ownership and interpretation of the indicator.				
Product Owner / Indicator Sponsor	The individual or role accountable for overseeing the indicator's implementation and performance.				
Start Date	Planned start date of the indicator implementation process.				
End Date	Expected completion date for implementation and deployment.				
Interdependencies	Any other indicators, data pipelines, systems, or programs this indicator depends on for successful execution.				
Assumptions	Key assumptions that support implementation planning (e.g., dataset availability, access rights).				
Risks	Known risks or uncertainties that could delay or complicate implementation.				

Indicator ID	Indicator Name	Indicator Description	Linked Strategic Outcome	Owner Department	Product Owner / Indicator Sponsor

Start Date	End Date	Interdependencies	Assumptions	Risks

2.3.2.F
Cont.
(2/3)

- ii. **Build the detailed implementation activity plan:** Break down each workflow into scheduled activities and sub-activities with defined durations, owners, and dependencies.
- Translate each task into a timeline entry
 - Reference tasks from Step 2.3.2.B (Build the Implementation Plan and Workstreams)
 - Define start and end dates based on effort, availability, and dependencies
 - Assign roles and responsibilities per activity
 - Record named owners or accountable roles for each task
 - Flag interdependencies, bottlenecks, or parallel streams
 - Identify tasks that cannot begin until another is completed
 - Highlight critical path activities and approval checkpoints

**Asset Guidance**

Additionally, the template contains the **Statistics Indicator Plan Sheet**, which can be used to define, plan, and track detailed delivery activities and sub-activities across workstreams, assign task owners and stakeholders, define timelines, and monitor implementation progress.

Illustrative

Use Case ID	Use Case Title	Activities	Sub-activities	Owner	Stakeholder(s)	Status	Activity Timeframes													
							Start Date	Due Date	0				1				2			
									4 Jan				11 Jan				18 Jan			
									4 Jan	5 Jan	6 Jan	7 Jan	8 Jan	9 Jan	10 Jan	11 Jan	12 Jan	13 Jan	14 Jan	15 Jan
UC-001						Completed	4 Jan	14 Jan												
UC-002						In Progress - On Track	14 Jan	22 Jan												
UC-003						Not Started	22 Jan	26 Jan												

- iii. **Visualize the roadmap using a Gantt-style tracker:** Translate the activity plan into a visual implementation roadmap.
- Populate the Statistics Indicator Plan Sheet track activities by week
 - Group tasks by workstream (e.g., data sourcing, dashboard setup, validation)
 - Use color-coding for status: Not Started, In Progress, Completed
 - Use visual markers for key milestones and reviews
 - **Examples:** “UAT Sign-off Complete,” “Tooltip Configuration Approved,” “Go-Live Scheduled”
 - Indicate planned vs actual durations to monitor slippage
 - Share the tracker with all contributors and sponsors
 - Use the plan for weekly updates, coordination meetings, and steering reports
 - Keep the tracker in a shared, access-controlled workspace

2.3.2.F
Cont.
(3/3)

Key Message / Information

A clear, time-bound implementation plan transforms static requirements into actionable delivery. The roadmap allows all stakeholders to coordinate confidently, monitor execution, and respond quickly to delays or shifting priorities. It also supports structured oversight and accountability at every stage of the implementation.

RACI Matrix - Statistics Indicator Implementation Plan

Indicative

Sr No.	Activity	Data Management and Security Director	Data Architecture and Analytics Section Head	Data Owners	Business Data Analyst	Data Engineer	Data Architect	Data Visualization Officer	Data Governance Specialist	Platform Administrator	Business Users	Indicator Owner	IT Team	Data Strategy Expert
2.3.2.A	Document Indicator Blueprint and Business Requirements	I	A	C	R						C			
2.3.2.B	Build the Indicator Implementation Plan and Workstreams	I	A		R	C	C	C	C					
2.3.2.C	Leverage Hosting Environments and Confirm Deployment Timeline		A		C	C	R			C				
2.3.2.D	Identify and Assign Resource Requirements		A		R	C		C	C					
2.3.2.E	Define Indicator Implementation Acceptance Criteria		A		C				R			C	C	
2.3.2.F	Develop the Indicator Implementation Timeline and Activity Plan	I	A		R	C		C	R					C

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

Based on this Activity, the Entity can



Document Indicator Requirements



Develop the Indicator Implementation Timeline and Activity Plan

2.4 Statistics Indicators & Analytics Use Case Data Sourcing Plan

The Data Sourcing Plan activity provides a structured approach to operationalizing the source systems, datasets and CDEs already identified during statistics indicator and use case detailing and implementation planning. It enables the Entity to validate the feasibility and readiness of sourcing data for each prioritized indicator and analytics use case by consolidating inputs, classifying sources, and resolving data acquisition risks.

Process – Statistics Indicators & Analytics Use Case Data Sourcing Plan

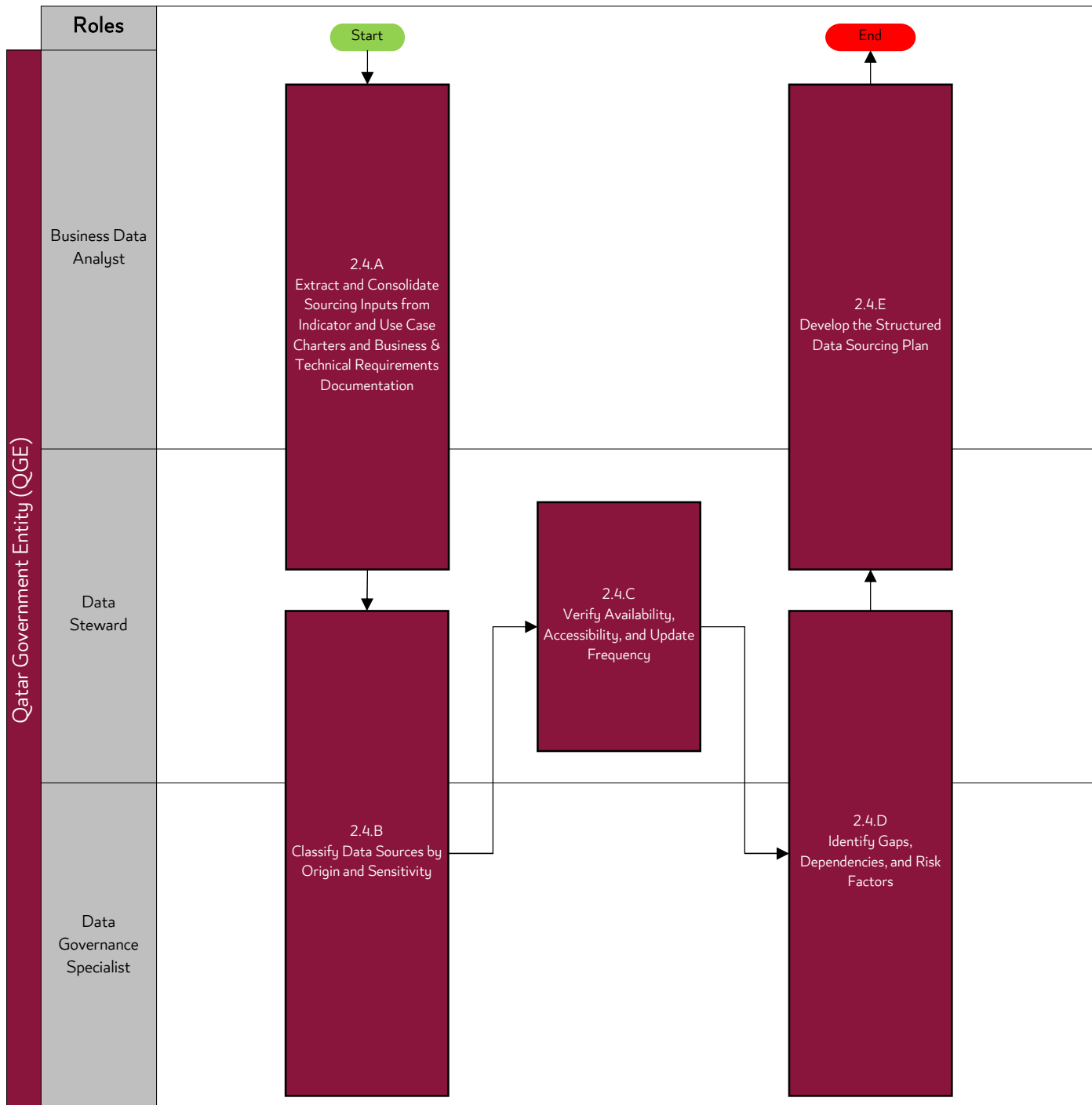


Figure 7: Statistics Indicators & Analytics Use Case Data Sourcing Plan Process Map

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

2.4.A
(1/2)

Extract and Consolidate Sourcing Inputs from Indicator and Use Case Charters and Business & Technical Requirements Documentation: Leverage the data sourcing components already defined in the indicator and use case detailing activities to create a sourcing inventory across all prioritized statistics indicators and analytics use cases. The extracted information must be recorded in the Statistics and Analytics Data Sourcing Register Template. The Data Steward is responsible for executing this step in collaboration with the Business Data Analyst and in consultation with Data Owners.

- i. **Retrieve sourcing details from validated charters and requirements documentation:** Use the documented outputs of Activities 2.2 and 2.3 as the authoritative source of required data elements.
 - a. Extract the following for each use case and indicator:
 - Dataset name(s) and source system(s)
 - Required CDEs and other key data fields
 - Data owner, provider, business unit, Entity (if external) associated with each source
 - b. Confirm charter completeness and validation status
 - Only include charters that have been reviewed and approved
 - Flag any indicators or use cases with missing or unverified sourcing details
 - c. Create a tracking log of reviewed charters and source fields
 - Use this as a foundation for compiling the centralized sourcing inventory
- ii. **Organize extracted inputs into a unified sourcing inventory:** Structure the raw sourcing data to enable classification, assessment, and prioritization in following steps.
 - a. Create one entry per dataset–use case combination
 - Example: “Citizen Service Logs – CRM System – Use Case #UC-004”
 - Ensure consistent naming conventions for datasets and systems
 - b. Link CDEs to each record in the register
 - Document CDE names as listed in the business & technical requirements documentation
 - Tag each with source type and sensitivity classification if already known
 - c. Include metadata and ownership references
 - **For each dataset:** data owner, data provider, platform, and data domain
 - Validate ownership details with Data Owners if uncertain
- iii. **Prepare the consolidated sourcing register for classification and review:** Ensure the sourcing inventory is complete, structured, and versioned for the upcoming steps.
 - a. Confirm completeness of required fields in the register
 - b. Share draft register with Data Owners for confirmation
 - c. Save the sourcing register as a working document
 - Version the file appropriately
 - Prepare to continue with classification and availability assessment in Step 2.4.B

2.4.B
Cont.
(2/2)

- ii. **Classify each dataset by sensitivity level:** Apply the national data classification scheme to evaluate risk exposure and define protection requirements.
 - a. Use the approved sensitivity tiers from the National Data Classification Policy
 - Top Secret
 - Secret
 - Restricted
 - Internal
 - Public
 - a. Collaborate with Data Owners and Information Security
 - Validate sensitivity levels with data custodians and InfoSec leads
 - For internal data, reference the Entity data catalog to determine classification level
 - Use context: Is this data personally identifiable? Financial? Politically sensitive?
 - b. Record sensitivity classification in the sourcing register
 - Populate the "Sensitivity Classification" column for each dataset
 - Flag high-sensitivity datasets for risk assessment and access control in later steps
- iii. **Validate classification completeness and consistency:** Ensure all sourcing records are fully and consistently classified before proceeding to availability analysis.
 - a. Run a classification completeness check across the register
 - Ensure no dataset is left with missing or ambiguous classifications
 - Highlight entries needing further input from business units or platform teams
 - b. Review classifications with key governance roles
 - Confirm classifications with the Data Governance Specialist, Data Steward, and the Information Security team
 - Resolve discrepancies between stated classification and actual content sensitivity
 - c. Run a classification completeness check across the register
 - Version the updated sourcing register
 - Store securely and notify stakeholders that classification is complete

2.4.C
(1/2)

Verify Availability, Accessibility, and Update Frequency: Assess the operational readiness of each dataset by confirming whether the required data is currently available, accessible, and refreshed at the necessary frequency. This step identifies high-risk sourcing records that may delay analytics implementation due to unresolved access issues, outdated data, or inconsistent refresh cycles. The Data Steward is responsible for executing this step in consultation with the Data Owner and the Data Architect.

- i. **Assess the current availability status of each dataset:** Determine whether the dataset exists, is accessible, and contains the needed CDEs in usable format.

2.4.C
Cont.
(2/2)

- a. **Mark datasets as:** Available, Partially Available, Not Available, or Unknown
 - **Available:** Dataset is active, maintained, and includes all required fields
 - **Partially Available:** Dataset exists but is missing required CDEs or time coverage
 - **Not Available:** Dataset or source system not yet provisioned or non-existent
 - **Unknown:** Status cannot yet be confirmed
 - b. Consult system owners and platform administrators
 - Validate technical availability of datasets and field-level completeness
 - Confirm data model, structure, and accessibility via API, DB, file, or integration
 - c. Update the “Current Accessibility Status” column in the sourcing register
 - Use a controlled list of availability statuses
 - Add clarifying notes where relevant (e.g., “CDEs present but outdated schema”)
- ii. **Confirm access permissions and methods:** Ensure the Entity has (or can obtain) access to the required data within acceptable legal, policy, and system constraints.
- a. **Review access status:** Unrestricted, Requires Authorization, Not Yet Requested
 - Include access agreement status if external data is involved
 - Identify required steps if approval or API keys are needed
 - b. Identify access methods in alignment with the National Data Sharing, Integration, and Interoperability Standards
 - Clarify if automation is in place or if manual refresh is required
 - Flag any system-to-system integration requirements
 - c. Document access method and restrictions in the sourcing register
 - Populate the “Access Method” and “Access Constraints” columns
 - Include who holds access and how it is provisioned
- iii. **Validate update frequency and refresh alignment:** Verify how frequently the dataset is updated and whether that matches the analytics use case needs.
- a. Confirm actual update cycle with data owners or platform logs
 - Daily, Weekly, Monthly, Quarterly, Real-Time, or On-Demand
 - Validate if frequency aligns with business or reporting needs
 - b. Identify mismatch between use case requirements and source update timing
 - E.g., if a monthly-updated dataset is needed for a daily dashboard
 - Flag this for escalation or sourcing redesign in Step 2.4.D
 - c. Populate the “Update Frequency” and “Last Updated Date” fields in the sourcing register
 - Use official timestamps or most recent refresh dates
 - Highlight sources with inconsistent or manual refresh processes

2.4.D
(1/2)

Identify Gaps, Dependencies, and Risk Factors: Analyze the consolidated and classified sourcing register to identify any unresolved gaps, access limitations, technical dependencies, or quality risks that may hinder the successful implementation of analytics use cases or indicators. This step provides early visibility into obstacles that require remediation or stakeholder coordination. The Data Governance Specialist is responsible for executing this step in coordination with the Data Steward and in consultation with the Data Architect and Data Owners.

- i. **Identify and log missing or incomplete datasets:** Review the register to highlight sourcing records that are absent, insufficient, or not ready for use.
 - a. Filter records with status “Not Available” or “Unknown” accessibility status
 - Focus on datasets that do not yet exist or are not technically available
 - Highlight use cases that may need to be deprioritized if sourcing cannot be resolved
 - b. Flag partially available datasets with critical CDE gaps
 - **Example:** “Dataset exists but lacks demographic breakdown”
 - Document required enhancements or schema extensions
 - c. List all impacted use cases and indicators
 - Use a summary table to show which analytics outputs are blocked by which sourcing gaps
 - Share with Data Owners for validation and escalation
- ii. **Highlight unresolved access and security constraints:** Detect access restrictions or authorizations that could delay integration or development.
 - a. Flag datasets requiring external approvals or data-sharing agreements
 - E.g., Inter-ministerial approvals, third-party license negotiation, cross-border data restrictions
 - Tag as “Pending Authorization” or “High Dependency”
 - b. Identify datasets requiring manual intervention
 - Data received via email, FTP, or manual export processes
 - Document associated delays, error risks, and resource constraints
 - c. Include access-related issues in the risk profile
 - Populate a “Known Constraints or Risks” column in the sourcing register
 - Prioritize those affecting high-visibility or time-sensitive use cases
- iii. **Document technical and operational dependencies:** Capture system or process dependencies that must be addressed for successful data delivery.
 - a. Identify system dependencies for real-time or scheduled refreshes
 - **Example:** “Requires upstream ETL job in legacy system to complete first”
 - Note environment (DEV, UAT, PROD) availability and data latency concerns

2.4.D
Cont.
(2/2)

- b. Log integration, API, or transformation prerequisites
 - E.g., “Requires connector to Oracle DB,” “Needs schema mapping to standard format”
 - Include whether dependency is internal (IT backlog) or external (vendor constraint)
- c. Assign risk levels and remediation urgency
 - Classify each dependency or gap as Low, Medium, or High Risk
 - Recommend mitigation actions to be tracked in the sourcing plan

2.4.E
(1/2)

Develop the Structured Data Sourcing Plan: Transform the validated sourcing register into a structured, actionable plan that outlines how and when each dataset will be made available for the implementation of analytics use cases and indicators. The plan must clearly define sourcing responsibilities, access mechanisms, timelines, and any required remediation actions. The Data Steward is responsible for executing this step in collaboration with the Business Data Analyst and in consultation with Data Owners and IT Team.

- i. **Compile final sourcing records into an implementation-ready plan:** Use the updated sourcing register as the foundation for the official sourcing plan.
 - a. Confirm that all records include required fields
 - Dataset, Source System, Indicator/Use Case ID, CDEs, Data Owner, Source Type, Sensitivity, Availability, Access Method, Update Frequency, Risk Notes
 - Ensure traceability to original indicator/use case card (via unique ID)
 - b. Filter out incomplete or unapproved records
 - Mark any sourcing lines that require deferral due to access, quality, or dependency issues
 - Flag high-priority sourcing lines for fast-tracking
 - c. Organize sourcing plan by implementation phase or sprint
 - Group datasets by earliest need date based on the implementation roadmap
 - Annotate expected onboarding or delivery timelines
- ii. **Assign sourcing actions, responsibilities, and deadlines:** Translate gaps and unresolved constraints into actionable remediation tasks.
 - a. Define owner and responsible party per sourcing line
 - **Example:** “Data Owner – Finance Dept.,” “Integration Lead – IT Division”
 - Include contact person and supporting roles (e.g., data engineer, API administrator)
 - b. Document required actions to resolve sourcing blockers
 - E.g., “Request access via MoU,” “Update schema to include gender field,” “Configure API”
 - Classify actions as Pre-Go-Live, Post-Go-Live, or Long-Term

2.4.E
Cont.
(2/2)

- c. Set target resolution dates and escalation thresholds
 - Define when sourcing issues must be resolved to avoid impacting build or launch phases
 - Add escalation paths for unresolved high-risk records
- iii. **Finalize and circulate the data sourcing plan for implementation:** Make the sourcing plan a live, governed document for project and technical teams.
 - a. Version the plan and store in a centralized collaboration platform
 - Ensure access for analytics, data governance, IT, and reporting teams
 - Lock critical fields and track changes with version control
 - b. Present sourcing plan to Data Committee or project steering team for endorsement
 - Include a dashboard view summarizing sourcing readiness and risk status
 - Request decisions on unresolved issues requiring leadership support
 - c. Use the sourcing plan to inform technical onboarding and ETL development
 - Share directly with platform engineers, integration leads, and QA/test teams
 - Align with staging and production environment deployment schedules

RACI Matrix - Statistics Indicators & Analytics Use Case Data Sourcing Plan

Indicative

Sr No.	Activity	Data Committee	Data Management and Security Director	Data Architecture and Analytics Section Head	Information Security and Risk Management Section Head	Data Stewards	Business Data Analyst	Data Governance Specialist	Data Owners	Data Architect	IT Team
2.4.A	Extract and Consolidate Sourcing Inputs from Indicator and Use Case Charters and Business & Technical Requirements Documentation		I	A		R	R		C		
2.4.B	Classify Data Sources by Origin and Sensitivity		I	A	C	R		R	C		
2.4.C	Verify Availability, Accessibility, and Update Frequency					R			C	C	
2.4.D	Identify Gaps, Dependencies, and Risk Factors			A		R		R	C	C	
2.4.E	Develop the Structured Data Sourcing Plan	C	C			R	R		C		C

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

Based on this Activity, the Entity can



Compile a centralized inventory of all sourcing inputs per use case and indicator



Confirm sourcing feasibility through access classification, availability checks, and dependency

3. Statistics and Analytics Design



3. Statistics and Analytics Design

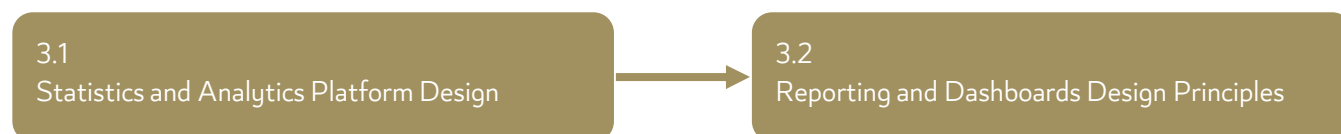
What does Statistics and Analytics Design involve, and why is it important for the Entity?

Statistics and Analytics Design enables the Entity to define the technical foundation for delivering prioritized indicators and analytics use cases. It ensures that platforms, tools, and reporting environments are designed to meet business needs, support data governance, and function reliably at scale. This section ensures the Entity's statistical and analytical outputs are not only feasible to implement, but also secure, accessible, and consistent with national expectations for interoperability, usability, and reporting transparency.

The section is composed of three integrated activities that guide the Entity from platform and tool design through to reporting standardization:

- **Statistics and Analytics Platform Design:** Defines the technical architecture, user access, and delivery features of the centralized statistics and analytics platform (in alignment with the data architecture outlined in the Data Architecture and Modeling domain guidelines) used to surface indicators and analytics use case outputs.
- **Statistics and Analytics Tools:** Selects the tools required to support model development, workflow automation, and the delivery of advanced analytics and statistical indicators, and develops a structured plan for their implementation.
- **Reporting and Dashboards Design Principles:** Establishes standards for dashboards and reports to ensure visual clarity, accessibility, metadata traceability, and alignment with branding and governance requirements.

Together, these activities ensure that statistical and analytical outputs are delivered through technically sound platforms, governed tools, and standardized visual formats, ready for implementation and user access.



Guiding Principles for Statistics and Analytics Design

1. **Design with Execution in Mind:** Ensure all designs (platforms and tools) are actionable, scalable, and implementation-ready.
2. **Prioritize User Experience and Access:** Build platforms and dashboards that are intuitive, secure, and accessible across user groups and devices.
3. **Align to National Standards and Integration Needs:** Ensure compatibility with data architecture, governance policies, and national platform strategies.
4. **Support Full Analytics Lifecycle:** Select tools and design platforms that enable development, automation, and visualization of advanced use cases.
5. **Ensure Consistency Across Interfaces:** Standardize reporting components to promote visual coherence, usability, and brand alignment.
6. **Enable Governance and Oversight by Design:** Embed clear roles, controls, and validation steps into all design and tool implementation activities.

3.1 Statistics and Analytics Platform Design

Activity 3.1 focuses on designing the core components of the Entity’s statistics and analytics delivery environment. It guides the definition of the centralized statistics and analytics platform and the selection of supporting tools, ensuring usability, scalability, and alignment with analytics requirements. The resulting designs and plans form the foundation for implementation in Section 4.

3.1.1 Statistics and Analytics Platform Design

This activity guides the Entity to define its centralized statistics and analytics platform, outlining its purpose, users, and required features. It specifies the platform’s technical architecture, integration points, access model, and interface design. The process ensures alignment with the data architecture outlined in the Data Architecture and Modeling domain guidelines, and produces a validated design package, including mock-ups and implementation plan, ready for execution.

Process – Statistics and Analytics Platform Design

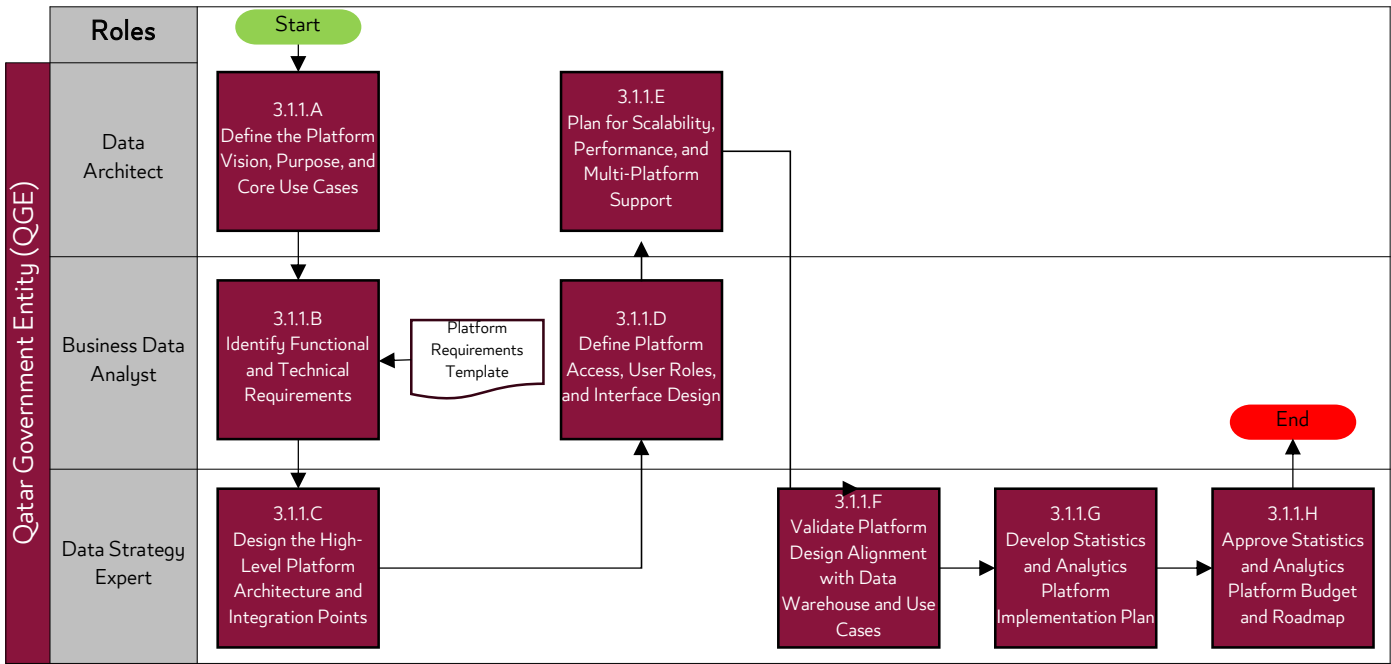


Figure 8: Statistics and Analytics Platform Design Process Map

Legend: Process Step (Maroon Box), Decision (Maroon Diamond), Process Start (Green Oval), Process End (Red Oval), Document (White Box with Maroon Border), Off-Page Reference (Maroon Box with White Border)

3.1.1.A
(1/3)

Define the Platform Vision, Purpose, and Core Use Cases: This step establishes the vision and strategic purpose of the statistics and analytics platform, which will serve as the primary portal through which users interact with statistical indicators and analytics use cases. The platform acts as a centralized, user-friendly interface that consumes outputs from backend sources (such as the Entity’s Data Warehouse and analytics engines like Databricks), and delivers insights in the form of dashboards, KPI views, reports, and interactive visualizations.

It is not a processing or data science engine itself, but a presentation and access layer that enables decision-makers, analysts, and public users (where applicable) to explore data products generated upstream. Its design must ensure usability, performance, and alignment with the broader architecture established in the Data Architecture & Modeling domain guidelines. The Data Strategy Expert leads this step, with input from the Business Data Analyst, Platform Architect, and Data Governance Specialist.

3.1.1.A
Cont.
(2/3)

- i. **Define the vision and strategic role of the platform:** The Data Strategy Expert defines the purpose and role of the platform in the Entity's data and analytics delivery ecosystem.
 - a. Describe the platform as a portal to:
 - Access statistical indicators and analytics use case outputs
 - Visualize data products via dashboards, tables, and charts
 - Search, filter, and download datasets or insights
 - b. Position the platform as a consumer interface, not a processing tool:
 - Outputs are generated by backend systems such as the Data Warehouse and Databricks
 - Platform delivers a unified, curated experience for users
 - Focus is on visualization, access control, and user interaction
 - c. Confirm alignment with data governance and architecture guidelines:
 - Platform must adhere to privacy, access, and metadata standards
 - Must connect with structured data sources and serve model outputs as needed
 - Must align with Section 4 of the Data Architecture & Modeling QDKC
- ii. **Identify and describe core user groups and audiences:** The Business Data Analyst profiles the main platform audiences and their interaction needs.
 - a. Identify user roles and typical personas. Examples may include, but are not limited to:
 - Senior decision-makers (KPI dashboards)
 - Analysts and planners (deep dive, download, cross-filter)
 - Technical staff (model outputs, documentation access)
 - Public users (if open access is supported)
 - b. Define user expectations across use cases and indicators:
 - Browse and search use case libraries and indicator catalogs
 - Access visualizations, trend views, or prediction results
 - View metadata, data quality info, and calculation methodology
 - Download/export visual or tabular results
- iii. **Define platform scope and core product types:** The Data Strategy Expert defines the scope of outputs the platform must support.
 - a. Define types of content to be surfaced:
 - Statistical indicators (automated pipelines, regular refresh)
 - Analytics use cases (ML model results, segmentation views, risk scores)
 - Static and interactive dashboards, thematic data stories
 - b. Confirm platform interaction scope:
 - Read-only and exportable outputs
 - Basic interactivity (e.g., filtering, drill-downs)
 - No complex analytics execution on platform itself

3.1.1.A
Cont.
(3/3)

- c. Identify future extensibility needs:
 - Support for multilingual access or department-specific dashboards
 - Interface with feedback mechanisms or usage analytics



Key Message / Information

The platform is a user-facing portal that connects to backend data systems and serves curated insights to diverse user groups. Clearly defining its purpose ensures the platform is scoped realistically, designed effectively, and fully aligned with upstream architecture and downstream user expectations.

3.1.1.B
(1/2)

Identify Functional and Technical Requirements: This step defines the functional and technical capabilities that the statistics and analytics platform must support to fulfill its role as the Entity's centralized portal for insight delivery. It translates the platform vision (3.1.1.A) into concrete requirements that guide architectural design, development, and system procurement or configuration.

The platform must offer users intuitive, role-based access to statistical indicators and analytics use cases, present outputs through interactive visualizations, and serve as a bridge between backend data sources and decision-makers. Requirements must ensure compliance with the National Data Standards, especially SA.2.1.1, and align with the architecture established in the Data Architecture & Modeling QDKC. The Business Data Analyst leads this step with input from the Data Strategy Expert, Data Architect, and Platform Developer.

- i. **Define functional requirements based on user needs:** The Business Data Analyst identifies what users must be able to do on the platform.
 - a. Specify key user-facing capabilities:
 - Browse and search statistical indicators and analytics use cases
 - Interact with dashboards and visualizations (e.g., filters, time sliders)
 - View metadata, methodology notes, and data sources
 - Export results as CSV, Excel, PDF, or API (if applicable)
 - Access thematic views (e.g., by sector, strategic pillar, or SDG alignment)
 - b. Define content and product delivery modes:
 - Statistical indicators (refreshable, rule-based tables or graphs)
 - Analytics use cases (outputs of ML models, forecasts, segmentation tools)
 - Textual or visual "data stories" to contextualize key insights
 - c. Identify platform administration features:
 - Publish/update dashboards and content
 - Manage content metadata and tagging
 - Moderate access and control data visibility (internal vs. public)
- b. **Define technical requirements to support platform operation:** The Data Architect defines the technical foundation needed to deliver these features reliably and securely.
 - a. Define integration requirements:

3.1.1.B
Cont.
(2/2)

- Consume structured outputs from the Entity's Data Warehouse
- Render outputs from analytics platforms (e.g., Databricks tables or APIs)
- Connect to the Metadata Catalog for concept definitions and data lineage
- Optional: expose selected outputs to downstream systems via API

b. Define data interaction and rendering logic:

- Support for cached and real-time queries
- Pagination or load balancing for large datasets
- Visual rendering via embedded charts, tables, or map components
- Refresh logic for indicators and use case outputs (e.g., weekly, on-demand)

c. Define deployment and scalability needs:

- Cloud, on-prem, or hybrid support based on Entity IT policy
- Role-based access (internal roles and optionally public views)
- Ability to scale for increased user load or additional content modules

iii. **Validate requirements against standards and constraints:** The Data Strategy Expert ensures all requirements align with both national guidance and local capacity.

a. Align features with the National Data Standards:

- Ingest from diverse sources, store and organize securely, serve data to users

b. Confirm compatibility with existing infrastructure:

- Match Entity's IT stack, cybersecurity controls, and frontend/backend integration approaches

c. Ensure feasibility and fit-for-purpose design:

- Scope requirements to the Entity's current maturity and expected roadmap
- Flag any items requiring vendor support or advanced customization

3.1.1.B
Cont.
(2/2)**Key Message / Information**

Well-defined functional and technical requirements ensure the platform is user-friendly, technically sound, and strategically aligned. These requirements form the foundation for the architecture design and development roadmap that follows.

3.1.1.C
(1/2)

Design the High-Level Platform Architecture and Integration Points: Design the High-Level Platform Architecture and Integration Points: This step defines the high-level architecture of the statistics and analytics platform, specifying its technical layers, system components, and data integration points. The platform must be developed in alignment with the reference data architecture defined in the Data Architecture and Modeling domain guidelines and will sit within the data utilization layer of the Entity's overall architecture. It is expected to interface with upstream systems such as the Data Warehouse and analytics engines, and surface outputs through presentation or delivery channels.

The architecture must be modular, scalable, and secure, supporting the seamless delivery of statistical indicators and analytics use cases through a centralized user interface. This design serves as the foundation for implementation planning, system development, and future enhancements. The Data Architect leads this step with input from the Data Strategy Expert, Platform Administrator, and Business Data Analyst.

- i. **Define the core architectural layers and components:** The Data Architect outlines the logical structure of the platform, including all major subsystems.
 - a. Define platform architecture layers:
 - **Ingestion Layer:** Retrieves outputs from the Data Warehouse or analytics engines
 - **Processing Layer:** Performs lightweight transformation, caching, or aggregation
 - **Analytics Layer:** Hosts dashboards, charts, and insight rendering modules
 - **Presentation Layer:** Delivers user interface, navigation, and output interaction
 - **Access & Governance Layer:** Manages roles, permissions, and audit logs
 - b. Indicate how content is updated and surfaced:
 - Scheduled or on-demand data refresh mechanisms
 - Separation of development and production environments
 - Metadata-enriched rendering of indicators and use case outputs
 - c. Highlight components that may be reused or shared across outputs:
 - Visualization templates, access controls, metadata viewers, tagging frameworks
- ii. **Define integration points with internal data systems and services:** The Platform Architect specifies how the platform connects to other components in the data ecosystem.
 - a. Define upstream data sources and services.
 - Structured data sources, such as the Data Warehouse or curated datasets
 - Analytical output repositories, such as model result stores or intermediate layers
 - Metadata catalogs, to provide descriptive context and definitions
 - b. Define downstream data services (if applicable):

3.1.1.C
Cont.
(2/2)

- Public APIs, reporting layers, or government dashboards
- Downloadable datasets for users (e.g., CSV, Excel, PDF formats)
- c. Document data exchange protocols and supported formats:
 - API endpoints, data access gateways, shared query layers
 - Supported file formats and response structures for consumption
- iii. **Develop and validate the architecture diagram:** The Data Architect develops a visual summary of the platform's architecture for internal validation and traceability.
 - a. Create a high-level system architecture diagram illustrating:
 - All platform components and modules
 - Data flows from source systems to user interfaces
 - Integration and security boundaries
 - b. Validate the architecture across business and technical stakeholders:
 - Ensure it aligns with Entity IT policy, data governance, and implementation readiness
 - Confirm compatibility with internal infrastructure and performance expectations
 - c. Archive the architecture diagram for future reference, approvals, and vendor coordination

**Key Message / Information**

A high-level platform architecture ensures technical alignment across teams, enables secure and reliable integration with upstream systems, and provides a clear foundation for system development and rollout.

3.1.1.D
(1/2)

Define Platform Access, User Roles, and Interface Design: This step defines how different types of users will access the statistics and analytics platform, what content they can see, and how they will interact with platform features. It also introduces the first visual definition of the platform, including page layouts, dashboards, and visual navigation elements through mock-ups or interface wireframes.

The platform must support secure, role-based access to indicators and analytics use cases, and offer an intuitive, easy-to-navigate interface that accommodates diverse user groups. The user experience must be tailored to each role's level of technical expertise and the nature of the insights they consume. The Business Data Analyst leads this step, with support from the Platform Designer, Data Strategy Expert, and Data Governance Specialist.

- i. **Define user access roles and permissions:** The Business Data Analyst and Data Governance Specialist define who accesses what and under which conditions.
 - a. Identify key user roles for the platform, such as:
 - Decision-makers and policy users
 - Analysts and planning staff
 - Data governance reviewers
 - (Optional) General public or external users

3.1.1.D
Cont.
(2/2)

- b. Map access levels to each user group:
 - Role-based visibility of indicators, dashboards, and use case outputs
 - Download/export permissions
 - Access to metadata and technical documentation
- c. Define administrative roles and workflows:
 - Users responsible for uploading, validating, and publishing new content
 - Moderators or reviewers for metadata, filters, or classifications

ii. **Define interface layout, navigation, and user experience:** The Platform Designer, guided by the Business Data Analyst, develops a user-centric interface model.

- a. Define core page types and navigation structure:
 - Home / landing page
 - Indicator and use case directories
 - Dashboard or visualization detail pages
 - Metadata pop-ups or side panels
 - Filter/search toolbar and download center
- b. Design intuitive navigation and layout flows:
 - Clear pathways from landing to insights
 - Search and filter functions by sector, theme, or indicator type
 - Mobile responsiveness and accessibility considerations
- c. Embed contextual metadata into the user experience:
 - Definitions, data sources, update frequencies
 - Notes on methodology, use case purpose, limitations

iii. **Create mock-ups or wireframes to visualize platform design:** The Platform Designer creates the first visual representations of the user experience.

- a. Develop wireframes or mock-ups for key screens:
 - Landing page showcasing top indicators or featured use cases
 - Indicator catalog with search and category filters
 - Use case summary page with dashboard and metadata sections
 - Download/export screen with format and file-type options
- b. Review mock-ups with the Statistics and Analytics Working Group:
 - Validate structure, user logic, and visual hierarchy
 - Collect feedback on usability and language clarity
- c. Refine the design based on feedback and archive for development handover

3.1.1.E
(1/2)

Plan for Scalability, Performance, and Multi-Platform Support: This step ensures that the statistics and analytics platform is designed to operate reliably at scale, maintain performance under growing demand, and remain accessible across the diverse user environments in which it will be used. Scalability and responsiveness must be built into the platform from the start to ensure smooth delivery of indicators and analytics use cases as user volume, data complexity, and content types expand.

The platform must also be designed with multi-platform user access in mind, meaning it should perform consistently across different devices (e.g., desktops, tablets, smartphones), browsers, and operating systems commonly used across government entities. The Data Architect leads this step with input from the Business Data Analyst, Platform Developer, and the IT Team.

- i. **Define scalability targets and growth scenarios:** The Platform Architect defines how the platform must grow to support increased data volume, user base, and content variety.
 - a. Estimate near-term and long-term usage projections:
 - Number of concurrent users (internal staff, analysts, leadership)
 - Growth in number of indicators and analytics use cases published
 - Increase in size and frequency of source data inputs
 - b. Define how the platform must scale:
 - Horizontally (e.g., support more dashboards, more users)
 - Vertically (e.g., support heavier data loads, more complex outputs)
 - Operationally (e.g., admin tools to manage growing content libraries)
 - c. Document platform components that require scaling strategies:
 - Frontend rendering engine
 - Data fetching and query layer
 - Access and identity management modules
- ii. **Define performance expectations and thresholds:** The Platform Developer sets baseline performance requirements for end-user interaction.
 - a. Define expected page and dashboard load times under normal and peak usage
 - b. Set time thresholds for common operations:
 - Navigating between pages
 - Applying filters
 - Exporting files
 - c. Determine acceptable levels of latency and system availability (e.g., 99.9% uptime)
- iii. **Ensure cross-device and multi-platform user compatibility:** The Business Data Analyst and Platform Developer validate usability across all expected access environments.
 - a. Ensure responsive design for key form factors. Examples may include:
 - Desktop and laptop (primary use cases)
 - Tablet (for leadership or on-the-go use)
 - Smartphone (lightweight access or mobile alerts)

3.1.1.E
Cont.
(1/2)

- b. Confirm browser and OS compatibility:
 - Supported browsers: Chrome, Edge, Firefox, Safari
 - Supported OS: Windows, macOS, iOS, Android
- c. Include accessibility and multilingual support (if required):
 - WCAG standards for accessibility
 - Arabic and English interface options

3.1.1.F
(1/2)

Validate Platform Design Alignment with Data Warehouse and Use Cases: This step ensures that the final platform design is fully aligned with the Entity's existing data infrastructure, specifically the Data Warehouse, and with the delivery needs of prioritized statistical indicators and analytics use cases. The platform must be technically compatible with the data storage and processing architecture defined in the Data Architecture & Modeling domain guidelines, and capable of rendering the outputs documented in Activities 2.2 and 2.3.

Validating this alignment before development avoids costly redesign and ensures end-to-end coherence from backend data storage to frontend insight delivery. The Data Strategy Expert leads this step with support from the Data Architect, Business Data Analyst, and Platform Developer.

- i. **Confirm integration with the Data Warehouse and analytical systems:** The Data Architect and Platform Developer assess whether the platform can access and consume outputs from backend sources.
 - a. Validate data flow from the Entity's Data Warehouse to the platform's ingestion layer
 - b. Confirm platform can query, read, or subscribe to prepared datasets and data marts
 - c. Ensure compatibility with outputs from analytics processing environments (e.g., model results, aggregated metrics)
- ii. **Confirm support for statistical indicators and analytics use cases:** The Business Data Analyst verifies that the platform accommodates the design and delivery requirements of outputs developed in earlier planning phases.
 - a. For statistical indicators:
 - Ensure platform supports visualizations, tables, breakdowns, and version control
 - Validate integration of indicator metadata (e.g., definitions, sources, formulas)
 - b. For analytics use cases:
 - Ensure the platform can present narrative insights, model outputs, and segmentation results
 - Validate support for different output types (e.g., scores, predictions, maps)
 - c. Confirm platform supports display of metadata, assumptions, and update frequency for each published asset

3.1.1.F
Cont.
(2/2)

- iii. **Conduct joint design review with technical and business stakeholders:** The Data Strategy Expert facilitates a final validation workshop with key contributors.
- a. Review platform mock-ups, architecture diagram, and functional requirements against:
 - Data Warehouse architecture
 - Analytics use case charters and supporting business/technical documentation
 - Statistics indicator charters and supporting business/technical documentation
 - b. Collect and address feedback from:
 - IT infrastructure teams
 - Business sponsors
 - Data governance and compliance focal points
 - c. Archive validation feedback and finalize the platform design package for handover to implementation teams



Key Message / Information

The platform must be tightly aligned with upstream data sources and downstream content needs. Validating integration with the Data Warehouse and alignment with use cases and statistics indicators ensures that the platform delivers value from day one — and evolves in sync with the Entity's data ecosystem.

3.1.1.G
(1/2)

Develop Statistics and Analytics Platform Implementation Plan: Once the platform design is finalized, the Entity must consolidate all outputs into a formal implementation plan. This includes identifying the key build phases, assigning ownership, estimating budget and effort, and defining the timeline using standardized implementation planning templates.

This step ensures the Entity can proceed into the implementation phase (4.1.1) with a well-defined roadmap that has executive backing, budget alignment, and stakeholder clarity. The Data Strategy Expert leads this step, with input from the Platform Architect, Platform Project Manager, and Business Data Analyst.

- i. **Define key implementation phases and activities:** The Platform Architect outlines how the platform will be implemented in discrete, trackable stages.
 - a. Break down the implementation into high-level phases:
 - Infrastructure setup and environment provisioning
 - Access configuration and role management
 - Integration with the Data Warehouse and metadata systems
 - Layout and UI component development
 - Testing, launch, and post-launch support
 - b. For each phase, define key activities and estimated effort.
 - c. Ensure activity sequencing aligns with analytics use case readiness (e.g., dashboards in 4.2).

3.1.1.G
Cont.
(2/2)

- ii. **Assign roles, responsibilities, and governance oversight:** The Platform Project Manager defines ownership across the plan's activities.
 - a. If available, leverage the previously defined Initiative Card (developed under the Entity's Data Strategy, as outlined in the Data Management Strategy and Governance domain guidelines) to assign:
 - Executive Sponsor
 - Initiative Owner
 - Platform Implementation Lead (if specified)
 - Contributors from data, IT, and compliance teams (if specified)
 - b. Define governance checkpoints (e.g., Steering Committee review, go/no-go gates).
- iii. **Estimate budget and resource requirements:** The Business Data Analyst estimates costs and resourcing needs for internal and external components.
 - a. Populate the budget section of the Initiative Card with:
 - Software or infrastructure costs (if applicable)
 - Internal resource allocation
 - Vendor services (design, development, testing support)
 - b. Include staff time estimates for each team or contractor involved.
- iv. **Update the previously defined Initiative Card (if required) and Populate Roadmap Template:** The Data Strategy Expert prepares formal documentation for review and approval.
 - a. Use the Initiative Card Template to summarize:
 - Overview, key activities sponsor, owner, stakeholders, expected benefits, timeline, key milestones, dependencies, assumptions and risks.
 - b. Use the Roadmap Template to define the calendar-based activity and sub-activity plan, including start and end dates, owners, status, dependencies, and milestones
 - c. Prepare both templates for submission in Step 3.1.1.H (approval)



Key Message / Information

The implementation plan consolidates all platform design decisions into an actionable roadmap. It enables smooth transition to execution, ensures accountability, and positions the platform for successful launch in Section 4.1.1.

3.1.1.H

Approve Statistics and Analytics Platform Budget and Roadmap: Once the platform implementation plan has been finalized, the Entity must present the Initiative Card and Roadmap to the Data Committee (or relevant internal authority) for formal approval. This step ensures that the Entity has secured executive alignment, resource commitment, and governance support prior to beginning implementation.

The Data Strategy Expert leads this step, with support from the Platform Project Manager and Data Management & Security Director.

3.1.1.H

- i. **Submit the Implementation Plan for Review and Endorsement:** The Data Strategy Expert prepares the submission package and presents it to decision-makers.
 - a. Submit the following to the Data Committee:
 - Completed/Updated Initiative Card
 - Detailed Roadmap
 - Any relevant platform architecture diagrams or mock-ups
 - b. Provide a clear summary of:
 - Implementation timeline and sequencing
 - Budget and resource needs
 - Key risks and mitigations
 - Strategic benefits
- ii. **Address questions and finalize any revisions:** The Platform Project Manager responds to requests for clarification or refinements.
 - a. Capture feedback from reviewers and update the documentation as needed
 - b. Reconfirm alignment across IT, finance, and data governance stakeholders
- iii. **Secure formal approval and record the decision:** The Data Management & Security Director confirms the outcome and ensures accountability.
 - a. Record formal endorsement of the Initiative Card and Roadmap
 - b. Notify the implementation team and trigger transition to Section 4.1.1
 - c. Archive the approved plan for audit, procurement, or vendor onboarding purposes



Key Message / Information

Approval of the implementation plan is a formal milestone. It ensures the platform is launched under a clear mandate, with confirmed resources and governance ownership.

RACI Matrix – Statistics and Analytics Platform Design

Indicative

Sr No.	Activity	Data Management and Security Director	Data Architecture and Analytics Section Head	Data Governance Specialist	Data Architect	Business Data Analyst	Data Strategy Expert	IT Team
3.1.1.A	Define the Platform Vision, Purpose, and Core Use Cases	I	A	C	C	C	R	
3.1.1.B	Identify Functional and Technical Requirements	I	A		C	R	C	
3.1.1.C	Design the High-Level Platform Architecture and Integration Points		A		R	C	C	
3.1.1.D	Define Platform Access, User Roles, and Interface Design		A	C		R	C	
3.1.1.E	Plan for Scalability, Performance, and Multi-Platform Support	I	A		R	C		C
3.1.1.F	Validate Platform Design Alignment with Data Warehouse and Use Cases		A		C	C	R	
3.1.1.G	Develop Statistics and Analytics Platform Implementation Plan	I	A			C	R	
3.1.1.H	Approve Statistics and Analytics Platform Budget and Roadmap	A/C					R	

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

Based on this Activity, the Entity can



Design the High-Level Platform Architecture



Develop Statistics and Analytics Platform Implementation Plan

3.1.2 Statistics & Analytics Tools

This activity guides the Entity to formally plan and execute the selection of statistics and analytics tools that support modeling, automation, workflow orchestration, and so forth. It defines tool requirements based on analytics use cases, system needs, and industry best practices. The process ensures a structured evaluation and selection approach, mobilizing a cross-functional working group, scoring tools against defined criteria, confirming alignment with national-level guidance (if exists, at the respective point in time), and preparing an implementation plan ready for approval and execution.

Process – Statistics & Analytics Tools

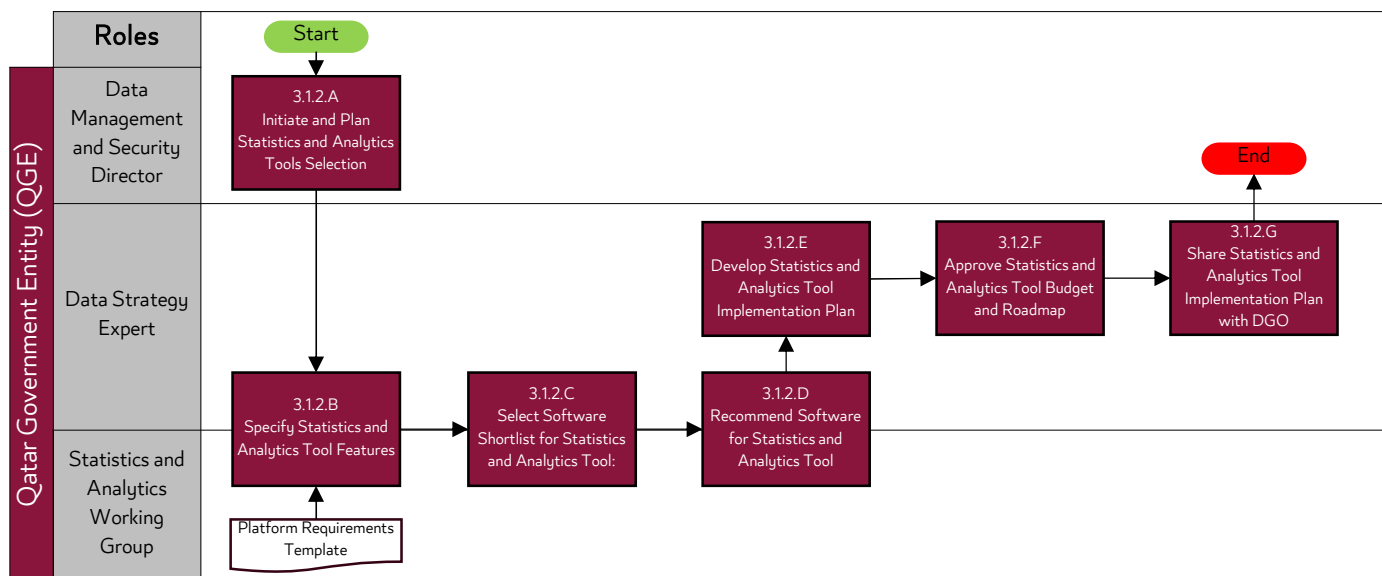


Figure 9: Statistics & Analytics Tools Process Map

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

3.1.2.A
(1/3)

Initiate and Plan Statistics and Analytics Tools Selection: The Entity must formally initiate the process of selecting statistics and analytics tools by defining clear objectives, mobilizing a cross-functional working group, and aligning the effort with previously defined analytics and platform architecture initiatives. This step ensures that the selection process builds on the Entity's established roadmap and supports compliance with the National Data Standards.

- i. **Define Objectives and Align with Statistics and Analytics Platform Plan:** The Data Management & Security Director initiates the selection effort with support from the Data Strategy Expert.
 - a. Revisit the initiative cards and roadmap developed to confirm the scope, dependencies, and timing for analytics tool selection.
 - b. Define the objectives of the tool (e.g., enable low-code model development, support experimentation, facilitate collaboration, automate versioning).
 - c. Ensure the planned selection process supports the Entity's broader data strategy and technical readiness.
- ii. **Establish a Statistics and Analytics Working Group (if not already in place):** 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.

3.1.2.A
Cont.
(3/3)

Tip

- Avoid over-customizing the feature list. Start with what's truly needed to support statistics and analytics efforts.
- Use the same criteria format to maintain comparability during shortlisting.

3.1.2.B
(1/2)

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

- i. **Analyze Advanced Analytics Needs Using the Use Case Library:** Use the existing analytics use case inventory to identify functional requirements for the tool.
 - a. Review the Analytics Use Case Library to understand the types of models, pipelines, and outputs developed (e.g., classification, segmentation, forecasting).
 - b. Identify operational needs across domains, such as:
 - Experiment tracking and versioning
 - Workflow orchestration and automation
 - Collaboration and access controls
 - c. Highlight any domain-specific modeling challenges or recurring technical gaps that a tool should help resolve.
- ii. **Define Feature Requirements:**
 - a. At a minimum, include the following recommended core features:
 - **Notebook or visual workflow support:** Allow low-code and code-based development
 - **Model versioning and rollback:** Manage model iterations and ensure reproducibility
 - **Audit trail:** Track actions, approvals, and changes to models and workflows
 - **Integration with data sources:** Support ingestion from SQL, APIs, files, and cloud storage
 - **Pipeline scheduling and monitoring:** Automate runs and track failures
 - b. Identify any additional features needed, such as:
 - MLOps support (e.g., deployment automation, model drift monitoring)
 - Model interpretability and fairness modules
 - Integration with BI tools, governance dashboards, or metadata catalogs
 - Support for on-prem and cloud deployment
- ii. **Document Feature Requirements in the Tool Selection Criteria Template:** Translate the feature list into a standardized, weighted evaluation format.

3.1.2.B
Cont.
(2/2)

- a. Populate the Statistics and Analytics Tool Selection Criteria Template, specifying:
 - Feature name and description
 - Weight (importance to the Entity)
 - Perceived feature level of advancement (e.g., Foundational, Advanced etc.)
- b. Ensure each requirement maps to an identified operational need.
- c. Share the draft criteria with the Statistics and Analytics Working Group for validation.

**Key Message / Information**

This step ensures the Entity selects a statistics and analytics tool that aligns with its actual modeling needs, technical maturity, and operational context. A clear feature definition phase supports focused, defensible tool evaluation.

3.1.2.C
(1/2)

Select Software Shortlist for Statistics and Analytics Tool: Using the populated selection criteria template, the Entity must assess and compare available statistics and analytics 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.

- i. **Research and Identify Candidate Tools:** The Data Strategy Expert and Statistics and Analytics Working Group gather information on leading statistics and analytics tools.
 - a. Compile a list of vendor options based on:
 - Market research and government sector relevance
 - Compatibility with the Entity's data infrastructure and governance architecture
 - Feedback from peer entities (if available)
- 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, Very 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.

3.1.2.C
(Cont.
(2/2))

- b. Document rationale for tool inclusion or exclusion (e.g., lack of scheduling support, missing explainability module).
- c. Share the shortlisted tools and scoring summary with the remaining members of the Statistics and Analytics Working Group for validation.



Key Message / Information

Don't shortlist tools that fail to meet foundational requirements, even if their total score is high. The shortlist should reflect a combination of feature alignment, operational fit, and governance readiness.

3.1.2.D

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

- i. **Confirm the Recommended Tool:** The Data Strategy Expert, with input from the Statistics and Analytics Working Group, selects the top-ranked tool from the shortlist.
 - a. Ensure the recommended tool meets all mandatory features identified.
 - 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.

3.1.2.E
(1/2)

Develop Statistics and Analytics Tool Implementation Plan: Once the statistics and analytics tool has been selected, the Entity must prepare a structured implementation plan that defines the key activities, assigned roles, estimated budget, and expected timeline for deployment. The implementation plan must align with the platform roadmap defined in Section 3.1.1 and should be documented using the Initiative Card and Roadmap Templates to support structured governance review, tracking, and handover.

- i. **Define Key Implementation Activities and Milestones:** Translate the tool onboarding into a series of clearly structured phases, activities and sub-activities.
 - a. Define phases such as:
 - Procurement and vendor onboarding
 - Installation and configuration
 - Integration with data platforms and security systems
 - User training and tool launch
 - Post-launch monitoring and support

3.1.2.E
Cont.
(2/2)

- b. For each phase, define high-level milestones and break them into specific implementation activities (e.g., connect to data sources, configure user roles)
- c. Ensure all key activities are consistent with tool requirements and deployment best practices

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., Data Strategy Expert or Program Manager)
 - Implementation team (IT, data scientists, data engineers, vendor)
- b. Document stakeholder responsibilities, 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, onboarding)
 - 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:**

- 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, status, and interdependencies etc.
- c. Review both templates with the Statistics and Analytics Working Group and prepare them for submission



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 analytics tool implementation is transparent, accountable, and aligned with prior planning activities.

3.1.2.F

Approve Statistics and Analytics Tool Budget and Roadmap: Once the statistics and analytics 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 Data Strategy Expert shares the finalized plan with the Data Committee for consideration.
 - a. Submit the approved Initiative Card and Roadmap Template prepared in 3.1.2.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.



Key Message / Information

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

3.1.2.G
(1/2)

Share Statistics and Analytics Tool Implementation Plan with DGO: Following internal approval, the Entity must submit the finalized Statistics and Analytics 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 Data Strategy Expert 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).

3.1.2.G
Cont.
(2/2)

- 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 analytics platform and model governance oversight efforts.

RACI Matrix – Statistics & Analytics Tools

Indicative

Sr No.	Activity	DGO	Data Management and Security Director	Data Architecture and Analytics Section Head	Statistics and Analytics Working Group	Data Strategy Expert
3.1.2.A	Initiate and Plan Statistics and Analytics Tools Selection		A/R	I	I	C
3.1.2.B	Specify Statistics and Analytics Tool Features		A	I	R/C	R
3.1.2.C	Select Software Shortlist for Statistics and Analytics Tool:		A	I	R	R
3.1.2.D	Recommend Software for Statistics and Analytics Tool		A	C	R	R
3.1.2.E	Develop Statistics and Analytics Tool Implementation Plan		A	C	C	R
3.1.2.F	Approve Statistics and Analytics Tool Budget and Roadmap		A	I	I	R
3.1.2.G	Share Statistics and Analytics Tool Implementation Plan with DGO	I/C	A	I	I	R

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

Based on this Activity, the Entity can



Specify Statistics and Analytics Tool Features



Select Statistics and Analytics Tools

3.2 Reporting and Dashboards Design Principles

This activity guides the Entity in establishing standardized design principles for reports and dashboards, ensuring statistical and analytical outputs are consistent, accessible, and aligned with stakeholder needs. It focuses on defining the visual, functional, and structural standards for presenting insights across descriptive, diagnostic, predictive, and prescriptive outputs. These design principles enhance usability, facilitate evidence-based decision-making, and maintain a coherent visual identity aligned with national and entity-level branding guidelines.

Process – Reporting and Dashboards Design Principles

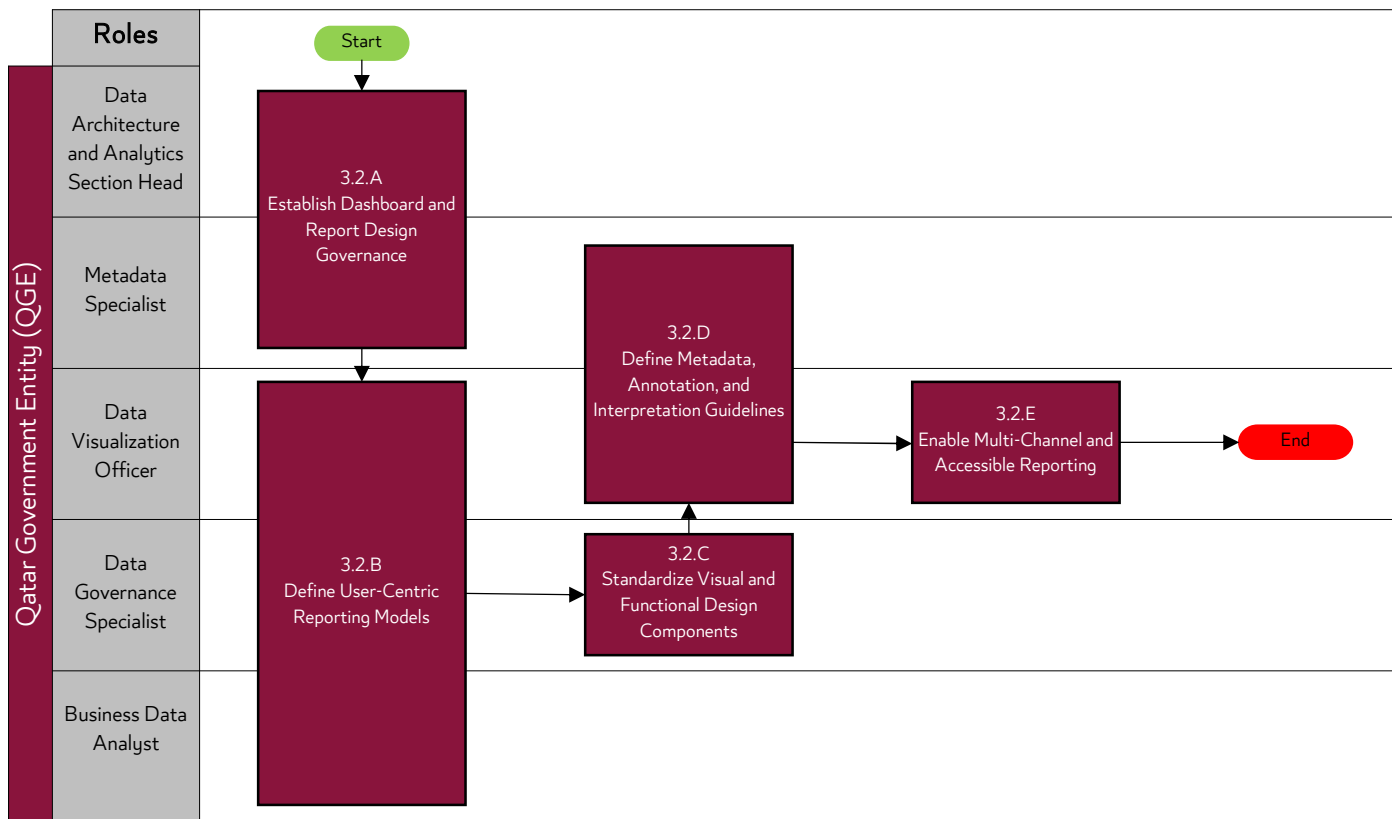


Figure 10: Reporting and Dashboards Design Principles Process Map

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

3.2.A

Establish Dashboard and Report Design Governance: Develop a governance framework for designing, maintaining, and reviewing all dashboards and statistical reports to ensure alignment with visual identity standards, data governance policies, and design principles. This includes standard templates, branding elements, and guidelines. The Data Architecture and Analytics Section Head is responsible for executing this step in collaboration with the Metadata Specialist and Data Visualization Officer, and in consultation with the Data Governance Specialist.

- i. **Define standardized templates and structural components:** Create reusable templates to unify layout, structure, and logic across reports and dashboards.
 - a. Develop report and dashboard templates by use case type
 - Standardize for strategic dashboards, operational reports, KPI summaries, narrative insights
 - Include mandatory sections (e.g., title, timestamp, summary KPIs, entity logo)
 - b. Define standard placement of components
 - Fixed positions for filters, legends, annotations, and footnotes
 - Consistent layout of KPIs and visualizations (e.g., grid, cards, flow)
 - c. Embed export-friendly formatting
 - Design templates for export to PDF, Excel, or PowerPoint with minimal distortion
- ii. **Enforce branding and visual identity guidelines:** Ensure that all visual outputs conform to the Entity's official branding and visual accessibility policies.
 - a. Define color palettes and typography schemes
 - Specify approved primary and secondary color codes, font types and sizes
 - Use color-safe palettes (colorblind-friendly, print-safe)
 - b. Enforce placement of entity logos, watermarks, and legends
 - Mandate header/footer layout with branding elements embedded in templates
 - Require use of entity identity elements in all official reports
- iii. **Define governance and quality assurance rules for design:** Implement controls to ensure templates and visual design guidelines are followed consistently across teams and updates.
 - a. Establish a design review and approval process
 - Assign a steward or reviewer to validate templates before publishing
 - Define sign-off workflow for official dashboards or public-facing reports
 - b. Maintain a centralized design asset library
 - Store all approved templates, style guides, icons, and reusable components in a controlled repository
 - Version control all assets and maintain release history
 - c. Conduct periodic reviews and audits of report compliance
 - Include visual standard checks in quality assurance cycles for analytics outputs
 - Log violations and corrective actions in metadata or release documentation

3.2.B
(1/2)

Define User-Centric Reporting Models: Tailor dashboard and report designs based on user personas, decision-making contexts, data literacy levels, and access needs to ensure the outputs are intuitive, relevant, and actionable for each audience. This includes segmenting users by roles, designing for information consumption preferences, and embedding interactivity and customization where required. The Data Visualization Officer is responsible for executing this step in collaboration with the Business Data Analyst and Data Governance Specialist, and in consultation with Data Owners from key departments.

- i. **Identify and profile reporting user personas:** Segment and document the primary types of users who consume dashboards and statistical reports across the Entity.
 - a. Classify users based on roles and decision-making levels
 - Examples: Executive leadership, operational managers, policy analysts, technical specialists
 - Consider national users (e.g., regulators), internal users, and public consumers if relevant
 - b. Document user personas and their characteristics
 - For each persona: objectives, pain points, preferred metrics, technical comfort, frequency of use
 - Note required granularity, visualization style preference, and level of interactivity
 - c. Validate personas with representative stakeholders
 - Conduct short interviews, validation workshops, or surveys with users from each group
 - Adjust personas based on real-world input and evolving needs
- ii. **Define dashboard/report variants based on user groups:** Create differentiated output views that serve the unique needs of each identified persona.
 - a. Design executive-level dashboards for quick decision insights
 - Focus on high-level KPIs, trends, summary views, red/green indicators
 - Include narrative text and auto-generated insights to reduce interpretation burden
 - b. Design operational dashboards for drill-down and monitoring
 - Offer multi-level views (e.g., by department, region, timeframe)
 - Provide data filters, export capabilities, and event alerts where needed
 - c. Enable technical views for analysts and data scientists
 - Provide granular data access, raw data export, and deep dive charts
 - Include metadata tooltips, version info, and model-based outputs (e.g., forecasts, confidence intervals)
- iii. **Incorporate customization and personalization features:** Allow users to adjust and personalize their reporting experience within defined governance boundaries.
 - a. Provide filter, sort, and parameter adjustment options

3.2.B
Cont.
(2/2)

- Let users explore dimensions (e.g., by date, location, sector) based on access rights
- Define default filter sets per user type to simplify usage
- b. Enable saved views, scheduled emails, and subscription alerts
 - Let users save specific report views and set up scheduled notifications
 - Include export scheduling (e.g., PDF to inbox weekly)
- c. Apply role-based access control (RBAC) to all outputs
 - Ensure that users only see data and filters relevant to their access tier
 - Align with data privacy, confidentiality, and entity-specific access policies

3.2.C
(1/2)

Standardize Visual and Functional Design Components: Define and enforce visual and interactive design standards for all dashboards and reports to ensure consistency, clarity, and usability. This includes specifying approved chart types, layout grids, color schemes, filter designs, interaction patterns, and annotation methods across all analytical outputs. The Data Visualization Officer is responsible for executing this step in consultation with the Metadata Specialist, the Data Governance Specialist, and Information Security and Risk Management Section Head.

- i. **Define a standardized set of visual elements:** Create and publish a design language covering all core visual building blocks used in analytics outputs.
 - a. Specify approved chart types and use cases
 - Define when to use bar charts, pie charts, line graphs, heat maps, scatter plots, gauges, etc.
 - Include guidance on avoiding misleading or ineffective visualizations
 - b. Establish standard KPI display formats
 - Use consistent formatting for percentages, currency, decimals, thresholds
 - Include labels, targets, and conditional formatting for performance (e.g., red/green/yellow indicators)
 - c. Set layout and alignment guidelines
 - Define grid structure, alignment rules, padding/margin specifications
 - Standardize title placements, legend positions, and whitespace rules
- ii. **Create a reusable library of functional components:** Develop reusable UX patterns for interactivity, navigation, and functionality across all reports.
 - a. Standardize filters, slicers, and dropdown behaviors
 - Use uniform designs and placements for multi-select filters, toggles, date pickers
 - Ensure all filters respect user roles and RBAC policies
 - b. Define common navigation structures
 - Tabs, breadcrumbs, accordions, or page selectors depending on use case
 - Ensure a consistent top-down experience from summary to detail view

3.2.C
Cont.
(2/2)

- c. Establish standards for tooltips, annotations, and drill-downs
 - Tooltip text must include variable name, definition, last update date
 - Drill-downs should follow consistent logic (e.g., region → department → unit)
- iii. **Apply accessibility, readability, and localization standards:** Ensure dashboards and reports are inclusive, readable, and adaptable to different user needs and languages.
 - a. Apply color accessibility rules
 - Avoid color-only encoding (e.g., red/green)
 - Validate palettes with color contrast and colorblind accessibility checkers
 - b. Standardize font types, sizes, and hierarchy
 - Use approved fonts with consistent size progression for headings, subheadings, and data labels
 - Avoid excessive variation across outputs
 - c. Enable multilingual rendering and date/number formatting
 - Support both Arabic and English labels, filters, and tooltips
 - Use locale-aware formatting for currencies, dates, and metrics

3.2.D
(1/2)

Define Metadata, Annotation, and Interpretation Guidelines: Establish clear rules for presenting metadata, explanatory notes, assumptions, and methodological context alongside all dashboards and reports. This ensures that users can correctly interpret the data, understand limitations, and assess fitness for purpose across all statistical and analytical outputs. The Metadata Specialist is responsible for executing this step in coordination with the Data Visualization Officer and in consultation with the Data Quality Specialist and Business Data Analyst.

- i. **Define metadata display standards for visualizations and indicators:** Ensure that each data element, indicator, or visualization is accompanied by core metadata to support transparency and traceability.
 - a. Define mandatory metadata fields to display
 - Variable name, definition, data source, last updated date, calculation formula
 - Displayed either as tooltips, footnotes, or metadata panels
 - b. Standardize metadata placement across dashboard components
 - Use consistent icons, toggles, or collapsible panels for in-context metadata
 - Maintain uniform positioning (e.g., info icons next to chart titles)
- ii. **Provide guidance for data interpretation and narrative annotations:** Support users in making accurate inferences from the data by embedding clear commentary and contextual cues.
 - a. Embed plain-language summary notes and key takeaways
 - Highlight insights, anomalies, or changes directly in the dashboard body
 - Use dynamic text based on thresholds (e.g., "KPI X increased by 12% from last month")

3.2.D
Cont.
(2/2)

- b. Document known limitations and caveats
 - Include disclaimers about coverage, data delays, granularity, or estimation methods
 - Use expandable sections or hover notes for non-disruptive display
 - c. Provide references to external methodologies or technical documents
 - Link to supporting guides, standards (e.g., GSBPM, statistical classification manuals)
 - Tag indicators with methodology versions and contact points
 - iii. **Enable metadata multilingualism and policy compliance:** Ensure all metadata is accessible in Arabic and English and adheres to the national data standards.
 - a. Translate metadata definitions and labels into both languages
 - Ensure consistent translation of concepts, units, and classifications
 - Use glossaries validated by the Entity and recognized nationally
 - b. Ensure metadata presentation complies with the National Data Standards
 - Include data classification, sensitivity tags, and disclosure status where applicable
 - Display data license or usage rights for each indicator if relevant
 - c. Apply ethical and statistical disclosure considerations to annotations
 - Avoid language that may lead to misinterpretation or breach confidentiality
 - Validate annotations with subject matter experts before publishing

3.2.E
(1/2)

Enable Multi-Channel and Accessible Reporting: Design dashboards and reports to be accessible across multiple delivery channels (web, mobile, print, and API). This ensures that data insights are usable and inclusive for all internal and external stakeholders, regardless of platform, device, language, or ability. The Data Visualization Officer is responsible for executing this step in consultation with the Data Architecture and Analytics Section Head, Information Security and Risk Management Section Head, and Data Governance Specialist.

- i. **Optimize reporting outputs for multiple channels and formats:** Ensure that dashboards and reports maintain integrity and usability whether viewed on screen, printed, or exported.
 - a. Ensure mobile-responsive dashboard design
 - Apply adaptive layouts and responsive grids for different screen sizes
 - Minimize horizontal scrolling, enable swipe-based navigation, and optimize touch targets
 - b. Design printable and exportable versions
 - Create print-friendly layouts that preserve visual hierarchy and metadata
 - Standardize export options (PDF, Excel, PPT) with preconfigured formatting and resolution

3.2.E
Cont.
(2/2)

- c. Enable integration with data APIs and external systems
 - Expose relevant dashboards or report views as embeddable widgets or via API feeds
 - Document API endpoints and ensure data filtering options align with platform rules

ii. **Apply accessibility design principles:** Ensure reporting outputs are usable by people of all abilities and in compliance with recognized accessibility frameworks.

- a. Comply with WCAG 2.1 Level AA accessibility guidelines
 - Include text alternatives for non-text content, ensure color contrast, and provide keyboard navigation
 - Avoid using color as the sole means of conveying information
- b. Support screen reader and assistive technology compatibility
 - Use semantic HTML and ARIA labels for report components
 - Ensure chart components have accessible labels, summaries, and metadata tags
- c. Avoid cognitive overload and enhance readability
 - Limit the number of visual elements per view; use progressive disclosure techniques
 - Apply visual hierarchy through spacing, alignment, and consistent design logic

iii. **Enable multilingual presentation and localization:** Design dashboards and reports to be usable in both Arabic and English, while respecting cultural context, data formatting norms, and right-to-left layout rules.

- a. Provide full bilingual switching capability
 - Include a language toggle with synchronized label, tooltip, and metadata translations
 - Validate the accuracy of Arabic terminology
- b. Support locale-aware number, currency, and date formatting
 - Automatically adjust digit grouping, decimal separators, and calendar formats per language
 - Reflect cultural norms (e.g., week start days, Hijri/Gregorian calendar overlays where needed)
- c. Align layout direction with language choice
 - Use left-to-right alignment for English and right-to-left alignment for Arabic
 - Ensure layout mirroring does not break visual alignment or interactivity

RACI Matrix - Reporting and Dashboards Design Principles

Indicative

Sr No.	Activity	Data Management & Security Director	Data Architecture and Analytics Section Head	Information Security and Risk Management Section Head	Data Governance Specialist	Metadata Specialist	Data Visualization Officer	Business Data Analyst	Data Owners	Data Quality Specialist
3.2.A	Establish Dashboard and Report Design Governance	A	R		C	R	C			
3.2.B	Define User-Centric Reporting Models		A		R		R	R	C	
3.2.C	Standardize Visual and Functional Design Components	I	A	C	C	R	R			
3.2.D	Define Metadata, Annotation, and Interpretation Guidelines	I	A			R	R	C		C
3.2.E	Enable Multi-Channel and Accessible Reporting		A/C	C	C		R			

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

Based on this Activity, the Entity can



Standardize report and dashboard templates across teams and use cases



Align reporting visuals with user needs, policies, and accessibility standards



Enable consistent, multilingual, multi-channel delivery of statistical and analytics insights

4. Statistics and Analytics Implementation



4. Statistics and Analytics Implementation

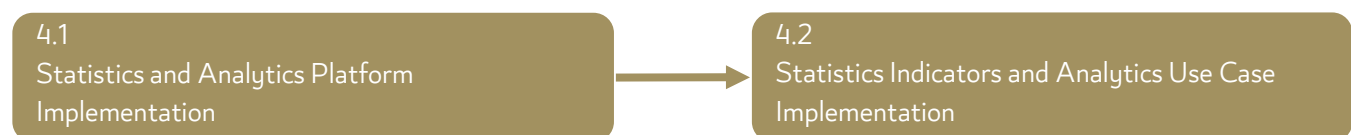
What does Statistics and Analytics Implementation involve, and why is it important for the Entity?

Statistics and Analytics Implementation enables the Entity to fully operationalize its analytics environment and deliver measurable outputs. It covers the structured implementation of both enabling infrastructure (platform and tools) and content (use cases and indicators), ensuring readiness across technology, data, metadata, and users. Implementation activities follow approved plans and sequencing logic developed during Section 2 and 3, and are executed within secure, validated environments governed by national data standards.

The section is composed of four integrated activities that guide the Entity from deployment to sustained delivery:

- **Statistics and Analytics Platform Implementation:** Deploys and validates the centralized analytics platform, integrating with upstream sources and preparing it for content onboarding.
- **Statistics and Analytics Tools Implementation:** Configures selected statistics and analytics tools and ensures they are ready to support approved indicators, use cases, and workflows.
- **Analytics Use Case Implementation:** Delivers prioritized analytics use cases through data preparation, exploratory data analysis, logic development and modeling (if applicable), tuning (if applicable), output rendering, and publication to the Statistics and Analytics Platform.
- **Statistics Indicator Implementation:** Implements validated indicators through data transformation, visualization, and metadata publication, and publishes them to the Statistics and Analytics Platform with ongoing monitoring and update cycles.

Together, these activities ensure the Entity's analytics capabilities are securely delivered, business-ready, and maintained for continuous value and insight delivery.



Guiding Principles for Statistics and Analytics Implementation

1. **Launch with Real, Validated Content:** Ensure the Statistics and Analytics platform and tools go live with tested use cases or indicators to demonstrate value and enable immediate adoption.
2. **Integrate Platform, Tool, and Content Delivery:** Align platform infrastructure, analytics tools, and implementation plans to enable seamless execution of analytics and indicator outputs.
3. **Apply Structured Development Workflows:** Follow structured, phased steps for logic development, metadata tagging, visualization, and validation to ensure outputs are accurate and interpretable.
4. **Design for Usability and Interpretability:** Prioritize layout, contextual guidance, and metadata to ensure analytics results are understandable, trustworthy, and easy to explore.
5. **Enforce Governance and Role-Based Access:** Configure access controls and publication rules based on data sensitivity, classification, and user roles to protect content integrity.
6. **Support Long-Term Maintenance and Improvement:** Embed monitoring, update triggers, and ownership structures to ensure that platforms, tools, and content remain reliable and relevant over time.

4.1 Statistics and Analytics Platform Implementation

Activity 4.1 guides the Entity through implementing its Statistics and Analytics Platform and selected tools. It includes infrastructure setup, UI development, feature deployment, integration, testing, and transition to operations. This ensures the full technology stack is built, connected, and ready to deliver indicators and analytics use cases at scale.

4.1.1 Statistics and Analytics Platform Implementation

This activity guides the Entity through the end-to-end implementation of the Statistics and Analytics Platform. It covers infrastructure setup, system integration, front-end development, testing, and launch. The steps ensure the platform is technically sound, user-ready, and aligned with the approved design, roadmap, and national requirements. Post-launch monitoring and operational transition are also established to support sustained platform performance.

Process – Statistics and Analytics Platform Implementation

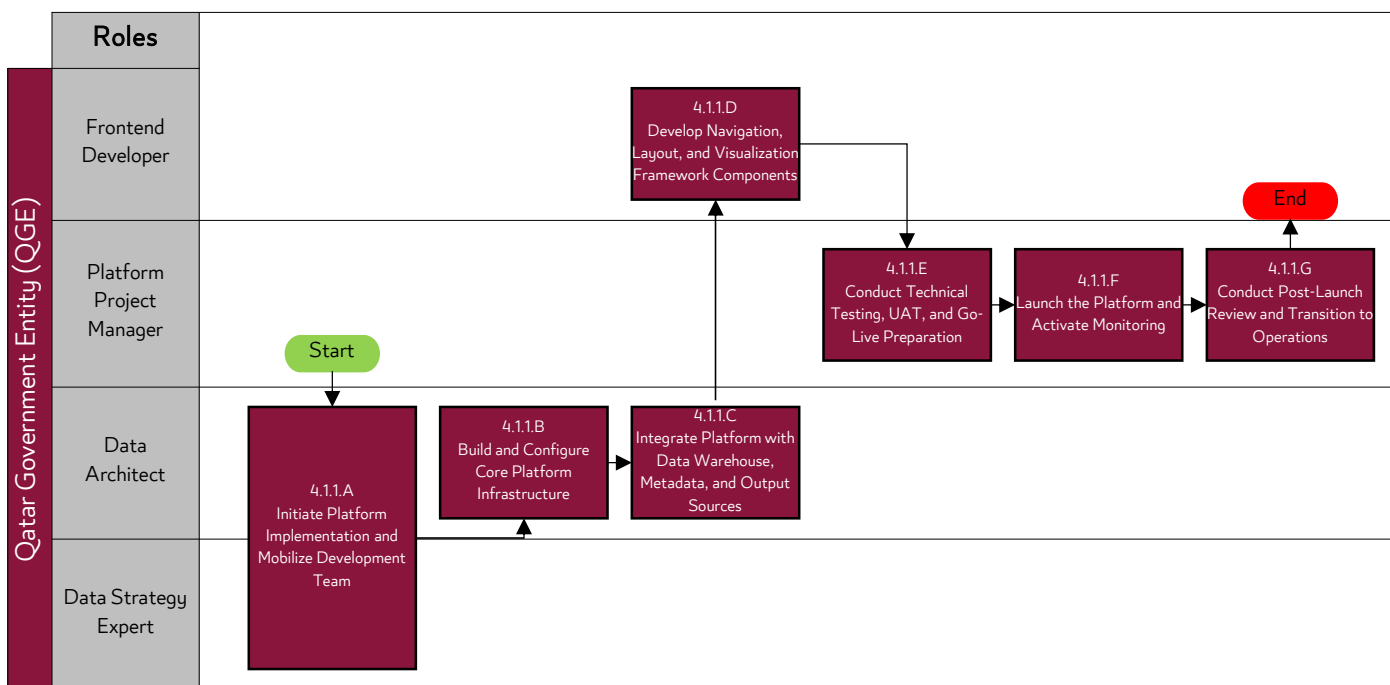


Figure 11: Statistics and Analytics Platform Implementation Process Map

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

4.1.1.A
(1/2)

Initiate Platform Implementation and Mobilize Development Team: This step formally launches the implementation of the statistics and analytics platform by confirming readiness to execute the approved roadmap, mobilizing the delivery team, and establishing execution oversight. The Entity must ensure that planning outputs from Section 3.1.1, including the platform design, Initiative Card, and Roadmap, are fully approved and available before implementation begins.

This step also sets up internal and external coordination structures, activates technical and development resources, and initiates cross-functional collaboration aligned to the broader statistics indicator and analytics use case delivery timeline (Section 4.2). The Data Strategy Expert leads this step, with implementation leadership from the Data Architect (serving as Implementation Team Lead), and support from technical and delivery roles.

4.1.1.A
Cont.
(2/2)

- i. **Confirm implementation readiness and transition from planning:** The Platform Project Manager validates that all prerequisites for implementation have been met.
 - a. Confirm that the Initiative Card and Roadmap were approved in 3.1.1. Validate that funding, hosting environments, and resource allocations are in place
 - b. Ensure all relevant design deliverables (e.g., architecture diagrams, UI mockups, access controls) are handed over to the implementation team
- ii. **Mobilize the platform implementation team:** The Implementation Team Lead (Data Architect) confirms and activates development resources.
 - a. Assign the following roles (which may be internal or external):
 - **Frontend Developer:** builds the platform interface
 - **Backend Developer:** develops backend logic and APIs (may be supplemented by Data Engineer for data connectivity tasks)
 - **UI/UX Designer:** finalizes layouts, user flow, and interaction experience
 - **Tester / QA:** supports validation of functionality, data display, and security
 - b. Confirm accountability and RACI for each component of the build
 - c. Establish shared communication, code repository, and documentation environments
- iii. **Conduct a platform implementation kickoff session:** The Platform Project Manager leads a working session to align the full delivery team.
 - a. Present the approved roadmap, sequencing, and deliverables
 - b. Review dependencies with statistics indicator and analytics use case delivery (Section 4.2) and tool enablement (Section 4.1.2)
 - c. Define escalation procedures, milestone check-ins, and change control processes



Key Message / Information

A structured and well-resourced kickoff ensures that platform implementation begins with clear leadership, functional coverage, and readiness to deliver a secure, user-facing analytics experience.

4.1.1.B
(1/3)

Build and Configure Core Platform Infrastructure: This step involves building and configuring the technical infrastructure required to support the Statistics and Analytics Platform. It covers the setup of hosting environments, backend services, system-level access controls, and reusable platform components. The infrastructure must be ready to securely ingest, serve, and display statistical and analytical outputs once they are implemented in Section 4.2.

Rather than linking to specific use cases or indicators (which will be delivered later), this step focuses on preparing a flexible, scalable foundation that enables seamless onboarding of content in subsequent phases. The Implementation Team Lead (Data Architect) leads this step, supported by the Backend Developer, Data Engineer, and Platform Project Manager.

A

4.1.1.B
Cont.
(2/3)

- i. **Provision and configure hosting environments:** The Data Architect and Backend Developer establish the environments required for development, testing, and production.
 - a. Provision and configure DEV, UAT, and PROD environments
 - Ensure hosting aligns with Entity IT policy and architecture
 - Configure environment controls, resource allocation, and containerization logic
 - b. Implement environment-specific network security and access controls
 - Ensure hosting aligns with Entity IT policy and architecture
 - Configure environment controls, resource allocation, and containerization logic
 - c. Set up environment-specific deployment workflows
 - Establish CI/CD pipelines and rollback protocols
 - Automate deployment sequencing from DEV to UAT to PROD
- ii. **Implement core backend services and platform runtime logic:** The Backend Developer and Data Engineer implement reusable services and system logic to support data interaction and platform functionality.
 - a. Set up data integration pipelines to:
 - Connect the platform to the Data Warehouse for structured outputs
 - Allow retrieval of analytics outputs from processing environments
 - Link to metadata services for indicator/use case definitions and lineage
 - b. Implement backend services to support future content rendering:
 - Generic APIs to retrieve and display dashboards or indicator outputs
 - Modular content schemas to enable dynamic display (titles, tags, descriptions)
 - Lightweight caching and refresh logic (e.g., scheduled pull of data snapshots)
 - c. Design reusable backend components that can be connected to future outputs in Section 4.2
 - Ensure routing and rendering logic is generic, not tied to any specific use case or indicator at this stage
- iii. **Configure system operations and platform-level services:** The Platform Project Manager and Implementation Team Lead ensure platform operations can be managed effectively.
 - a. Enable monitoring and platform health reporting
 - Set up metrics for uptime, latency, and failure rates
 - Define alerting thresholds and escalation paths
 - b. Configure administrative functions
 - Content publishing dashboard
 - Access rights management console
 - Versioning and deployment tracking tools

4.1.1.B
Cont.
(3/3)

- c. Set up centralized audit logging and session tracing
 - Ensure traceability of key user actions and administrative changes
 - Store logs in a secure, queryable format for audit and analytics
- iv. **Implement role-based access and authentication protocols:** The Data Architect and Platform Project Manager establish secure access controls based on platform roles defined in 3.1.1.D.
 - a. Set up user authentication via existing IAM or SSO systems
 - b. Define access tiers:
 - Viewer (read-only)
 - Contributor (upload/update)
 - Administrator (full control)
 - c. Ensure support for data-level access constraints if needed (e.g., department-specific dashboards or content segmentation)



Key Message / Information

This step prepares the technical foundation for the Statistics and Analytics Platform without binding it to specific use cases or indicators. The infrastructure must be scalable, secure, and flexible — ready to receive and display content developed in 4.2.

4.1.1.C
(1/3)

Integrate Platform with Data Warehouse, Metadata, and Output Sources: This step implements the integration layer that connects the Statistics and Analytics Platform to its upstream data and insight sources. The integration must support secure, traceable access to both structured datasets and pre-generated insights, whether hosted internally (e.g., Data Warehouse, analytics services) or externally (e.g., BI platforms, APIs). The platform must also integrate with the Entity's metadata catalog, enabling contextual descriptions to be displayed alongside content in the user interface.

These integrations prepare the platform to consume outputs once implemented in 4.2, but do not include any content-specific rendering logic at this stage. The Implementation Team Lead (Data Architect) leads this step, supported by the Backend Developer, Data Engineer, and Platform Project Manager.

- i. **Integrate with the Entity's Data Warehouse:** The Data Engineer and Backend Developer configure secure, structured access to curated datasets hosted in the Entity's Data Warehouse.
 - a. Establish read-only access to data warehouse outputs through:
 - Database views or data marts
 - REST or GraphQL APIs
 - Shared object storage endpoints (e.g., secure file exports)
 - b. Define how the platform will query or fetch data for future indicators and use cases:
 - Parameterized queries for on-demand dashboards
 - Scheduled jobs for batch retrieval and caching
 - Event-driven triggers, if required for real-time updates

A

- c. Implement technical safeguards:
 - Row-level security, user token validation, and dataset-level permissions
 - Connection pooling or retry logic to ensure platform stability
 - Monitoring to detect failed queries or stale content
- d. Validate end-to-end flow using dummy or test datasets
 - Ensure the platform can retrieve, parse, and preview structured data

ii. **Enable integration with business intelligence and external analytics platforms:** The Backend Developer implements connectors and rendering hooks to bring in external dashboards and analytics outputs.

- a. Connect to BI tools (e.g., Power BI, Tableau):
 - Embed dashboards using secure iframe, SDKs, or URL tokenization
 - Use BI platform APIs to retrieve report metadata, thumbnails, or exportable data
 - Define user-level or content-level visibility rules for embedded views
- b. Integrate with internal or external analytical platforms:
 - Access scoring tables, prediction outputs, or clustering results stored in external systems
 - Use APIs, REST endpoints, or object storage links (e.g., JSON, CSV, Parquet)
 - Support connection to both static and dynamic output stores (e.g., versioned model outputs)
- c. Build standardized ingestion logic for common formats:
 - Tabular data (CSV, Excel)
 - API responses (JSON, XML)
 - Pre-rendered visual assets (e.g., graphs, maps, dashboards)
- d. Validate integration by simulating basic fetch-and-display cycles
 - Use mock or test dashboards to confirm embed compatibility
 - Confirm access controls apply correctly to external data views

iii. **Integrate with the Metadata Catalog and classification systems:** The platform must display metadata alongside every indicator and use case, ensuring traceability, interpretability, and compliance.

- a. Connect to the Metadata Catalog or registry via:
 - REST APIs or database joins
 - Schema-based lookup tables for tags, units, update frequency, sources
- b. Define metadata rendering logic in the platform:
 - Display descriptions, calculation methods, classifications inline with dashboards
 - Support pop-up cards, expandable metadata panels, or icon-based tooltips
- c. Validate metadata pairing logic:

4.1.1.C
Cont.
(3/3)

- Each data asset (future indicator/use case) must support metadata linkage by ID or tag
- Confirm graceful fallback when metadata is incomplete or unavailable

iv. **Apply integration-level security, logging, and compliance controls:** The Platform Project Manager and Data Governance Specialist enforce cross-system integration governance.

- a. Secure each integration endpoint individually:
 - Enforce access token authentication and HTTPS encryption
 - Apply role-based access to dashboards, APIs, and datasets
- b. Log all integration events, including:
 - Dataset accessed, dashboard rendered, API called, by which user and when
 - Errors, dropped packets, or timeouts
- c. Ensure all data sources follow Entity-level compliance policies:
 - No sensitive data pulled into public-facing modules
 - Audit trail must track source system ID, version, and retrieval time



Key Message / Information

The platform must flexibly connect to multiple backend systems — including the Data Warehouse, BI tools, and analytical platforms — to enable dynamic delivery of statistical and analytical outputs. These integrations must be secure, reusable, and metadata-aware, so that once content is implemented in 4.2, the platform can publish it without technical blockers.

4.1.1.D
(1/2)

Develop Navigation, Layout, and Visualization Framework Components: This step involves building the front-end structure and user interface components of the Statistics and Analytics Platform. It includes developing the navigation experience, page layouts, reusable dashboard containers, and display logic that will later be populated with statistical indicators and analytics use cases in Section 4.2.

The objective at this stage is not to render final dashboards, but to construct the UI and visualization framework, the containers, templates, and interaction logic that will enable smooth onboarding of real content once it becomes available. The Frontend Developer leads this step, supported by the UI/UX Designer, Platform Project Manager, and Implementation Team Lead (Data Architect).

- i. **Build the navigation structure and menu system:** The Frontend Developer and UI/UX Designer define how users will move through the platform and access different types of content.
 - a. Implement top-level navigation and page structure:
 - Landing page
 - Indicator catalog
 - Use case library
 - Metadata/help/about pages
 - b. Develop sub-navigation and page routing logic:
 - Support filtering by domain, theme, or strategic area
 - Implement breadcrumb trails or sidebars for deep navigation

A

4.1.1.D
Cont.
(2/2)

- c. Configure dynamic loading rules for page content
 - Placeholder or loading state until content is added in Section 4.2
- ii. **Develop reusable dashboard and content containers:** The frontend team builds flexible, modular UI components for rendering analytics and indicator outputs.
 - a. Create reusable components for:
 - KPI cards, scorecards, trend charts, map visualizations
 - Forecasts, risk scores, model outputs
 - Metadata panels and calculation descriptions
 - b. Ensure components can be dynamically populated once outputs are connected in Section 4.2
 - Design APIs or rendering logic to consume pre-integrated data and metadata
 - c. Apply consistent layout standards
 - Align with government branding and design language
 - Support responsive design for different devices (desktop, tablet, mobile)
- iii. **Design and implement content browsing and search capabilities:** The frontend team builds flexible, modular UI components for rendering analytics and indicator outputs.
 - a. Build a searchable catalog view for indicators and use cases
 - Include filters (by sector, type, frequency, tag)
 - Add pagination, sorting, and visual preview options
 - b. Prepare search indexing logic to support scalable filtering
 - Content will be indexed dynamically once populated in Section 4.2
 - c. Implement logic to display metadata previews in search results
 - Title, summary, last updated, and data quality tag (if available)
- iv. **Validate framework usability with stakeholders:** The Platform Project Manager coordinates an internal review of the front-end structure..
 - a. Conduct a walkthrough session with core business users, analysts, and data governance leads
 - b. Collect feedback on layout, navigation clarity, and usability
 - c. Refine UI elements based on feedback and finalize component library for 4.2 onboarding



Key Message / Information

This step builds the reusable front-end framework that enables future onboarding of indicators and analytics use cases. Designing and validating the layout, navigation, and visualization logic at this stage ensures the platform is user-friendly, scalable, and content-ready.

4.1.1.E
(1/2)

A

Conduct Technical Testing, UAT, and Go-Live Preparation: This step ensures that the Statistics and Analytics Platform is stable, secure, and functionally ready for launch. It includes structured testing of all infrastructure components, integrations, and user interface features. While most indicators and analytics use cases will be implemented through Section 4.2, a select set of initial content may be developed in parallel and used to validate the platform's readiness during testing and UAT.

The platform must be fully functional and integrated, and it must include at least a few implemented indicators or analytics use cases prior to launch. The platform must not be launched as an empty shell. Additional content may be onboarded after launch through a phased approach as the rest of 4.2 progresses. The Platform Project Manager leads this step, with support from the Tester/QA, Frontend Developer, Backend Developer, and Business Data Analyst.

- i. **Conduct technical testing of platform infrastructure and integrations:** The Tester/QA validates the end-to-end technical readiness of all deployed components.
 - a. Test backend services and data integrations:
 - Confirm API responsiveness, data warehouse connectivity, and metadata retrieval
 - Simulate data fetches from BI tools or analytics platforms using test objects
 - b. Validate platform authentication, access control, and user provisioning:
 - Test SSO login, user role assignment, and role-based content visibility
 - c. Conduct performance and reliability testing:
 - Load test core pages and APIs under simulated traffic
 - Monitor error handling, latency, and uptime stability
- ii. **Execute User Acceptance Testing (UAT) using available content:** The Platform Project Manager coordinates structured UAT with business users using real indicators and use cases implemented in parallel through 4.2.
 - a. Prepare UAT test cases that reflect expected user journeys:
 - Search and filter content
 - View indicator dashboards and analytics outputs
 - Access metadata, definitions, and download functionality
 - b. Assign UAT testers from key stakeholder groups:
 - Policy, planning, analytics, and governance functions
 - c. Capture feedback and triage issues into severity levels:
 - High (blocking), Medium (usability), Low (cosmetic or deferred)
- iii. **Fix defects and finalize configuration settings:** The development team resolves all issues identified during technical testing and UAT.
 - a. Address high and medium priority defects and validate fixes
 - b. Finalize platform configurations, including:

4.1.1.E
Cont.
(2/2)

- Refresh intervals and caching logic
- Logging and monitoring thresholds
- Branding elements, help links, and language settings

iv. **Confirm go-live readiness with real content onboarded:** The Platform Project Manager leads a final review and internal sign-off process.

- a. Confirm that at least one implemented indicator (from 4.2.2) or one analytics use case (from 4.2.1) is live and functioning on the platform
- b. Ensure all integrations (data, metadata, outputs) are stable and operational
- c. Complete the go-live readiness checklist, including:
 - Technical sign-off
 - UAT completion
 - Security review
 - Launch authorization



Key Message / Information

The platform must not launch without real content. At least a few implemented indicators or analytics use cases must be available to users at go-live. User Acceptance Testing should be conducted using these live outputs where available, even as additional content is developed and onboarded after launch.

4.1.1.F
(1/2)

Launch the Platform and Activate Monitoring: This step involves officially launching the Statistics and Analytics Platform into its live production environment. The platform must include at least a few fully implemented indicators or analytics use cases (from Sections 4.2.1 and 4.2.2) at the time of launch. It should not go live as an empty shell. Additional content may be onboarded over time through a phased rollout, but users must be able to access meaningful insights from day one.

This step covers production deployment, platform access announcement, activation of real-time monitoring, and establishment of feedback and support processes. The Platform Project Manager leads this step, with support from the Implementation Team Lead (Data Architect), Backend Developer, Frontend Developer, and Business Data Analyst.

- i. **Deploy the platform to the production environment:** The technical team finalizes the platform release and activates it for user access.
 - a. Promote the tested platform from UAT to the production environment
 - b. Execute a final smoke test to confirm infrastructure, access, and data availability
 - c. Ensure the following are live and functioning
 - At least one implemented indicator and/or analytics use case
 - Metadata, access control, and display logic
 - Platform homepage, search, and navigation
- ii. **Announce the platform launch and notify users:** The Platform Project Manager and Data Strategy Expert lead internal communications and user onboarding.

A

4.1.1.F
Cont.
(2/2)

- a. Distribute launch communication (e.g., email, intranet notice) with:
 - Platform URL
 - List of available indicators/use cases
 - User guides and support contacts
 - b. Offer platform onboarding materials:
 - Recorded demos, live walkthroughs, or help articles
 - Contact points for feedback, enhancement requests, or access issues
 - c. Clearly state that additional indicators and use cases will be added through an ongoing rollout plan
- iii. **Activate platform monitoring and performance tracking:** The Backend Developer and Platform Administrator implement monitoring tools to track usage, availability, and error conditions.
- a. Monitor system uptime, page response times, and backend service health
 - b. Track API and data integration performance (data loads, error rates, latency)
 - c. Enable user behavior analytics (page views, filters used, most visited dashboards)
- iv. **Establish feedback channels and operational support:** The Platform Project Manager sets up mechanisms to support and improve the platform post-launch.
- a. Launch a support inbox, service ticket tracker, or feedback form
 - b. Document an internal escalation path for technical issues and content-related questions
 - c. Schedule regular check-ins with business teams to prioritize feedback, new content onboarding, and UI refinements



Key Message / Information

The platform must launch with real, working content. At least a few implemented indicators or analytics use cases must be present at go-live to ensure usefulness and credibility. Additional content may be added over time through a phased onboarding process aligned with Section 4.2.

4.1.1.G
(1/2)

Conduct Post-Launch Review and Transition to Operations: This step ensures that the Statistics and Analytics Platform is actively monitored and supported following launch, and that any post-launch issues, feedback, or enhancement needs are tracked and resolved. It also establishes the handover to ongoing operations and support teams to manage the platform beyond the implementation phase.

The Entity must assess initial performance, validate user experience, and prepare for the structured onboarding of additional indicators and analytics use cases through the content rollout defined in Section 4.2. The Platform Project Manager leads this step, with support from the Data Architect, Platform Administrator, Business Data Analyst, and relevant operations teams.

- i. **Monitor platform stability, performance, and content access:** The technical team and platform administrator review early usage patterns and ensure core functions are working as expected.
 - a. Track key system health metrics during the first week's post-launch:

A

4.1.1.G
Cont.
(2/2)

- Uptime, latency, error logs, and integration availability
 - User login trends and session durations
- b. Confirm that published indicators and use cases are loading correctly and metadata is rendering as expected
 - c. Ensure no unauthorized access or platform performance degradation is occurring
- ii. **Collect structured user feedback and prioritize improvements:** The Business Data Analyst and Platform Project Manager engage end users to gather real-world feedback.
 - a. Launch a feedback survey or schedule user interviews with key roles (e.g., analysts, planners, decision-makers)
 - b. Document user pain points, feature requests, and usability gaps
 - c. Categorize all feedback by severity and impact for backlog grooming
 - iii. **Establish operational ownership and maintenance workflows:** The Platform Project Manager ensures a smooth transition to business-as-usual operations.
 - a. Assign long-term ownership for:
 - Platform performance monitoring
 - Minor updates, bug fixes, and user management
 - Integration maintenance and API/key management
 - b. Define escalation paths for major incidents and support requests
 - c. Confirm responsibility for coordinating new content onboarding (from 4.2) is assigned and documented
 - iv. **Plan and communicate the phased content rollout schedule:** The Data Strategy Expert works with 4.2 teams to coordinate future content onboarding.
 - a. Confirm which additional indicators and use cases are targeted for onboarding in the next cycle
 - b. Align content release waves with analytics delivery and business timelines
 - c. Publish a content roadmap to users, indicating when new dashboards, indicators, or insights will become available



Key Message / Information

Post-launch isn't the end — it's the beginning of the platform's operational life. A structured review, clear ownership model, and phased content onboarding schedule will ensure long-term platform value, continuous improvement, and alignment with business needs.

RACI Matrix – Statistics and Analytics Platform Implementation

Indicative

Sr No.	Activity	Data Management and Security Director	Data Architecture and Analytics Section Head	Frontend Developer	Backend Developer	UI/UX Designer	Platform Project Manager	Tester/QA	Data Architect	Business Data Analyst	Data Strategy Expert	Data Engineer
4.1.1.A	Initiate Platform Implementation and Mobilize Development Team	I	A				C		R		R	
4.1.1.B	Build and Configure Core Platform Infrastructure		A				C		R			C
4.1.1.C	Integrate Platform with Data Warehouse, Metadata, and Output Sources		A				C		R			C
4.1.1.D	Develop Navigation, Layout, and Visualization Framework Components		A	R		C	C		C			
4.1.1.E	Conduct Technical Testing, UAT, and Go-Live Preparation		A	C	C		R	C	C	C		
4.1.1.F	Launch the Platform and Activate Monitoring		A	C	C		R		C	C		
4.1.1.G	Conduct Post-Launch Review and Transition to Operations						R		C	C		

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

Based on this Activity, the Entity can

- ✓ Build secure platform infrastructure and integration services using approved technical components
- ✓ Develop and validate front-end layout, navigation, and visualization framework for users
- ✓ Launch the platform with live content and enable support, monitoring, and onboarding

4.1.2 Statistics and Analytics Tools Implementation

This activity guides the Entity through the implementation of the statistics and analytics tool(s) selected in Activity 3.1.2. These tools may support a wide range of analytical functions including exploratory data analysis (EDA), descriptive and diagnostic analytics, statistical modeling, machine learning development and tuning, and the design and publishing of dashboards and analytical outputs. The implementation process ensures that the selected tools are securely deployed, properly integrated with data and metadata systems, and fully operational to support the development and delivery of analytics use cases and statistical indicators.

The steps in this activity cover infrastructure setup, feature configuration, integration with data and governance systems, user onboarding, environment validation, and transition to operational use. Successful completion ensures that analytics teams have a fit-for-purpose toolset to execute and publish insights aligned with the Entity's analytics roadmap.

Process – Statistics and Analytics Tools Implementation

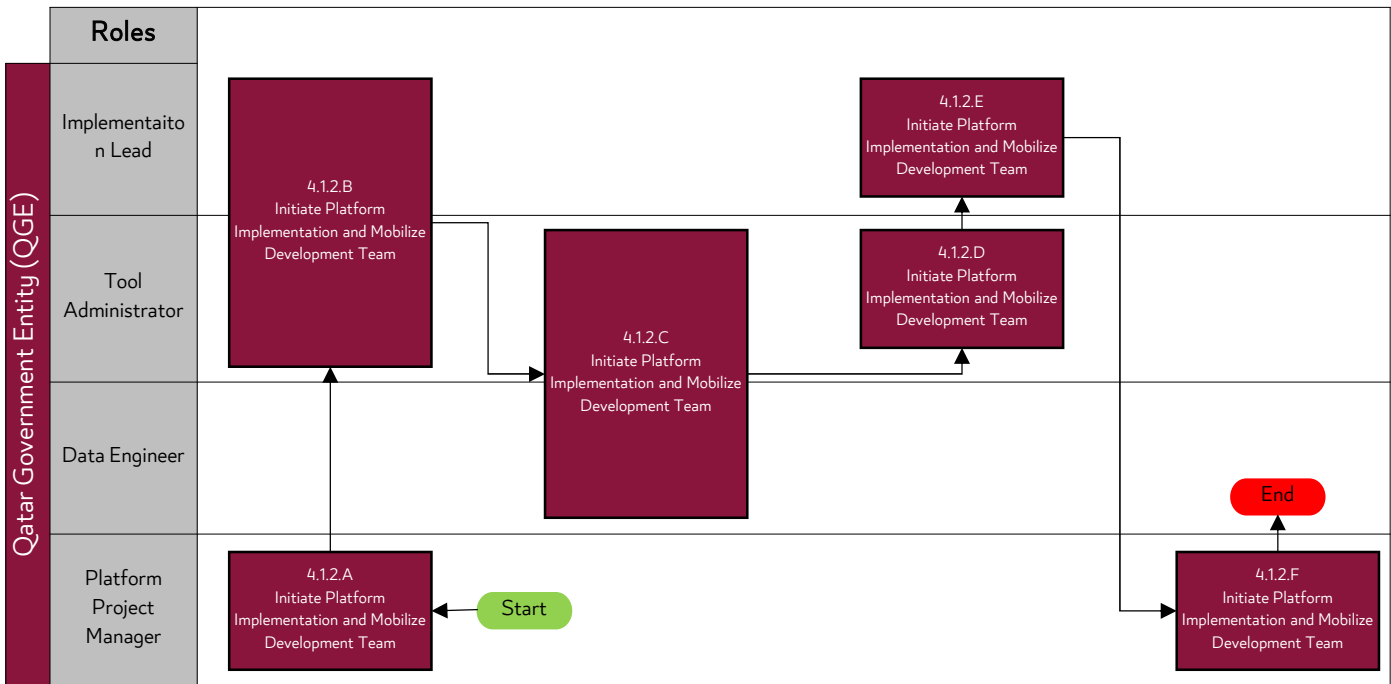


Figure 12: Statistics and Analytics Tools Implementation Process Map

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

4.1.2.A
(1/2)

Confirm Implementation Plan and Align Tool Deployment with Use Case Needs: This step initiates the implementation of the statistics and analytics tool(s) selected in 3.1.2 by confirming the implementation scope, assigning delivery roles, and aligning technical setup with the requirements of statistics and analytics use cases.

Unlike generic tool onboarding, this activity ensures that the selected tool(s) are deployed in direct support of developing, testing, and delivering analytics use cases and statistical indicators, as outlined in Activities 4.2.1 and 4.2.2. It also ensures that tool functionality, whether it involves data modeling, visualization, workflow automation, or dashboarding, directly maps to the Entity's analytics use case delivery model. The Platform Project Manager leads this step, supported by the Data Strategy Expert, Tool Administrator, and relevant technical and functional roles from the use case delivery team.

4.1.2.A
Cont.
(2/2)

- i. **Confirm implementation scope and link tool features to analytics use case stages:** The Project Manager and Data Strategy Expert review the tool implementation roadmap (from 3.1.2) in the context of the Entity's analytics pipeline.
 - a. Confirm:
 - Purpose of the tool (e.g., exploratory data analysis, model development, dashboarding)
 - Hosting model and access boundaries
 - Core features that will support use case delivery (e.g., notebooks, scoring modules, visualization layouts)
 - b. Map those features to the use case lifecycle:
 - Data exploration and profiling
 - Indicator/statistics calculation
 - Feature engineering and modeling
 - Result publishing and dashboard embedding
 - c. Align tool configuration timing with 4.2.1 and 4.2.2 delivery milestones
- ii. **Assign core implementation roles based on use case relevance:** The Project Manager and Implementation Lead assemble a delivery team with direct visibility into analytics development.
 - a. Assign the following roles:
 - Tool Administrator (access provisioning, workspace setup)
 - Data Engineer (integration with sources required for use cases)
 - Business Data Analyst (align tool setup with use case business logic)
 - Frontend or Visualization Developer (if the tool supports dashboard delivery)
 - b. Assign one or more Use Case Implementation Team Members as early testers and functional validators
- iii. **Confirm integration requirements and dependencies with analytics delivery:** The Data Architect and Implementation Lead identify any preconditions that could delay use case onboarding.
 - a. Confirm:
 - Data source connections needed to support use case and indicator logic (from 2.4)
 - Output handoff to the Statistics and Analytics Platform (4.1.1)
 - Metadata requirements (e.g., lineage, definitions, classifications)
 - b. Ensure that tool configuration will enable early use case testing by the time 4.2.1 and 4.2.2 enter development



Key Message / Information

Tool implementation must directly support the delivery of analytics use cases and indicators. This step ensures the tool is not configured in isolation, but rather embedded within the Entity's analytics delivery lifecycle, from data to insight to output.

4.1.2.B
(1/2)

A

Deploy Infrastructure and Enable Use Case-Ready Features: This step sets up the technical foundation required to support statistics and analytics use case development within the selected tool. It includes provisioning environments, enabling key features that directly support analytics workflows, and assigning secure, role-based access to the implementation team.

Whether the tool supports data science, statistical modeling, or dashboarding, the infrastructure and functionality must be configured with direct alignment to the Entity's indicator and analytics delivery roadmap. This ensures that teams working on use cases (4.2.1) and indicators (4.2.2) can begin development without delay. The Implementation Lead and Tool Administrator lead this step, supported by the Data Architect, Data Engineer, and Security or IT Operations as needed.

- i. **Deploy the tool infrastructure and provision analytics environments:** The Implementation Lead coordinates the setup of all required environments to support analytics workflows.
 - a. Provision dedicated environments to support development, testing, and production
 - **Development:** for building, experimenting, and iterating use case logic
 - **Production:** for publishing validated outputs to end users
 - **Optional staging/sandbox:** for testing before release
 - b. **For cloud/SaaS tools:** configure workspaces, compute tiers, storage, and autoscaling settings
 - c. **For on-prem/hybrid tools:** coordinate installation, licensing, and system health checks
- ii. **Enable core features aligned to analytics use case development and delivery:** The Tool Administrator enables capabilities that directly support the full lifecycle of statistics and analytics use cases, from early data exploration to modeling, visualization, and publishing. Feature activation must reflect the intended use cases and the roles of users interacting with the tool.
 - a. Enable EDA and analysis features for early-stage insight discovery:
 - Interactive exploration environments (e.g., notebooks or visual analysis modules)
 - Support for descriptive statistics, correlations, distributions, outlier detection
 - Side-by-side comparisons, dynamic filtering, and visual summaries to support business interpretation
 - b. Enable modeling, scoring, and advanced analytical development tools:
 - Scripting or drag-and-drop modules for building statistical models and machine learning workflows
 - Hyperparameter tuning, cross-validation tools, and experiment tracking
 - Support for both automated and manual model development workflows
 - c. Enable dashboarding, reporting, and output configuration modules:
 - Reusable dashboard layouts, custom visualizations, and result formatting options
 - Output scheduling, version management, export formats (CSV, JSON, API)
 - Publishing workflows with approval steps and role-based access to published outputs
 - d. Enable collaboration, auditability, and governance controls:

4.1.2.B
Cont.
(2/2)

- Version history and rollback for scripts, notebooks, dashboards, and models
- Shared workspaces with user- or team-level permissions
- Execution logs, run history, and action traceability for governance compliance

iii. **Configure user access and assign implementation roles:** The Tool Administrator provisions accounts and permissions for the analytics delivery team.

- a. Grant access to:
 - Data Scientists, Business Analysts, Model Developers, Dashboard Designers, and Reviewers
- b. Apply role-based permissions (e.g., viewer, editor, publisher, admin)
- c. Enforce SSO login, access logging, and user provisioning controls per Entity security standards

iv. **Perform initial tool readiness validation using a basic analytics workflow:** The Implementation Lead performs a light test of feature functionality and environment integrity.

- a. Simulate a simple use case workflow, such as:
 - Loading sample data
 - Running a script or model
 - Generating a dashboard or output
 - Saving and publishing results
- b. Validate that access, feature usage, and output handoff behave as expected
- c. Resolve technical blockers before use case development begins in 4.2.1

4.1.2.C
(1/2)

Integrate with Data Sources, Metadata, and Output Destinations: This step ensures that the selected statistics and analytics tool is fully integrated into the Entity's broader analytics ecosystem. These integrations must support the full execution lifecycle of indicator and analytics use cases including secure data access, exploratory and statistical analysis, logic or model development, tuning and optimization, evaluation and validation, output generation, interpretability enrichment, and structured publishing to end-user platforms.

Integrations must be secure, and scalable. They must allow analytics teams to work with real production data, adhere to metadata standards, and operationalize outputs in alignment with the platform, governance, and publishing requirements. The Data Engineer and Tool Administrator lead this step, with support from the Data Architect, Platform Project Manager, and Data Governance Specialist.

i. **Integrate the tool with required input data sources:** The Data Engineer configures secure, governed access to the datasets required for analytics use case development.

- a. Establish connections to relevant sources such as:
 - The Entity's Data Warehouse
 - Structured files or curated data zones (e.g., SQL, Parquet, Excel)
 - Approved external APIs or shared repositories (if permitted)

A

- b. Validate:
 - Performance of large dataset queries
 - Compatibility with the tool's ingestion formats
 - Appropriate permissions for use case team roles
 - c. Configure reusable data connections that align with use case sourcing plans (2.4)
- ii. **Connect the tool to metadata and governance systems:** The Tool Administrator ensures analytics assets built within the tool can reference and contribute to the Entity's metadata standards.
 - a. Integrate with the Metadata Catalog to:
 - Retrieve approved definitions, classifications, indicator descriptions, and tags
 - Display or embed metadata within dashboards, notebooks, or models (where supported)
 - b. Register analytics outputs — such as models, reports, dashboards — with metadata fields such as:
 - Use case ID, owner, refresh frequency, version history, and data lineage
 - c. Apply entity-wide tagging, classification, and quality indicators to all published assets
- iii. **Configure output publishing and delivery workflows:** The Implementation Lead connects the tool to the target systems that will consume analytics outputs.
 - a. Set up delivery mechanisms to:
 - The Statistics and Analytics Platform (via API, data drop, iframe, or export)
 - Departmental reporting portals or internal operational systems
 - External-facing content portals (if applicable and approved)
 - b. Enable export formats appropriate to each output type:
 - Structured files (CSV, JSON), embedded visuals (API), formatted reports (PDF, Excel)
 - c. Ensure publishing aligns with update cycles and content approval workflows
- iv. **Validate integrations using a representative analytics workflow:** The Implementation Team tests all major integration points using a real or sample use case.
 - a. Perform an end-to-end simulation:
 - Load data → execute logic/model → generate output → attach metadata → publish result
 - b. Confirm all expected outputs are:
 - Accessible by downstream systems
 - Properly tagged with metadata
 - Secure, traceable, and compliant with platform governance
 - c. Log integration success and note any remaining technical dependencies

4.1.2.D
(1/2)

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Onboard Users and Deliver Training or Enablement Materials: This step focuses on onboarding the relevant user groups into the statistics and analytics tool and equipping them with the skills, access, and resources required to deliver, test, or consume analytics use cases and statistical outputs. The onboarding process must be tailored to each user's functional role — whether as a data scientist building models, a business analyst developing dashboards, or a reviewer validating published results.

Training should cover the tool's environment structure, available features, integration with data and metadata systems, and publishing procedures. The goal is to reduce time-to-productivity for users involved in 4.2.1 and 4.2.2 and to ensure that platform usage is secure. The Tool Administrator leads this step, with support from the Business Data Analyst, Data Strategy Expert, and Use Case Owners.

- i. **Provision access and assign users to appropriate roles:** The Tool Administrator configures access in accordance with the delivery team structure defined in 4.1.2.A.
 - a. Provision user accounts for:
 - Business Analysts, Dashboard Designers, Reviewers, Use Case Owners
 - b. Assign role-based permissions (e.g., admin, editor, viewer, publisher)
 - Limit access to production or sensitive environments based on user scope
 - c. Configure team workspaces or project folders to support cross-role collaboration
- ii. **Develop and distribute role-specific training materials:** The Business Data Analyst curates onboarding content aligned to actual use case development and validation tasks.
 - a. For technical users (e.g., modelers, dashboard developers):
 - Provide tutorials, walkthroughs, or reference projects that mirror Entity-specific use case types
 - b. For reviewers or business users (e.g., Use Case Owners, QA leads):
 - Deliver short videos, annotated dashboards, or live walkthroughs that focus on interpretation, metadata, and validation checkpoints
 - c. If available, leverage vendor training or sandbox exercises to accelerate readiness
- iii. **Facilitate guided onboarding sessions for key user groups:** The Tool Administrator and Data Strategy Expert host targeted enablement sessions.
 - a. Conduct introductory sessions for each role group, walking through core workflows
 - Example: building and publishing a use case output from start to finish
 - b. Gather immediate feedback on usability, missing permissions, or unclear workflows
 - c. Share FAQs, user guides, and help desk contact details
- iv. **Monitor early adoption and adjust access or training as needed:** The Implementation Lead ensures that onboarding leads to productive tool usage.

4.1.2.D
(2/2)

- a. Review usage metrics and logs for new users
- b. Identify users who are blocked or inactive and follow up with additional support
- c. Update training materials based on recurring questions or challenges

**Key Message / Information**

Successful use case delivery depends on users being able to confidently use the analytics tool. Onboarding must be role-specific, use case-aligned, and focused on helping teams move quickly from access to insight delivery in a secure, supported environment.

4.1.2.E
(1/2)

Validate Tool Readiness with Test Use Case or Simulation: This step confirms that the configured tool is fully capable of supporting statistics and analytics use case development and publishing, as required in 4.2.1 and 4.2.2. The Entity must conduct a structured walkthrough using a test use case or simulated workflow that mirrors a real-world scenario, such as developing a model, designing a dashboard, or executing an indicator computation, from start to finish.

This validation is not a generic system test. It is a targeted rehearsal of how teams will use the tool to deliver analytics content. The goal is to identify blockers, validate functionality, and confirm readiness for full-scale adoption. The Implementation Lead coordinates this step, with active participation from one or more Business Data Analysts, Data Scientists, or Dashboard Developers, depending on the tool's primary use.

- i. **Select a representative test use case or scenario:** The Implementation Lead defines a test case that reflects the tool's intended use.
 - a. Choose a sample use case that covers the tool's expected functionality:
 - Model development and scoring
 - Dashboard or report creation
 - Statistical transformation or indicator calculation
 - b. If possible, use a previously detailed use case or indicator from 2.3.1 or 2.3.2
 - c. Ensure the test case exercises all key integrations (data input, metadata tagging, publishing)
- ii. **Simulate a full end-to-end development workflow:** The assigned testers run through the scenario using their actual roles and permissions.
 - a. Access the tool and retrieve input data through the configured integration
 - b. Build the output using typical steps (e.g., script, workflow, dashboard)
 - c. Annotate, review, and publish the output to the designated target (e.g., platform)
- iii. **Validate access, security, and governance compliance:** The Tool Administrator monitors for misconfigurations or policy violations.
 - a. Check that role-based access is correctly enforced at each step

A

4.1.2.E
Cont.
(2/2)

- b. Ensure that audit logs are captured for data access, transformations, and publication actions
- c. Confirm metadata and classification tags appear correctly where expected

iv. **Capture feedback, resolve blockers, and finalize readiness:** The Implementation Lead and Project Manager collect findings from the testers.

- a. Categorize observations into:
 - Critical issues, minor usability gaps, and post-launch enhancement ideas
- b. Resolve all high-priority issues and retest as needed
- c. Document test results, confirm readiness, and approve transition to operational use (Step 4.1.2.F)



Key Message / Information

Validating tool readiness through a realistic analytics workflow confirms that users can actually deliver insights, not just access features. This step ensures that the environment is not only technically sound, but also functionally aligned to the way statistics and analytics use cases will be developed and published.

4.1.2.F
(1/2)

Transition Tool to Operational Use and Define Support Model: This step transitions the configured statistics and analytics tool into operational use. It establishes the long-term ownership model, defines technical support and maintenance responsibilities, and ensures the tool is embedded into the Entity's analytics delivery processes. The focus shifts from configuration and testing to sustained usage, monitoring, and enablement, allowing analytics and statistics use cases to be continuously developed and published using the tool.

All operational procedures, including content refresh, user support, system monitoring, and future enhancement planning, must be formally documented and assigned. The Platform Project Manager leads this step, supported by the Tool Administrator, Data Strategy Expert, and the designated Operational Owner of the tool.

- i. **Assign long-term operational ownership and accountability:** The Platform Project Manager designates responsibility for ongoing tool operations.
 - a. Confirm the operational owner (team or individual) responsible for:
 - User provisioning and access requests
 - First-line support and troubleshooting
 - Coordination of upgrades and vendor interactions (if applicable)
 - b. Document escalation paths for technical issues, data access failures, or feature outages
 - c. Define who owns content lifecycle policies (e.g., dashboard retirement)
- ii. **Establish user support and knowledge management processes:** The Tool Administrator sets up support mechanisms for ongoing user needs.

A

4.1.2.F
Cont.
(2/2)

- a. Launch a support inbox, help desk ticketing workflow, or internal Slack/Teams channel
 - b. Maintain a central repository of:
 - User guides, how-to videos, FAQs, and configuration documentation
 - c. Set expectations for response times and support levels (e.g., Level 1 vs. Level 2)
- iii. **Implement monitoring, health checks, and governance controls:** The Operational Owner and Data Architect define how the tool's performance will be tracked and governed.
 - a. Configure system health dashboards and alerts for:
 - Downtime, failed jobs, refresh delays, resource bottlenecks
 - b. Establish regular audits for:
 - Access rights, usage trends, and adherence to data governance standards
 - c. Review analytics activity logs to identify unused content or feature adoption gaps
- iv. **Integrate tool operations into analytics delivery lifecycle:** The Data Strategy Expert embeds the tool into ongoing analytics project planning.
 - a. Ensure new use case implementation (4.2.1) and indicator development (4.2.2) workflows reference the tool as the delivery environment
 - b. Include the tool in onboarding checklists for new analytics staff
 - c. Align tool maintenance windows with publishing deadlines and data refresh cycles



Key Message / Information

Transitioning the tool to operational use ensures it becomes a sustainable part of the Entity's analytics operating model. Ongoing support, ownership, and integration into project workflows are essential to maximize tool value and enable continuous delivery of statistics and analytics use cases.

RACI Matrix – Statistics and Analytics Tools Implementation

Indicative

Sr No.	Activity	Data Management and Security Director	Data Architecture and Analytics Section Head	Dashboard Developers	Use Case Owners	Data Governance Specialist	Platform Project Manager	Tool Administrator	Implementation Lead	Data Architect	Business Data Analyst	Data Strategy Expert	Data Engineer
4.1.2.A	Confirm Implementation Plan and Align Tool Deployment with Use Case Needs	I					R	C				C	
4.1.2.B	Deploy Infrastructure and Enable Use Case-Ready Features	I	A					R	R	C			C
4.1.2.C	Integrate with Data Sources, Metadata, and Output Destinations	i	A			C	C	R		C			R
4.1.2.D	Onboard Users and Deliver Training or Enablement Materials		A		C			R			C	C	
4.1.2.E	Validate Tool Readiness with Test Use Case or Simulation		A	C					R		C		
4.1.2.F	Transition Tool to Operational Use and Define Support Model	I	A				R	C				C	

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

Based on this Activity, the Entity can

- ✓ Deploy statistics and analytics tools aligned with indicator and use case delivery requirements and workflows
- ✓ Integrate tools with data, metadata, and publishing platforms securely and reliably
- ✓ Transition tools into supported, operational use with clear roles and controls

4.2 Statistics Indicators and Analytics Use Case Implementation

This Activity guides the Entity through the technical implementation of approved analytics use cases and statistics indicators. It ensures that each output is sourced, calculated, visualized, and published on the Statistics and Analytics Platform with validated metadata, aligned with earlier design and planning steps. The section also establishes monitoring, update, and retraining processes to maintain long-term quality and usability.

4.2.1 Analytics Use Case Implementation

This step guides the Entity through the full implementation of prioritized analytics use cases, including descriptive, diagnostic, predictive, and prescriptive types. Each use case is implemented based on the charter developed in 2.2.1, the implementation plan from 2.3.1, and the data sourcing approach from 2.4.

Use case implementation includes sourcing and preparing data, conducting exploration and analysis, building logic or models, configuring outputs, rendering visualizations, and publishing the results through the Statistics and Analytics Platform.

Process – Analytics Use Case Implementation

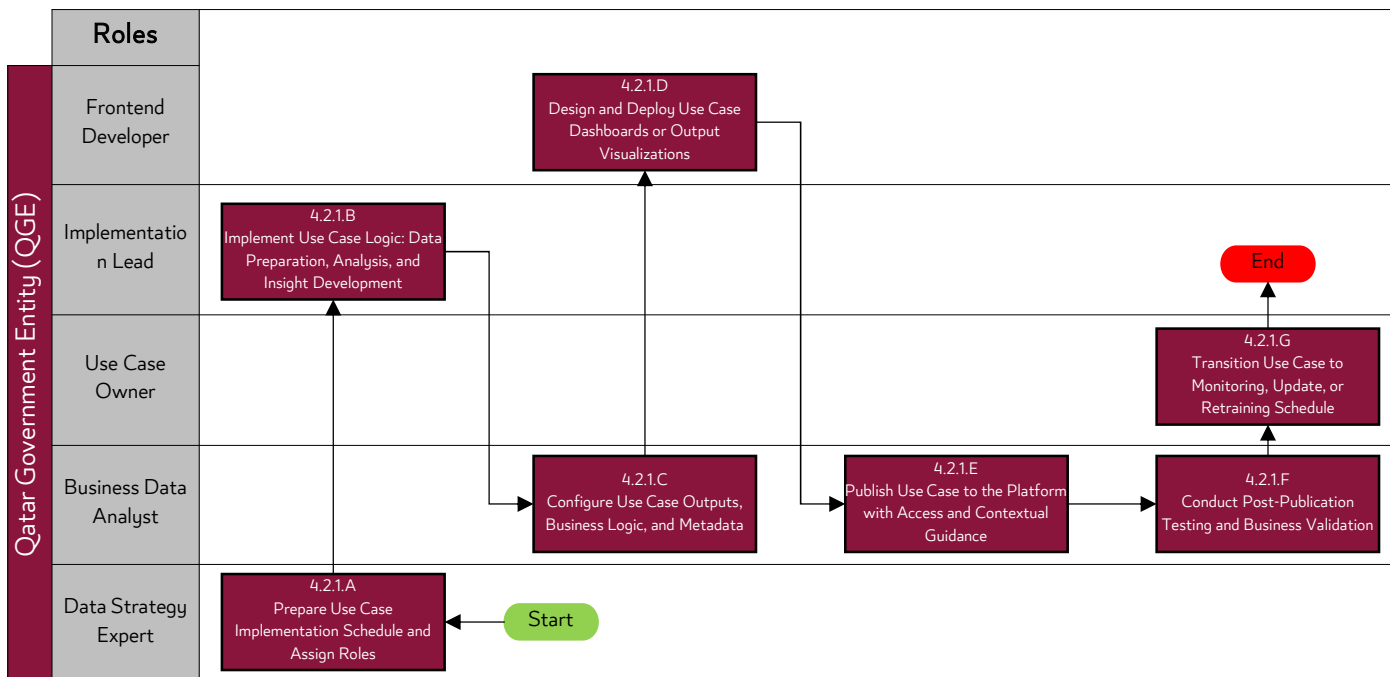


Figure 13: Analytics Use Case Implementation Process Map

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

4.2.1.A
(1/3)

Prepare Use Case Implementation Schedule and Assign Roles: This step initiates the execution of prioritized analytics use cases by confirming the delivery timeline, role assignments, and readiness to proceed. It translates the approved implementation plan from 2.3.1 into a sequenced delivery schedule aligned with platform availability and data readiness.

This step does not redefine the implementation roadmap or roles already developed in 2.3.1, but instead, it operationalizes them by confirming delivery phasing, final team assignments, and execution timing. It serves as the practical starting point for build activities across all analytics use case types. The Data Strategy Expert leads this step with support from the Use Case Owner, Data Engineer, Business Data Analyst, and Data Architect.

A

4.2.1.A
Cont.
(2/3)

- i. **Review prioritized use cases and confirm implementation order:** The Data Strategy Expert reviews the use case implementation plan from 2.3.1 to confirm delivery sequence.
 - a. Confirm the use case prioritization based on the previous defined implementation plan
 - Validate alignment with business needs and data readiness
 - Identify use cases suitable for early onboarding to the platform
 - b. Group use cases based on shared data pipelines, visualization needs, or development effort
 - c. Flag any dependencies on platform features or metadata structures not yet available
- ii. **Confirm core delivery roles for each use case:** The Data Strategy Expert and Use Case Owner confirm responsible teams and final implementation leads.
 - a. Assign or confirm the following roles:
 - Use Case Owner (business lead accountable for value delivery)
 - Business Data Analyst (requirements validation and UAT coordination)
 - Data Engineer (pipeline and data transformation development)
 - Data Scientist / Analyst (analysis, modeling, and logic development)
 - Data Architect (integration and infrastructure alignment)
 - Data Visualization Officer/Frontend Developer (dashboard or visualization rendering, if needed)
 - b. Confirm primary Implementation Lead per use case
 - c. Define communication and escalation paths for each role
- iii. **Develop the updated use case delivery timeline and align with platform availability:** The Implementation Lead defines the updated detailed delivery schedule using the previously defined roadmap from 2.3.1.
 - a. Map the implementation phases of each use case based on its type. Use case workflows may differ based on their analytical classification:
 - For descriptive or diagnostic use cases:
 - Data sourcing and preparation
 - Exploratory analysis and summary logic development
 - Output formatting (e.g., aggregations, time series, segments)
 - Visualization and publishing
 - For predictive or prescriptive use cases:
 - Data sourcing and preparation
 - Exploratory Data Analysis (EDA)
 - Feature engineering
 - Model selection, training, and tuning
 - Model validation and evaluation
 - Scoring/output generation
 - Visualization and publishing
 - Each timeline must reflect the complexity and analytical depth of the use case.

4.2.1.A
Cont.
(3/3)

b. Confirm availability of input data and metadata

- Availability of input data and metadata
- Platform component readiness

iv. Update the roadmap created in 2.3.1 to reflect the latest implementation timing, overlaps, and dependencies

- Adjust roadmap entries to align with current resourcing and delivery constraints
- Ensure implementation steps are synchronized with Section 4.1 readiness

**Key Message / Information**

A clear and realistic use case implementation schedule, tailored to the type, scope, and complexity of each use case, ensures that analytics delivery is coordinated, resource-aligned, and integrated into the broader statistics and analytics platform strategy.

4.2.1.B
(1/2)

Implement Use Case Logic: Data Preparation, Analysis, and Insight Development. This step involves transforming each use case from a defined charter into a functional analytical asset. The Entity conducts data preparation, analysis, modeling (if applicable), and logic development using the tools and pipelines defined in earlier planning phases. This process ensures the analytics output is reliable, interpretable, and aligned with business needs.

The implementation approach varies depending on whether the use case is descriptive (e.g., profiling, time trends), diagnostic (e.g., segmentation, correlation), predictive (e.g., forecasts, risk scores), or prescriptive (e.g., recommendations, optimizations). All types follow a structured workflow but differ in technical depth and complexity. The Implementation Lead for each use case (typically the Data Scientist, Business Data Analyst, or Data Engineer, depending on the case type) leads this step, with oversight from the Use Case Owner and support from the Data Architect.

i. **Prepare and transform data based on the use case sourcing plan:** The Data Engineer and Analyst prepare the dataset(s) for analysis and insight generation.

- a. Retrieve and validate input data based on 2.4 (Use Case Data Sourcing Plan)
- b. Perform data cleaning, transformation, and enrichment steps
 - Remove duplicates, handle missing values, normalize formats
 - Join multiple sources if required (e.g., registry + survey data)

c. Apply filters, date ranges, or segmentation logic as defined in the use case charter

ii. **Conduct exploratory analysis and generate descriptive insights:** The Business Data Analyst or Data Scientist explores the prepared data to identify trends and relationships.

- a. Profile distributions, averages, growth rates, seasonality, etc.
- b. Generate comparisons across groups or time periods
- c. Visualize key patterns to inform downstream logic or modeling
- d. Identify outliers, anomalies, or gaps that impact analysis validity

A

4.2.1.B
Cont.
(2/2)

- iii. **Develop use case logic or modeling approach based on type:** The Business Data Analyst or Data Scientist develops the core logic of the use case.
 - a. For descriptive or diagnostic use cases:
 - Build formulas, aggregations, or rules to compute key metrics
 - Implement segmentation logic (e.g., customer groupings, drivers of change)
 - Use statistical tests to validate hypotheses (e.g., correlation, significance testing)
 - b. For predictive or prescriptive use cases:
 - Engineer features from raw data (e.g., ratios, temporal features, dummy variables)
 - Select and train appropriate model types (e.g., regression, tree-based, clustering)
 - Tune models using grid search, cross-validation, or Bayesian optimization
 - Document modeling assumptions and business relevance
 - c. Record intermediate results and retain reproducibility scripts or logic
- iv. **Evaluate outputs and validate insight accuracy:** The team tests whether the results make sense both technically and in the business context.
 - a. For descriptive/diagnostic outputs:
 - Sanity check calculations
 - Validate indicator directionality (e.g., trends, rankings)
 - Review group or time comparisons with domain experts
 - b. For predictive/prescriptive outputs:
 - Use performance metrics (e.g., accuracy, AUC, precision, recall, RMSE)
 - Conduct business validation (e.g., are top segments or risk scores explainable?)
 - Review error cases and edge conditions

**Key Message / Information**

This step transforms data into insight. Whether through dashboards, segmentation, forecasts, or recommendations, each use case must produce clear, accurate outputs that are technically sound, explainable, and ready for visualization and publishing in subsequent steps.

4.2.1.C
(1/2)

Configure Use Case Outputs, Business Logic, and Metadata: This step finalizes the presentation structure, supporting metadata, and contextual guidance for each implemented analytics use case. It ensures that the output is interpretable by users, properly tagged, and compliant with data governance standards. This includes defining variable names, explanations, units, classifications, business logic, assumptions, and any model interpretability elements (where applicable).

This step bridges the gap between technical development (4.2.1.B) and visualization (4.2.1.D), ensuring that every use case output is ready for secure, metadata-rich publication on the Statistics and Analytics Platform. The Business Data Analyst leads this step with support from the Data Scientist or Data Engineer (depending on use case type), in coordination with the Use Case Owner and the Data Governance Specialist.

A

4.2.1.C
Cont.
(2/2)

- i. **Define output structure and user-facing result tables:** The Business Data Analyst documents and prepares the layout of the analytics output for display.
 - a. Define fields or variables to be displayed, including:
 - Labels, units, formatting, and classification hierarchies
 - Indicators, segments, predictions, scores, rankings, or recommendations
 - b. Create sample result tables (for tabular outputs) or structured JSON/CSV (for interactive displays)
 - c. Document input/output schema if results will be served via API or file download
- ii. **Translate technical logic into business-facing descriptions:** The use case logic must be understandable by end users, not just analysts.
 - a. Document:
 - What the use case answers (business question)
 - What logic or model was used to produce the result
 - Any known limitations or exclusions (e.g., missing data, exclusions, assumptions)
 - b. For model-based use cases, include:
 - Summary of model type, key features used, and output interpretation
 - Simple explanation of how to use the results (e.g., "Higher score = higher risk")
 - Clear disclaimers to avoid over-interpretation
 - c. Validate business clarity with the Use Case Owner or target users
- iii. **Configure metadata and quality tags:** The Data Governance Specialist ensures each output adheres to metadata standards.
 - a. Attach standard metadata fields:
 - Use case title, owner, creation date, update frequency
 - Data source(s), variables used, refresh logic, last run timestamp
 - b. Apply classification tags or sector themes (e.g., education, health, finance)
 - c. Assign confidence or quality indicators where applicable
 - E.g., low confidence due to small sample, model accuracy metrics, etc.
- iv. **Ensure traceability and reproducibility:** The Data Engineer and Data Architect ensure that the use case can be re-run, audited, or revised later.
 - a. Log scripts, notebooks, queries, and parameters used to generate the output
 - b. Archive intermediate outputs and pipeline configurations
 - c. Document data lineage from source to result



Key Message / Information

Well-structured outputs and metadata ensure analytics use cases are trusted, explainable, and usable. Business logic and quality context must be clear to end users so insights can inform decisions without misinterpretation.

4.2.1.D
(1/2)

A

Design and Deploy Use Case Dashboards or Output Visualizations: This step involves designing and developing the front-end visualizations that will display the outputs of the analytics use case. It translates the structured results and metadata from 4.2.1.C into dashboards, charts, summary views, or interactive visual elements that enable users to explore and interpret the insights effectively.

The visual components must align with the platform's interface logic (defined in 4.1.1), support role-based access, and adhere to Entity-level design standards (reporting and dashboard design principles as seen in Activity 3.2). This step applies to all use case types; descriptive, diagnostic, predictive, or prescriptive, and ensures that each output is rendered in a usable, intuitive, and meaningful way. The Frontend Developer leads this step, with input from the UI/UX Designer, Business Data Analyst, and Data Strategy Expert.

- i. **Select appropriate visualization formats based on use case type:** The team chooses visual formats that reflect the nature and intent of the insight.
 - a. For descriptive or diagnostic use cases:
 - Time series, bar charts, heat maps, distributions, comparisons, profiles
 - b. For predictive use cases:
 - Risk tiers, scores, probabilities, confidence bands, model summaries
 - c. For prescriptive use cases:
 - Recommended actions, optimization paths, scenario outcomes
 - d. If tabular or exportable formats are more appropriate, design those as well
- ii. **Design dashboard layout and content structure:** The UI/UX Designer prepares mockups or layouts based on the platform's visual framework.
 - a. Define:
 - Title/header area with metadata and summary text
 - Main visualization panel
 - Filters (e.g., date, geography, demographic, scenario)
 - Supporting text, disclaimers, and download options
 - b. Apply consistent formatting:
 - Entity branding (colors, fonts, spacing)
 - Mobile and responsive layout support
 - Multilingual capability, if required
- iii. **Build and test dashboard components:** The Frontend Developer builds the visualization using platform components defined in 4.1.1.
 - a. Connect dashboards to the finalized output structure
 - Pull data from API, static file, database, or analytics tool as defined in 4.2.1.C
 - b. Test data display accuracy, layout rendering, and responsiveness
 - c. Ensure filters, tooltips, and links to metadata function as intended

4.2.1.D
Cont.
(2/2)

- iv. **Validate visualization with stakeholders and finalize deployment:** The Business Data Analyst and Data Strategy Expert coordinate validation.
- Present dashboard to the Use Case Owner and business stakeholders for review
 - Adjust design based on usability, interpretability, and policy feedback
 - Finalize the dashboard for publishing to the platform in 4.2.1.E



Key Message / Information

Effective visualization is critical to insight adoption. Dashboards must be clear, context-rich, and tailored to the use case, allowing users to engage with the analytics outputs confidently and intuitively.

4.2.1.E
(1/2)

Publish Use Case to the Platform with Access and Contextual Guidance: This step involves publishing the completed analytics use case to the Statistics and Analytics Platform. It includes configuring the access permissions, attaching metadata and interpretation guidance, and ensuring that the output is discoverable and usable by its intended audience.

This step serves as the formal transition from implementation to consumption, where the insight becomes an operational asset used by, for example, policy makers, analysts, or external users depending on the use case scope. Publishing must follow internal governance rules, metadata standards, and security policies. The Business Data Analyst leads this step, with support from the Platform Administrator, Use Case Owner, and Data Governance Specialist.

- Upload or register the use case output on the platform:** The Platform Administrator and Frontend Developer upload or link the final output to the live platform environment.
 - Confirm platform readiness to host the content (tested in 4.1.1)
 - Register the dashboard, data file, or visualization module in the appropriate platform location (e.g., Use Case Library)
 - Apply naming conventions, tags, and catalog metadata for search and filtering
- Configure role-based access and visibility:** The Platform Administrator sets user access rules in line with the charter and governance policies.
 - Define who can access the use case:
 - Internal-only, department-specific, or general government users
 - Apply view-only, export-enabled, or restricted metadata access based on user role
 - Ensure sensitive data (if any) is masked, anonymized, or appropriately restricted
- Attach metadata, context, and usage guidance:** The Business Data Analyst ensures that users can understand and interpret the output correctly.
 - Display:
 - Use case title and description

A

4.2.1.E
Cont.
(2/2)

- Purpose, data sources, assumptions, and limitations
 - Update frequency and version control details
- b. Apply view-only, export-enabled, or restricted metadata access based on user role
- Methodology document, model card, or business case
 - Glossary definitions, indicator references, or dashboards
 - Contact person or support channel
- iv. **Validate publishing and log completion:** The Use Case Owner and Platform Project Manager perform a final quality check.
- a. Confirm all content renders correctly on the platform across devices
 - b. Validate metadata fields, filter behavior, and download functions
 - c. Log the use case as “published” in the implementation tracker or analytics asset inventory

**Key Message / Information**

Publishing a use case is not just about making it visible. It is about ensuring it is secure, interpretable, and actionable. Proper metadata, access control, and guidance ensure users trust and use the insight as intended.

4.2.1.F
(1/2)

Conduct Post-Publication Testing and Business Validation: This step ensures that the analytics use case operates as expected once published, and that users understand and are able to derive value from the output. It includes validating system performance, user experience, content accuracy, and alignment with the original business objective.

Post-publication testing must be conducted using both technical monitoring tools and structured business user feedback. The Entity should treat this as an initial stabilization period to ensure that the insight is not only technically correct, but also usable, interpretable, and aligned with expectations. The Business Data Analyst leads this step with support from the Use Case Owner, Tester/QA, Platform Administrator, and Data Strategy Expert.

- i. **Monitor technical performance and platform behavior:** The technical team ensures the use case functions correctly after deployment.
 - a. Monitor API responses, dashboard loading times, and data refresh behavior
 - b. Track errors or timeouts related to the use case view
 - c. Confirm that filters, downloads, and metadata views work across devices and browsers
- ii. **Validate output logic and data accuracy in the live environment:** The Data Scientist or Business Data Analyst ensures that outputs remain valid and up-to-date post-launch.
 - a. Spot check results against expected values or known benchmarks
 - b. Validate metadata alignment with actual content
 - c. Run a secondary review of the logic or model output with the technical team

A

4.2.1.F
Cont.
(2/2)

- iii. **Collect structured feedback from end users and business stakeholders:** The Use Case Owner leads business validation efforts with support from the Business Data Analyst.
 - a. Conduct short interviews, surveys, or feedback sessions with users
 - Focus on clarity, usability, and relevance of the insight
 - b. Capture feedback in categories such as:
 - Misinterpretation risk, missing context, over/under-complexity
 - c. Document enhancement requests and flag any critical misalignments for immediate correction
- iv. **Resolve issues and update content if needed:** The Platform Project Manager and delivery team triage and resolve issues based on priority.
 - a. Apply updates for technical bugs (e.g., broken filters, rendering errors)
 - b. Address business-driven changes to narrative, disclaimers, or visual elements
 - c. Record changes in the version history and notify stakeholders of updates

**Key Message / Information**

Even after go-live, analytics use cases require careful observation and feedback to ensure they deliver value. Post-publication validation ensures the output is not only correct — but also meaningful, usable, and aligned with business expectations.

4.2.1.G
(1/2)

Transition Use Case to Monitoring, Update, or Retraining Schedule: This step ensures that the analytics use case remains accurate, relevant, and trusted over time by defining how it will be maintained. Once published and validated, each use case must be assigned an update frequency, monitoring approach, and (if applicable) a retraining schedule for underlying models. The Entity must assign operational ownership and define triggers for review, refresh, or retirement.

The approach varies depending on the use case type. Descriptive and diagnostic use cases may require periodic data refreshes and content updates, while predictive and prescriptive use cases may require model performance tracking and retraining workflows. The Use Case Owner is accountable for long-term oversight, supported by the Business Data Analyst, Data Engineer, and Platform Administrator.

- i. **Define the update frequency and maintenance model:** The Business Data Analyst and Use Case Owner define how often the use case should be reviewed or refreshed.
 - a. Choose from standard update frequencies:
 - Daily, weekly, monthly, quarterly, or annual
 - b. Define data refresh logic and update dependencies (e.g., upstream data delivery schedules)
 - c. For static or one-time use cases, document the retirement or archive plan
- ii. **Establish monitoring and alert mechanisms:** The Platform Administrator sets up monitoring for technical and performance issues.

A

4.2.1.G
Cont.
(2/2)

- a. Track availability, load success/failure, and output quality metrics
 - b. For model-based use cases, monitor prediction drift or performance degradation
 - Example metrics: accuracy, error rate, change in feature distribution
 - c. Define thresholds that trigger automated alerts or manual reviews
- iii. **Define retraining or recalibration logic for model-based use cases:** The Data Scientist and Data Engineer establish procedures for maintaining predictive or prescriptive models.
 - a. Document triggers for retraining:
 - New data availability, accuracy decline, seasonal changes
 - b. Specify retraining intervals or model lifecycle checkpoints
 - c. Record version control, audit logs, and deployment protocols
- iv. **Assign operational ownership and embed in analytics operations:** The Use Case Owner ensures governance and accountability post-launch.
 - a. Assign individuals or teams responsible for:
 - Monitoring and alert response
 - Refresh workflows and data quality checks
 - User communication and version documentation
 - b. Update the analytics asset inventory or catalog to reflect operational status
 - c. Link the use case into Section 5 processes (e.g., KPI monitoring and performance reporting)



Key Message / Information

Publishing a use case is not the end — maintaining its quality and relevance is just as critical. Defining a clear monitoring and update plan ensures long-term value, trust, and usability for all types of analytics outputs.

RACI Matrix – Analytics Use Case Implementation

Indicative

Sr No.	Activity	Data Management and Security Director	Data Architecture and Analytics Section Head	UI/UX Designer	Tester/QA	Platform Administrator	Frontend Developer	Data Governance Specialist	Data Scientist	Implementation Lead	Use Case Owner	Data Architect	Business Data Analyst	Data Strategy Expert	Data Engineer
4.1.2.A	Prepare Use Case Implementation Schedule and Assign Roles	I	A								C	C	C	R	C
4.1.2.B	Implement Use Case Logic: Data Preparation, Analysis, and Insight Development									R	A	C			
4.1.2.C	Configure Use Case Outputs, Business Logic, and Metadata		A					C	C		C		R		C
4.1.2.D	Design and Deploy Use Case Dashboards or Output Visualizations	I	A	C			R						C	C	
4.1.2.E	Publish Use Case to the Platform with Access and Contextual Guidance		A					C			C		R		
4.1.2.F	Conduct Post-Publication Testing and Business Validation		A		C	C					C		R	C	
4.1.2.G	Transition Use Case to Monitoring, Update, or Retraining Schedule		A			C					R		C		C

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

Based on this Activity, the Entity can



Transform approved use case charters into implemented analytical outputs



Render dashboards or outputs with metadata, filters, and contextual guidance



Validate outputs and assign monitoring, update, or retraining responsibilities

4.2.2 Statistics Indicator Implementation

This activity guides the Entity through the full implementation of each prioritized statistics indicator, transitioning from planning and design into technical execution, platform deployment, and post-publication validation. The process ensures that each indicator is reliably calculated, visually rendered, published with appropriate metadata, and maintained through ongoing governance and monitoring routines.

Process – Statistics Indicator Implementation

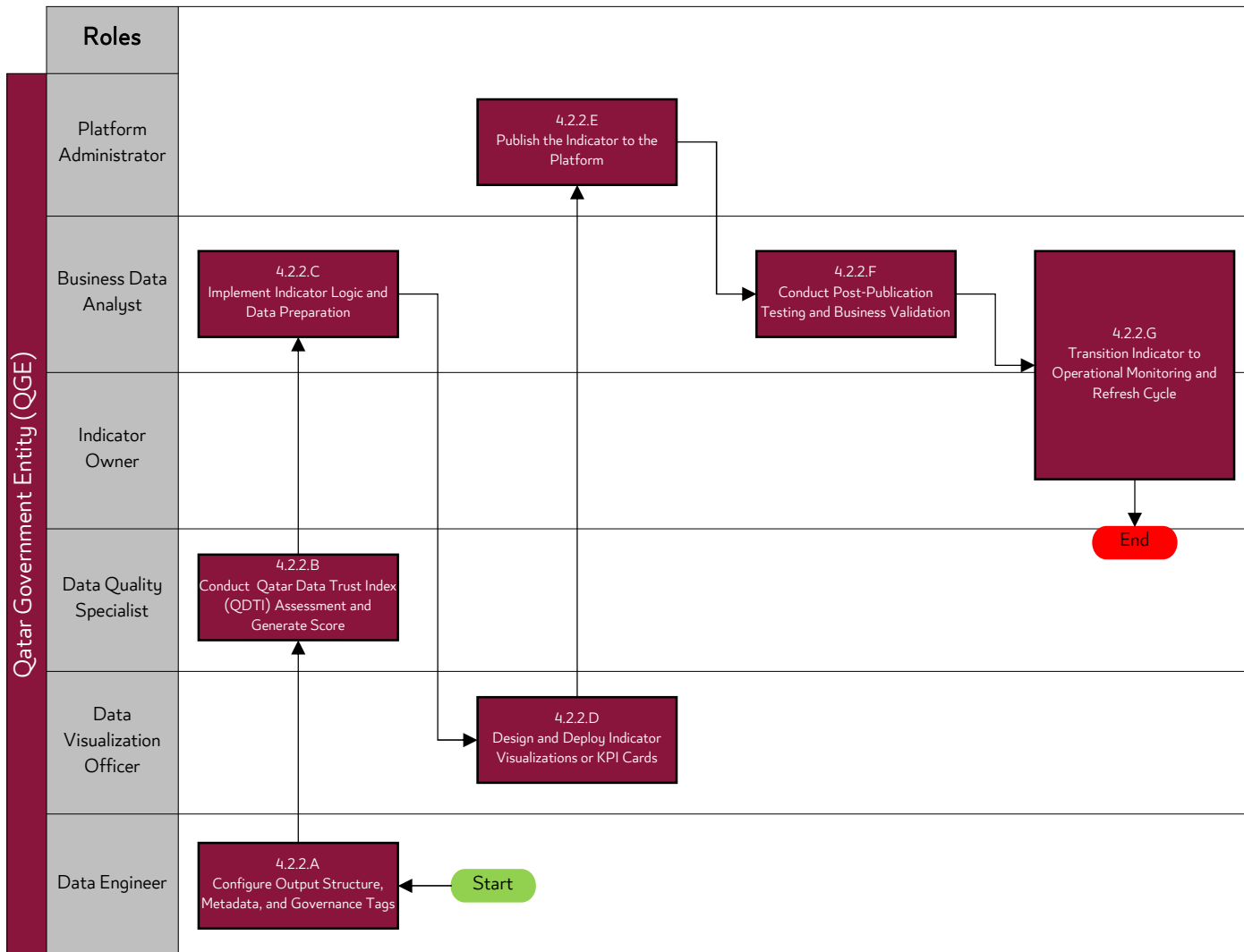


Figure 14: Statistics Indicator Implementation Process Map

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

4.2.2.A
(1/2)

Implement Indicator Logic and Data Preparation: Translate the defined indicator into a functioning output by sourcing, transforming, and validating the required data, and applying the agreed calculation methodology. This step ensures the indicator value is computed accurately, based on the approved formula, and using the correct data fields, filters, and update logic. The Data Engineer leads this step in collaboration with the Business Data Analyst and the Data Steward, and Data Architect.

- i. **Prepare and transform input data based on the sourcing plan:** Use the datasets and fields identified in Activity 2.4 to assemble and clean the input data required for indicator calculation.

4.2.2.A
Cont.
(2/2)

- a. Retrieve datasets as defined in the indicator blueprint
 - Confirm dataset name, source system, and access method
 - Validate availability, completeness, and update frequency
 - b. Clean, filter, and transform the data
 - Remove duplicates, handle missing values, standardize formats
 - Apply filters (e.g., geography, sector, year) as defined in the indicator charter
 - Join across datasets if needed (e.g., open field + greenhouse yield data)
 - c. Create intermediate datasets or calculation tables if needed
 - Prepare a clean, structured layer that feeds into the indicator logic
 - Use scripts or SQL views that can be reused for refresh automation
- ii. **Apply the indicator calculation logic and formula:** Compute the indicator value based on the approved methodology.
- a. Implement the calculation formula exactly as defined in the charter
 - Include units, numerators, denominators, rounding logic
 - Align with metadata in the blueprint and technical documentation
 - b. Incorporate any disaggregation or breakdown requirements
 - Compute indicator values by geography, demographic, or program area
 - Flag any values that cannot be disaggregated due to data limitations
 - c. Validate internal consistency and cross-check with historical data
 - Compare computed values with past periods or previous versions
 - Sanity check output trends and expected behavior with business stakeholders
- iii. **Record intermediate outputs and enable reproducibility:** Ensure all logic is traceable, testable, and repeatable for audit, refresh, or enhancement.
- a. Document the logic and transformation steps used
 - Store SQL queries, scripts, or ETL flows used in preparation and calculation
 - Comment and version logic for clarity
 - b. Archive test outputs and sample datasets
 - Save outputs used during QA and validation
 - Retain sample data used in UAT or platform preview
 - c. Confirm that the logic is refreshable and linked to source data pipelines
 - Ensure indicator can be recalculated on a scheduled basis
 - Flag any manual steps that need to be automated in the next phase

4.2.2.B
(1/10)

Conduct Qatar Data Trust Index (QDTI) Assessment and Generate Score: For National Indicators, The Data Quality Specialist and the Data Compliance Specialist must assess the finalized National Indicator Score using the QDTI framework and generate an official QDTI score for publication alongside the National Indicator. This step is led by the Data Quality Specialist and in consultation with the Data Compliance Specialist.

Components		Government Entities	National Indicators	Open Data	Data Products
 1. Data Quality Score (DQS)	Data Quality Governance	15%	Not applicable	Not applicable	Not applicable
	Data Quality Quantitative Assessment	50%	100%	80%	80%
 2. Data Compliance Score (DCS)	Data Strategy and Governance	10%	Not applicable	Not applicable	Not applicable
	Data Enablement	10%	Not applicable	Not applicable	Not applicable
	Data Value Harvesting	10%	Not applicable	20%	20%
	Data Protection & Privacy	5%	Not applicable	Not applicable	Not applicable

*Note: The sum of the weights across all items must add up to 100%.

Figure 15: Alignment of QDTI Components with Assessment Categories



Key Message / Information

National indicators are evaluated solely on the quality of the underlying data, as their purpose is to provide accurate and reliable metrics to track progress toward national goals and strategies. Thus, a weight of 100% is given to the “Data Quality Quantitative Assessment” component within the Data Quality Score (all dimensions and sub-dimensions of the component are considered).

4.2.2.B
Cont.
(2/10)

Conduct Qatar Data Trust Index (QDTI) Assessment and Generate Score: For National Indicators, The Data Quality Specialist and the Data Compliance Specialist must assess the finalized National Indicator Score using the QDTI framework and generate an official QDTI score for publication alongside the National Indicator.

Overview of the steps followed to measure data quality – National Indicators

1 Data Quality Assessment

- National indicators are evaluated solely based on the quality of the underlying data used to calculate the indicators, and are evaluated according to seven dimensions: accuracy, completeness, consistency, uniqueness, timeliness, validity, and accessibility.
- This assessment aims to ensure the quality and reliability of national indicators used to measure progress toward national goals and strategies. Therefore, a weight of 100% is given to the "Data Quality Quantitative Assessment" component of the data quality assessment.



Figure 16: Overview of steps followed to measure QDTI for National Indicators

Step 1: Identify the Datasets Needed to Calculate National Indicators

Illustrative Metadata for the indicator Data				
Dataset-level illustrative metadata		Field-level illustrative metadata		
Element Name	Value	Field Name	Data Type	
1 Dataset Title	Inflation by goods and services basket groups	6 Goods and Services Groups Code	Integer (two digits)	
2 Source	National Planning Council	7 Goods and Services Groups Name	Text (English)	
3 Update Frequency	Annually	8 Consumer Price Index (2024)	Decimal Number	
4 Access Method		9 Consumer Price Index (2025)		
5 Expected Number of Records	12	10 Inflation rate (%)		

Illustrative Dataset Related to the Inflation Indicator				
Goods and Services Groups Code	Goods and Services Groups Name	Consumer Price Index (2024)	Consumer Price Index (2025)	Inflation rate (%)
01	Food	102.0	105.2	3.14%
02	Tobacco	-106.5	108.3	1.69%
031	Clothing and shoes	97.8	99.5	1.74%
04	السكن والمياه والكهرباء والغاز وأنواع الوقود الأخرى	100.1	102.0	1.90%
05	Household equipment and supplies, and routine home maintenance	999.4	101.8	2.41%
06	Health	105.0	107.6	2.48%
07	Transportation	108.1	110.2	3.25%
08	Communications	101.7	103.4	2.57%
09	Recreation and culture	102.3		
10	Education	104.0		
11	Restaurants and hotels	107.0		
12	Various goods and services	108.3	109.9	1.48%
12	Various goods and services	110.3	108.2	1.94%

Figure 17: Step 1/5

4.2.2.B
Cont.
(3/10)

Step 2: Establish Data Quality Rules for Each Dataset, within the Seven Dimensions of Data Quality



Data Quality Dimension	Data Quality Rules
1. Accuracy	Q#1 CPI values should be within a realistic range of 0 to 500
2. Completeness	Q#2 None of the fields should contain missing values Q#3 All dataset metadata (at the dataset and field levels) must be fully populated
3. Consistency	Q#4 All values across all fields must follow a consistent format Q#5 Names of the goods and services groups must conform to the approved classification (COICOP 2018)
4. Uniqueness	Q#6 Each combination of (Group code + Year) must appear only once (no duplicates)
5. Timeliness	Q#7 Values should reflect the latest available data for the years 2024 and 2025
6. Validity	Q#8 All values in all fields must be of the correct data type (e.g., text, integer). Q#9 The inflation rate should be mathematically valid, with the difference between the 2024 and 2025 CPI
7. Accessibility	Q#10 The dataset should be stored in a machine-readable format and easily accessible

Figure 18: Step 2/5

Step 3: Apply Data Quality Rules to Calculate the Data Quality Score for Each Dimension



Illustrative Metadata for the Indicator Data				
Dataset-level illustrative metadata		Field-level illustrative metadata		
Element Name	Value	Field Name	Data Type	
1 Dataset Title	Inflation by goods and services basket groups	6 Goods and Services Groups Code	Integer (two digits)	
2 Source	National Planning Council	7 Goods and Services Groups Name	Text (English)	
3 Update Frequency	Annually	8 Consumer Price Index (2024)		
4 Access Method		9 Consumer Price Index (2025)	Decimal Number	
5 Expected Number of Records	12	10 Inflation rate (%)		

Illustrative Dataset Related to the Inflation Indicator				
Goods and Services Groups Code	Goods and Services Groups Name	Consumer Price Index (2024)	Consumer Price Index (2025)	Inflation rate (%)
01	Food	102.0	105.2	3.14%
02	Tobacco	-106.5	108.3	1.69%
031	Clothing and shoes	97.8	99.5	1.74%
04	السكن والمياه والكهرباء والغاز وأنواع الوقود الأخرى	100.1	102.0	1.90%
05	Household equipment and supplies, and routine home maintenance	999.4	101.8	2.41%
06	Health	105.0	107.6	2.48%
07	Transportation	108.1	110.2	3.25%
08	Communications	101.7	103.4	2.57%
09	Recreation and culture	102.3		
10	Education	104.0		
11	Restaurants and hotels	107.0		
12	Various goods and services	108.3	109.9	1.48%
12	Various goods and services	108.2	110.3	1.94%

Figure 19: Step 3/5 (1/11)

4.2.2.B
Cont.
(4/10)

Step 3: Apply Data Quality Rules to Calculate the Data Quality Score for Each Dimension

Q#1 Application: In the "Consumer Price Index (2024)" field, there are 2 records with values outside the realistic range (0-500) out of 12 expected records. Therefore, the data quality percentage is:

$$\frac{10}{12} = 83\%$$

Illustrative Dataset Related to the Inflation Indicator				
Goods and Services Groups Code	Goods and Services Groups Name	Consumer Price Index (2024)	Consumer Price Index (2025)	Inflation rate (%)
01	Food	102.0	105.2	3.14%
02	Tobacco	-106.5	108.3	1.69%
031	Clothing and shoes	97.8	99.5	1.74%
04	السكن والمياه والكهرباء والغاز وأنواع الوقود الأخرى	100.1	102.0	1.90%
05	Household equipment and supplies, and routine home maintenance	999.4	101.8	2.41%
06	Health	105.0	107.6	2.48%
07	Transportation	108.1	110.2	3.25%
08	Communications	101.7	103.4	2.57%
09	Recreation and culture	102.3		
10	Education	104.0		
11	Restaurants and hotels	107.0		
12	Various goods and services	108.3	109.9	1.48%
12	Various goods and services	110.3	108.2	1.94%

Figure 20: Step 3/5 (2/11)

Step 3: Apply Data Quality Rules to Calculate the Data Quality Score for Each Dimension

Q#2 Application: There are 3 missing records in the "Consumer Price Index (2025)" and "Inflation Rate (%)" fields, out of 12 expected records. Therefore, the data quality percentage is:

$$\frac{9}{12} = 75\%$$

Illustrative Dataset Related to the Inflation Indicator				
Goods and Services Groups Code	Goods and Services Groups Name	Consumer Price Index (2024)	Consumer Price Index (2025)	Inflation rate (%)
01	Food	102.0	105.2	3.14%
02	Tobacco	-106.5	108.3	1.69%
031	Clothing and shoes	97.8	99.5	1.74%
04	السكن والمياه والكهرباء والغاز وأنواع الوقود الأخرى	100.1	102.0	1.90%
05	Household equipment and supplies, and routine home maintenance	999.4	101.8	2.41%
06	Health	105.0	107.6	2.48%
07	Transportation	108.1	110.2	3.25%
08	Communications	101.7	103.4	2.57%
09	Recreation and culture	102.3		
10	Education	104.0		
11	Restaurants and hotels	107.0		
12	Various goods and services	108.3	109.9	1.48%
12	Various goods and services	110.3	108.2	1.94%

Figure 21: Step 3/5 (3/11)

4.2.2.B
Cont.
(5/10)

Step 3: Apply Data Quality Rules to Calculate the Data Quality Score for Each Dimension



Illustrative Metadata for the Indicator Data			
Dataset-level illustrative metadata		Field-level illustrative metadata	
Element Name	Value	Field Name	Data Type
1 Dataset Title	Inflation by goods and services basket groups	6 Goods and Services Groups Code	Integer (two digits)
2 Source	National Planning Council	7 Goods and Services Groups Name	Text (English)
3 Update Frequency	Annually	8 Consumer Price Index (2024)	
4 Access Method		9 Consumer Price Index (2025)	Decimal Number
5 Expected Number of Records	12	10 Inflation rate (%)	

Q#3 Application: There are 3 missing records out of 10 metadata records. Therefore, the data quality percentage can be calculated as follows:

$$\frac{7}{10} = 70\%$$

Figure 22: Step 3/5 (4/11)

Step 3: Apply Data Quality Rules to Calculate the Data Quality Score for Each Dimension



Q#4 Application: The "Goods and Services Groups Code" field contains one record with a format that does not follow the expected format (031, i.e., three digits instead of two). Therefore, the data quality percentage is:

$$\frac{11}{12} = 92\%$$

Illustrative Dataset Related to the Inflation Indicator				
Goods and Services Groups Code	Goods and Services Groups Name	Consumer Price Index (2024)	Consumer Price Index (2025)	Inflation rate (%)
01	Food	102.0	105.2	3.14%
02	Tobacco	-106.5	108.3	1.69%
031	Clothing and shoes	97.8	99.5	1.74%
04	السكن والمياه والكهرباء والغاز وأنواع الوقود الأخرى	100.1	102.0	1.90%
05	Household equipment and supplies, and routine home maintenance	999.4	101.8	2.41%
06	Health	105.0	107.6	2.48%
07	Transportation	108.1	110.2	3.25%
08	Communications	101.7	103.4	2.57%
09	Recreation and culture	102.3		
10	Education	104.0		
11	Restaurants and hotels	107.0		
12	Various goods and services	108.3	109.9	1.48%
12	Various goods and services	110.3	108.2	1.94%

Figure 23: Step 3/5 (5/11)

4.2.2.B
Cont.
(6/10)

Step 3: Apply Data Quality Rules to Calculate the Data Quality Score for Each Dimension

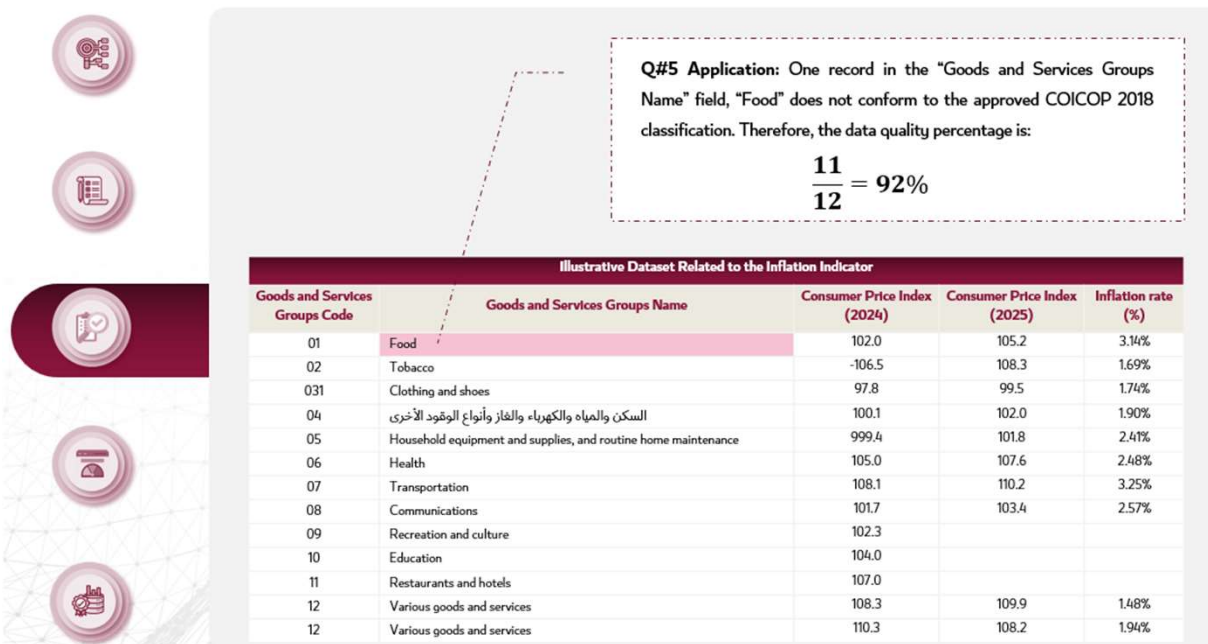


Figure 24: Step 3/5 (6/11)

Step 3: Apply Data Quality Rules to Calculate the Data Quality Score for Each Dimension

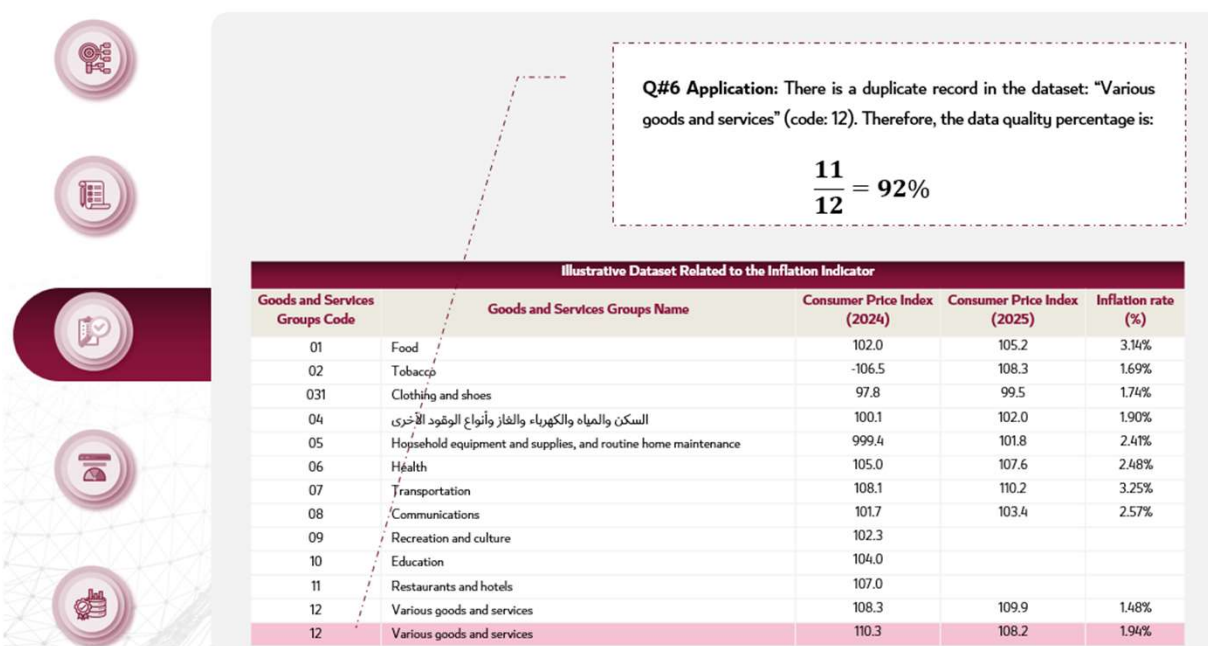


Figure 25: Step 3/5 (7/11)

4.2.2.B
Cont.
(7/10)

Step 3: Apply Data Quality Rules to Calculate the Data Quality Score for Each Dimension

Q#7 Application: In the "Consumer Price Index (2025)" field, there are 3 records that have not been updated with the latest data for 2025. Therefore, the data quality percentage is:

$$\frac{9}{12} = 75\%$$

Illustrative Dataset Related to the Inflation Indicator				
Goods and Services Groups Code	Goods and Services Groups Name	Consumer Price Index (2024)	Consumer Price Index (2025)	Inflation rate (%)
01	Food	102.0	105.2	3.14%
02	Tobacco	-106.5	108.3	1.69%
031	Clothing and shoes	97.8	99.5	1.74%
04	السكن والمياه والكهرباء والغاز وأنواع الوقود الأخرى	100.1	102.0	1.90%
05	Household equipment and supplies, and routine home maintenance	999.4	101.8	2.41%
06	Health	105.0	107.6	2.48%
07	Transportation	108.1	110.2	3.25%
08	Communications	101.7	103.4	2.57%
09	Recreation and culture	102.3		
10	Education	104.0		
11	Restaurants and hotels	107.0		
12	Various goods and services	108.3	109.9	1.48%
12	Various goods and services	110.3	108.2	1.94%

Figure 26: Step 3/5 (8/11)

Step 3: Apply Data Quality Rules to Calculate the Data Quality Score for Each Dimension

Q#8 Application: The "Goods and Services Groups Name" field contains an invalid record in terms of data type, as Arabic text was entered instead of the required English text. Therefore, the data quality percentage is:

$$\frac{11}{12} = 92\%$$

Illustrative Dataset Related to the Inflation Indicator				
Goods and Services Groups Code	Goods and Services Groups Name	Consumer Price Index (2024)	Consumer Price Index (2025)	Inflation rate (%)
01	Food	102.0	105.2	3.14%
02	Tobacco	-106.5	108.3	1.69%
031	Clothing and shoes	97.8	99.5	1.74%
04	السكن والمياه والكهرباء والغاز وأنواع الوقود الأخرى	100.1	102.0	1.90%
05	Household equipment and supplies, and routine home maintenance	999.4	101.8	2.41%
06	Health	105.0	107.6	2.48%
07	Transportation	108.1	110.2	3.25%
08	Communications	101.7	103.4	2.57%
09	Recreation and culture	102.3		
10	Education	104.0		
11	Restaurants and hotels	107.0		
12	Various goods and services	108.3	109.9	1.48%
12	Various goods and services	110.3	108.2	1.94%

Figure 27: Step 3/5 (9/11)

4.2.2.B
Cont.
(8/10)

Step 3: Apply Data Quality Rules to Calculate the Data Quality Score for Each Dimension

Q#9 Application: In the "Inflation Rate (%)" field, there are two records that do not comply with the approved calculation rules (they do not match the expected difference between the 2024 and 2025 CPIs).

Therefore, the data quality percentage is:

$$\frac{10}{12} = 83\%$$

Illustrative Dataset Related to the Inflation Indicator				
Goods and Services Groups Code	Goods and Services Groups Name	Consumer Price Index (2024)	Consumer Price Index (2025)	Inflation rate (%)
01	Food	102.0	105.2	3.14%
02	Tobacco	-106.5	108.3	1.69%
031	Clothing and shoes	97.8	99.5	1.74%
04	السكن والمياه والكهرباء والغاز وأنواع الوقود الأخرى	100.1	102.0	1.90%
05	Household equipment and supplies, and routine home maintenance	999.4	101.8	2.41%
06	Health	105.0	107.6	2.48%
07	Transportation	108.1	110.2	3.25%
08	Communications	101.7	103.4	2.57%
09	Recreation and culture	102.3		
10	Education	104.0		
11	Restaurants and hotels	107.0		
12	Various goods and services	108.3	109.9	1.48%
12	Various goods and services	110.3	108.2	1.94%

Figure 28: Step 3/5 (10/11)

Step 3: Apply Data Quality Rules to Calculate the Data Quality Score for Each Dimension

Illustrative Metadata for the Indicator Data			
Dataset-level illustrative metadata		Field-level illustrative metadata	
Element Name	Value	Field Name	Data Type
1 Dataset Title	Inflation by goods and services basket groups	6 Goods and Services Groups Code	Integer (two digits)
2 Source	National Planning Council	7 Goods and Services Groups Name	Text (English)
3 Update Frequency	Annually	8 Consumer Price Index (2024)	
4 Access Method		9 Consumer Price Index (2025)	Decimal Number
5 Expected Number of Records	12	10 Inflation rate (%)	

Q#10 Application: There are no specified methods in the metadata that indicate how to access or extract the data, so the data quality score is "1"

**Note: The assessment method for this rule:*

Score 3: Multiple access methods available (e.g., APIs, CSV/Excel)

Score 2: Limited access methods (e.g., CSV/Excel)

Score 1: Restricted and complex access (data not available for extraction)

Figure 29: Step 3/5 (11/11)

4.2.2.B
Cont.
(9/10)

Step 4: Convert Percentages to Scores

Data Quality Dimension	Data Quality Rules	Data Quality Percentages and Scores
1. Accuracy	Q#1 CPI values should be within a realistic range of 0 to 500	83% → Score "2"
2. Completeness	Q#2 None of the fields should contain missing values	75% → Score "2"
	Q#3 All dataset metadata (at the dataset and field levels) must be fully populated	70% → Score "2"
3. Consistency	Q#4 All values across all fields must follow a consistent format	92% → Score "3"
	Q#5 Names of the goods and services groups must conform to the approved classification (COICOP 2018)	92% → Score "3"
4. Uniqueness	Q#6 Each combination of (Group code + Year) must appear only ones (no duplicates)	92% → Score "3"
5. Timeliness	Q#7 Values should reflect the latest available data for the years 2024 and 2025	75% → Score "2"
6. Validity	Q#8 All values in all fields must be of the correct data type (e.g., text, integer).	92% → Score "3"
	Q#9 The inflation rate should be mathematically valid, with the difference between the 2024 and 2025 CPI	83% → Score "2"
7. Accessibility	Q#10 The dataset should be stored in a machine-readable format and easily accessible	Score "1"

Figure 30: Step 4/5

Step 5: Calculate the Final Data Quality Score

Data Quality Dimension	Data Quality Rules	Data Quality Percentages and Scores
1. Accuracy	Q#1 CPI values should be within a realistic range of 0 to 500	83% → Score "2"
2. Completeness	Q#2 None of the fields should contain missing values	75% → Score "2"
	Q#3 All dataset metadata (at the dataset and field levels) must be fully populated	70% → Score "2"
3. Consistency	Q#4 All values across all fields must follow a consistent format	92% → Score "3"
	Q#5 Names of the goods and services groups must conform to the approved classification (COICOP 2018)	92% → Score "3"
4. Uniqueness	Q#6 Each combination of (Group code + Year) must appear only ones (no duplicates)	92% → Score "3"
5. Timeliness	Q#7 Values should reflect the latest available data for the years 2024 and 2025	75% → Score "2"
6. Validity	Q#8 All values in all fields must be of the correct data type (e.g., text, integer).	92% → Score "3"
	Q#9 The inflation rate should be mathematically valid, with the difference between the 2024 and 2025 CPI	83% → Score "2"
7. Accessibility	Q#10 The dataset should be stored in a machine-readable format and easily accessible	Score "1"

Data Quality Score

77%

Since the total score is 23 (out of a possible total of 30), the final Data Quality Score (DQS) can be calculated as follows:

$$\frac{23}{30} = 77\%$$

Figure 31: Step 5/5

4.2.2.B
Cont.
(10/10)

Illustrative Example of Combining Index Scores for the “National Indicators” Category

Since the “National Indicators” category includes only quantitative assessment of data quality, the QDTI for this category is calculated using the result of this same assessment.



Figure 32: Illustrative Final Score Calculation

4.2.2.C
(1/2)

Configure Output Structure, Metadata, and Governance Tags: Prepare the indicator’s output for publication by structuring its display logic, configuring user-facing content, attaching standard metadata, and applying governance classification tags. This step ensures the output is transparent, traceable, and interpretable by users across business, policy, and technical teams. The Business Data Analyst leads this step, in collaboration with the Data Governance Specialist, Data Engineer, and Indicator Owner.

- i. **Define output structure and result display logic:** Specify how the indicator will be presented to users across dashboards or reporting views.
 - a. Define the output format and fields for display
 - KPI card, time series, ranked table, disaggregated view
 - Fields to show: indicator value, last updated date, baseline, target, unit, geography, sector, etc.
 - b. Configure user-facing tooltip and page-level content based on the identified indicator requirements
 - c. Ensure consistency with dashboard and user story requirements
 - Reference functional expectations defined in the business requirements template
 - Confirm that disclaimers, filters, and structure match user expectations

A

4.2.2.C
Cont.
(2/2)

- ii. **Attach metadata and descriptive documentation:** Record all supporting details that explain the indicator's origin, logic, and dependencies.
 - a. Complete all standard metadata fields
 - Indicator ID, Name, Owner, Sponsor, Source dataset(s), calculation method, etc.
 - b. Link the indicator to source systems and traceability documentation
 - Reference source system name, dataset, and table
- iii. **Apply governance, classification, and quality tags:** Ensure the indicator complies with national data classification and data quality management standards.
 - a. Assign sensitivity classification based on content
 - Public, Internal, Restricted, or Confidential
 - Document any masking or anonymization applied
 - b. Apply thematic and sectoral tags
 - Health, Education, Labor, etc.
 - Use these tags for filtering and discovery within the statistics and analytics platform
 - c. Record data quality notes or confidence indicators
 - Highlight any known limitations, sample size constraints, or confidence issues
 - Document source data quality if applicable (e.g., QDTI score)

4.2.2.D
(1/2)

Design and Deploy Indicator Visualizations or KPI Cards: Build the visual components for each statistics indicator and deploy them to the Statistics & Analytics Platform. This includes designing KPI cards, tables, charts, and other display elements that reflect the indicator's logic and user needs. Visualizations must align with platform interface standards, adhere to design consistency, and support role-based access and multilingual rendering. The Data Visualization Officer leads this step, with support from the Business Data Analyst, Platform Administrator, and UI/UX Designer.

- i. **Select the appropriate visualization format for the indicator:** Choose the most effective visual form to display the indicator value and related metadata.
 - a. Determine the appropriate display type
 - KPI Card (e.g., % Increase, Total Count)
 - Trend line or time series
 - Ranked table or disaggregated bar chart
 - Indicator drill-down (e.g., by geography, sector, demographic)
 - b. Match the visualization to the indicator's purpose and audience
 - Use intuitive formats for high-level policymakers and sector analysts
 - Prioritize clarity and responsiveness across devices

A

4.2.2.D
Cont.
(2/2)

- a. Confirm visual design requirements from prior templates
 - Page header, tooltip content, filters, breadcrumb navigation, disclaimers
- ii. **Design the layout and configure the dashboard component:** Implement the frontend structure for the indicator within the statistics and analytics platform's visual framework.
 - a. Define the layout structure based on platform UI standards
 - Header: Name, last updated date, disclaimer, and tooltip trigger
 - Main panel: indicator value and visualization
 - Sidebar or footer: filters, source notes, navigation links
 - b. Build and test the dashboard or visualization component
 - Connect the frontend to the indicator output table or API
 - Validate field-level accuracy, formatting, alignment, and responsiveness
 - Ensure multilingual support if applicable (Arabic/English)
 - c. Apply platform styling and accessibility based on the reporting and dashboards design principles
- iii. **Validate dashboard accuracy and finalize deployment:** Ensure the visualization is technically accurate, user-friendly, and stakeholder-approved.
 - a. Conduct functional testing with platform administrators and QA team
 - Test filters, tooltips, download buttons, and navigation logic
 - Validate against the configured output structure and metadata
 - b. Review dashboard with indicator owner and business stakeholders
 - Gather feedback on layout clarity, interpretation, and relevance
 - Make necessary refinements based on usability or policy input
 - c. Finalize the visualization component for publication
 - Lock final version in staging
 - Prepare for release to production in Step 4.2.2.E

4.2.2.E
(1/3)

Publish the Indicator to the Platform: Finalize and publish the fully implemented indicator to the Statistics & Analytics Platform. This includes configuring access permissions, ensuring proper metadata tagging, and enabling discoverability based on sector, audience, and data sensitivity. The Platform Administrator leads this step, in collaboration with the Business Data Analyst, Data Governance Specialist, and Indicator Owner.

- i. **Upload and register the indicator output on the platform:** Ensure the finalized indicator content is correctly hosted, structured, and cataloged.
 - a. Confirm platform readiness for deployment

A

4.2.2.E
Cont.
(2/3)

- Ensure that all components (KPI card, tooltip, filters, disclaimers) have passed functional testing
- Validate successful deployment in the production environment
- a. Register the indicator in the platform content library
 - Place the indicator under the correct sectoral domain, theme, or dashboard group
 - Assign a unique platform ID
- b. Apply naming conventions
 - Use standardized format for indicator title and ID
 - Tag the indicator for filtering/search (e.g., sector, NDS3 outcome, QNV pillar)
- i. **Configure role-based access and user visibility:** Restrict or allow access based on the indicator's classification and intended audience.
 - a. Set visibility levels according to the indicator's sensitivity and in alignment with the national Data Classification Policy
 - b. Apply role-based access controls (RBAC)
 - Assign access roles for viewing, exporting, and metadata access
 - Validate masking or anonymization of sensitive data fields if applicable
 - c. Confirm audit and logging mechanisms are active
 - Ensure user interactions are logged in accordance with security policies
 - Enable alerting or monitoring if the indicator is subject to scrutiny
- ii. **Attach contextual metadata and user guidance:** Ensure the indicator is interpretable and accompanied by the necessary documentation.
 - a. Display user-facing metadata fields
 - Indicator title, definition, unit, last update date, data source(s)
 - Strategic alignment (e.g., NDS3 outcome, QNV pillar)
 - Update frequency and responsible department
 - b. Attach supporting documentation or links
 - Tooltip definitions, calculation methodology, glossary terms
 - Data governance contacts or help desk information
 - c. Apply disclaimers, caveats, or interpretation guidance
 - For example: "Values for Q4 2023 are preliminary and subject to revision"
 - Clarify any exclusions, assumptions, or data gaps
- iii. **Validate publication and log deployment completion:** Ensure the indicator is live, functional, and documented as published.

4.2.2.E
Cont.
(3/3)

- a. Conduct final cross-browser and cross-device validation
 - Confirm display accuracy and responsiveness
 - Test filters, tooltips, and export/download functionality
- b. Record deployment status in the implementation tracker
 - Mark the indicator as “Published – Live” with timestamp
 - Note any outstanding follow-up or future enhancements
- c. Notify relevant teams and users of availability
 - Announce the new indicator to platform users (if public) or internal audiences
 - Include links, interpretation notes, and contact information

4.2.2.F
(1/2)

Conduct Post-Publication Testing and Business Validation: After the indicator is published to the statistics and analytics platform, verify that it performs correctly, renders as expected, and delivers value to end users. This includes validating logic accuracy, user experience, metadata completeness, and alignment with the original purpose defined in the charter and requirements documents. The Business Data Analyst leads this step, with support from the Indicator Owner, Platform Administrator, Tester/QA, and Data Governance Specialist.

A

- i. **Monitor technical performance and platform behavior:** Ensure the indicator is stable, responsive, and correctly integrated into the live environment.
 - a. Track dashboard and KPI card behavior post-launch
 - Monitor loading times, filter responsiveness, and display rendering
 - Check tooltip pop-ups, breadcrumb navigation, and download/export functionality
 - b. Validate refresh behavior and update automation
 - Confirm that scheduled refresh jobs execute successfully
 - Monitor the indicator for correct update timestamps and recent values
 - c. Detect errors or anomalies via platform logs or alerts
 - Review error logs or failed API calls
 - Investigate any issues flagged by system monitors or early users
- ii. **Validate indicator logic and content accuracy:** Confirm that the indicator behaves as intended and reflects the approved logic and source data.
 - a. Spot-check indicator values against expected benchmarks
 - Compare published values with known internal reports, reference data, or past values
 - Validate disaggregations (if any) and confirm that groupings work correctly
 - b. Review visual and structural integrity with QA team
 - Ensure data is accurately displayed in KPI cards, charts, or tables

4.2.2.F
Cont.
(2/2)

- Check formatting (e.g., decimals, units, date stamps)
- c. Reconfirm consistency with metadata and charter
 - Ensure the output matches the indicator definition, formula, and business context documented in 2.2.2 and 2.3.2
- iii. **Conduct business validation with stakeholders and end users:** Gather structured feedback from indicator consumers to assess usability and interpretability.
 - a. Organize validation sessions with business users
 - Include Indicator Owners, Planning Leads, and department-level stakeholders
 - Walk through the dashboard and review interpretation together
 - b. Collect structured feedback on clarity and value
 - Assess whether the output is understandable, actionable, and trustworthy
 - Solicit suggestions on enhancements, disclaimers, or metadata fields
 - c. Log feedback and categorize any issues raised
 - Classify feedback as technical, usability, or strategic
 - Flag critical issues for immediate triage and resolution
- iv. **Resolve issues and confirm platform readiness for sustained use:** Fix identified issues and prepare the indicator for transition into long-term monitoring.
 - a. Apply corrections for technical or business feedback
 - Fix broken filters, visual inconsistencies, or metadata omissions
 - Revise any misleading or confusing content
 - b. Log updates and version changes in the implementation tracker
 - Record all modifications with timestamp and reason
 - Retain audit trail for accountability and governance
 - c. Confirm readiness for transition to monitoring (Step 4.2.2.G)
 - Mark indicator status as “Stabilized” or “Ready for Maintenance”
 - Notify stakeholders that post-publication validation is complete

4.2.2.G
(1/2)

A

Transition Indicator to Operational Monitoring and Refresh Cycle: Establish the long-term refresh, monitoring, and governance routines for each published indicator. This step ensures indicators remain up-to-date, relevant, and trusted over time, with clearly assigned responsibilities and defined procedures for performance tracking, metadata updates, and issue resolution. The Business Data Analyst and Indicator Owner are jointly responsible for executing this step, in collaboration with the Platform Administrator, Data Steward, and Data Governance Specialist.

- i. **Define the update frequency and refresh logic:** Confirm how often each indicator should be updated and what triggers refreshes.
 - a. Set a standard update frequency
 - Daily, Weekly, Monthly, Quarterly, or Annually
 - Align with data source availability and policy/reporting cycles
 - b. Document the data refresh mechanism
 - Specify whether refreshes are automated (e.g., via ETL jobs or pipelines) or manual
 - Indicate time windows for refresh (e.g., “5th of each month at 3 AM”)
 - c. Clarify any external refresh dependencies
 - E.g., “Requires MoF to release monthly budget dataset before indicator refresh”
- ii. **Establish monitoring and alert mechanisms:** Put in place tools and processes to detect technical or content-related issues after deployment.
 - a. Configure platform monitoring and alerting tools
 - Track refresh job status, display availability, and load performance
 - Set up alert rules for job failures, outdated data, or indicator unavailability
 - b. Define performance thresholds and exceptions
 - E.g., “Alert if refresh fails 2 times consecutively”
 - Define allowable lag windows (e.g., “No more than 3-day delay from data source release”)
 - c. Assign roles for ongoing monitoring
 - Data Engineer/Platform Admin: monitors technical health
 - Business Data Analyst: monitors data integrity and stakeholder concerns
- iii. **Plan for future review, enhancement, or retirement:** Ensure indicators evolve with policy needs, user expectations, and data availability.
 - a. Define triggers for indicator review or revision
 - Change in policy/strategy, source data changes, or business feedback
 - Periodic reviews (e.g., annually or after each national planning cycle)
 - b. Document enhancement requests and backlog items

4.2.2.G
Cont.
(2/2)

- Maintain a change log for potential improvements (e.g., new filters, additional breakdowns)
- Tag enhancements as “Planned,” “Under Review,” or “Deferred”

c. Define archival or retirement process if no longer needed

- Apply metadata tags for “Archived,” “Superseded,” or “Decommissioned”
- Store final indicator version and document rationale for removal

RACI Matrix – Statistics Indicator Implementation

Indicative

Sr No.	Activity	Data Management and Security Director	Data Architecture and Analytics Section Head	UI/UX Designer	Tester/QA	Platform Administrator	Data Visualization Officer	Data Governance Specialist	Data Steward	Data Engineer	Indicator Owner	Data Architect	Business Data Analyst	Data Compliance Specialist	Data Quality Specialist
4.2.2.A	Implement Indicator Logic and Data Preparation	I	A						C	R		C	C		
4.2.2.B	Conduct Qatar Data Trust Index (QDTI) Assessment and Generate Score		A											C	R
4.2.2.C	Configure Output Structure, Metadata, and Governance Tags		A					C		C	C		R		
4.2.2.D	Design and Deploy Indicator Visualizations or KPI Cards	I	A	C		C	R						C		
4.2.2.E	Publish the Indicator to the Platform	I	A			R		C			C		C		
4.2.2.F	Conduct Post-Publication Testing and Business Validation	I	A		C	C		C			C		R		
4.2.2.G	Transition Indicator to Operational Monitoring and Refresh Cycle		A			C		C	C		R		R		

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

Based on this Activity, the Entity can



Compute, validate, and structure indicator logic based on approved calculation methodology



Design, deploy, and publish the indicator on the Statistics and Analytics Platform



Activate ongoing refresh, quality monitoring, and version-controlled operational governance routines

5. Statistics and Analytics Operations



5. Statistics and Analytics Operations

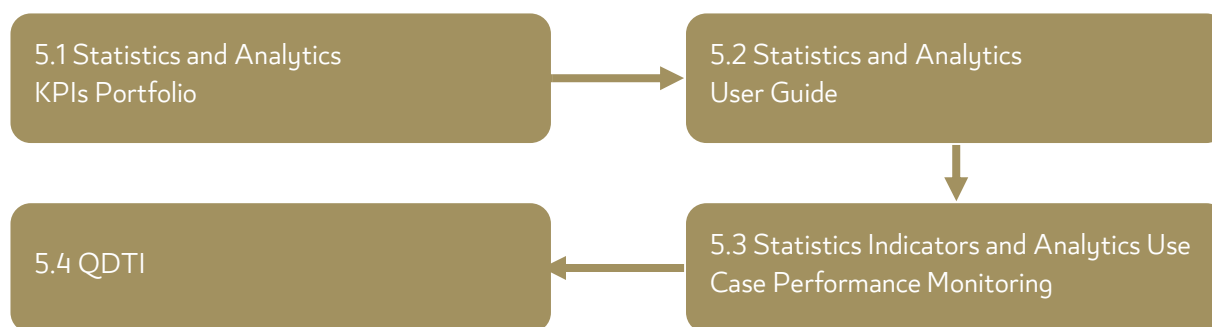
What is Statistics and Analytics Operations and why does the Entity need it?

The Statistics and Analytics Operations process provides a structured approach to governing the ongoing performance, usability, and value realization of the Entity's deployed statistical indicators and analytics use cases. It translates design and implementation efforts into sustained operational excellence by establishing mechanisms for monitoring, guidance, and continuous improvement across analytical assets.

This process ensures that analytical products remain accurate, reliable, and impactful through active stewardship of key performance indicators (KPIs), delivery of user-centric documentation, and structured performance monitoring frameworks. It empowers both technical and business stakeholders to track outcomes, refine outputs, and drive data-informed decision-making throughout the analytics lifecycle.

Through activities such as KPI portfolio development, user guide creation, and performance monitoring, the Entity can enhance trust in its analytics, promote broader adoption, and align analytical efforts with national priorities and evolving user needs. These operational capabilities enable the Entity to maintain visibility, responsiveness, and governance over all implemented indicators and analytics solutions.

The remaining sections of this chapter will detail the below activities that guide the Entity through executing the Statistics and Analytics Operations process.



Guiding Principles for Statistics and Analytics Operations

1. **Focus on Value Realization:** Ensure all deployed indicators and analytics use cases are continuously evaluated against their intended outcomes to demonstrate strategic and operational value.
2. **Promote Transparency and Interpretability:** Equip users with clear definitions, metadata, and instructional guides that enable consistent understanding, responsible usage, and confident decision-making.
3. **Embed Monitoring and Feedback Loops:** Establish mechanisms to track technical performance and user engagement, using these insights to proactively improve analytics solutions and user experience.
4. **Enable Iterative Improvement:** Adopt a continuous improvement mindset by formalizing change request procedures and responding to feedback, system performance, and evolving business needs.

5.1 Statistics and Analytics KPIs Portfolio

This activity guides the Entity in developing and maintaining a structured portfolio of key performance indicators (KPIs) associated with implemented statistical indicators and analytics use cases. The KPI portfolio ensures that each statistical output or analytics solution is tied to measurable performance metrics, enabling the Entity to track effectiveness, improve transparency, and demonstrate value to internal and external stakeholders.

Process – Statistics and Analytics KPIs Portfolio

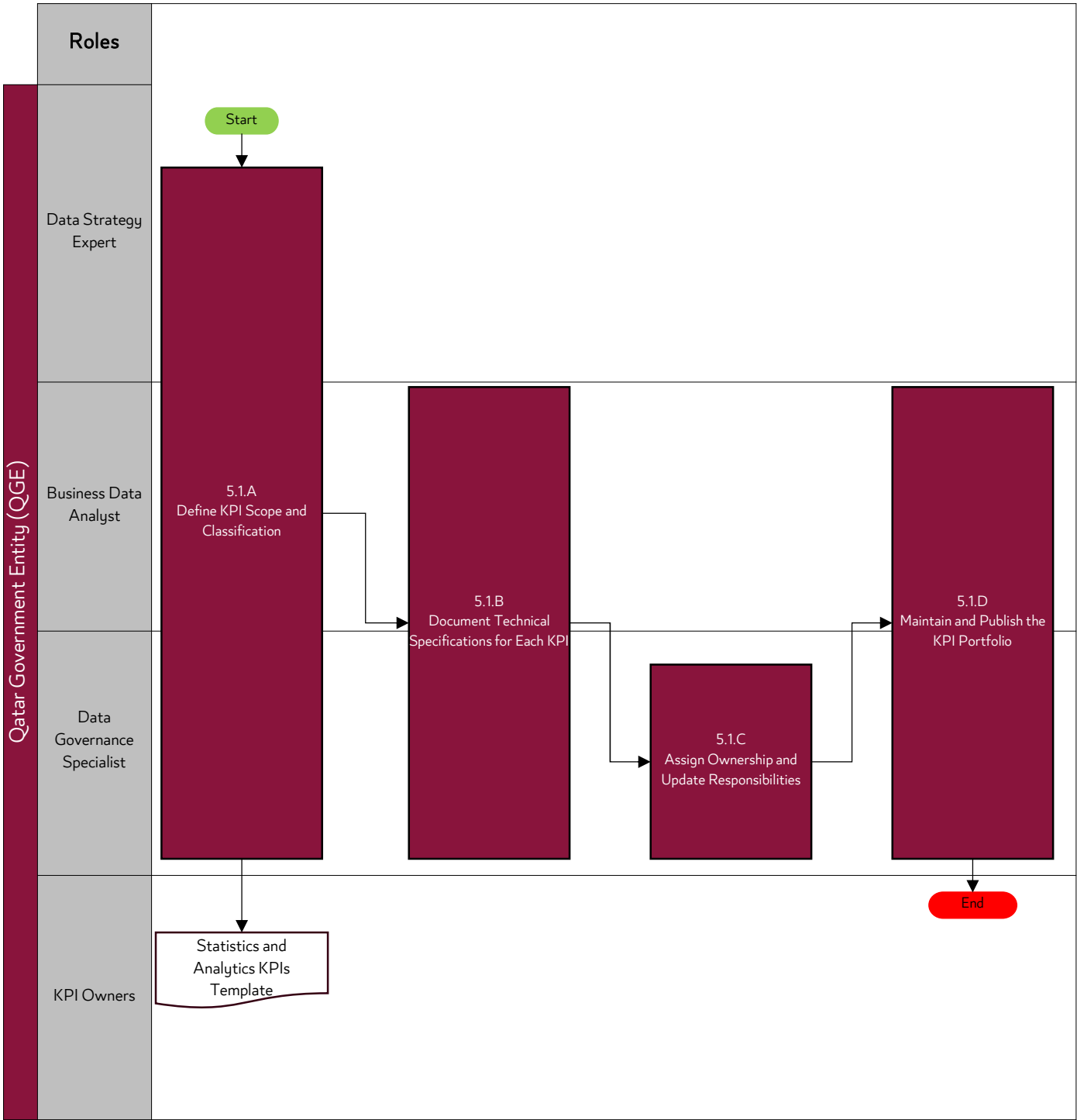


Figure 33: Statistics and Analytics KPIs Portfolio Process Map

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

Define KPI Scope and Classification: This step guides the Entity to identify which statistics indicators and analytics use cases require KPI tracking and to group the KPIs into meaningful categories based on their function and intended use. This classification provides a foundation for consistent measurement, monitoring, and governance across the entire statistics and analytics portfolio. The Data Strategy Expert leads this step in collaboration with the Business Data Analyst, and Data Governance Specialist.

- i. **Identify which use cases and indicators require performance tracking:** The Data Strategy Expert reviews the approved portfolio of statistics indicators and analytics use cases to determine scope.
 - a. Select all indicators and use cases that have moved into production or are under active implementation.
 - b. Exclude proof-of-concepts, discontinued initiatives, or passive outputs that do not require ongoing evaluation.
 - c. Flag high-visibility or high-impact use cases for priority KPI coverage (e.g., cross-entity dashboards, externally reported indicators).
- ii. **Classify KPIs by category and function:** The Business Data Analyst assigns each KPI to one or more categories to support portfolio reporting and dashboard segmentation.
 - a. Suggested classification dimensions include:
 - Strategic KPIs: Track alignment with strategic objectives and long-term goals.
 - Operational KPIs: Measure technical performance, timeliness, and data flow health.
 - Methodological KPIs: Track statistical quality (e.g., accuracy, consistency, comparability).
 - User Adoption KPIs: Measure end-user usage, satisfaction, and decision-making value.
 - b. Ensure categories are non-overlapping.
- iii. **Define prioritization for KPI documentation and monitoring:** The Data Strategy Expert recommends which KPIs should be documented and monitored immediately and which may be added over time.
 - a. Prioritize KPIs for high-priority indicators (e.g., those reported nationally or to international bodies).
 - b. Schedule lower-tier or internal-use KPIs for future documentation based on available resources.
 - c. Create a short-term and long-term documentation plan tied to capacity.

5.1.A
Cont.
(2/2) **Asset Guidance**

The **Statistics and Analytics KPIs Portfolio Template** can be used to track the Statistics and Analytics KPIs through a structured set of fields. *Illustrative*



Statistics and Analytics KPIs Portfolio Template

The following table is a template containing what is needed to provide a brief overview of statistics and analytics KPIs

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	Strategic, Operational, Methodological, or User Adoption KPIs
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
Data Source	Dataset(s), platforms, or data pipeline(s) that feed or generate the KPI
Measurement Frequency	How frequently the KPI is measured or refreshed (e.g., Daily, Monthly)
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	Calculation Methodology	Target Value	Data Source

Measurement Frequency	Last Updated Date	Status	Comments	Owner

5.1.B
(1/2)

Document Technical Specifications for Each KPI: This step guides the Entity to formally define and record technical metadata for each KPI in its statistics and analytics portfolio. Each KPI must be clearly described, consistently calculated, and documented in the approved register template. This supports traceability, comparability, and performance monitoring across statistical indicators and analytics use cases. The Business Data Analyst is responsible for executing this step in collaboration with the Data Governance Specialist.

i. **Complete core fields in the KPI Register Template:** The Business Data Analyst populates each KPI entry into the Statistics and Analytics KPIs Portfolio Template.

a. For each KPI, complete the following fields:

- KPI ID: A unique identifier (e.g., KPI-S01, KPI-A03)
- KPI Name: Clear, descriptive title (e.g., “Dashboard Load Time”, “Quarterly Unemployment Rate Accuracy”)
- KPI Type: Classify as Strategic, Operational, Methodological, or Adoption
- Calculation Methodology: Define the exact formula used, including units of measure (e.g., “(# of complete records ÷ total records) × 100”)
- Target Value: Set a predefined benchmark or performance threshold (e.g., 95% accuracy, <2s latency)

b. Ensure consistency in terminology and formatting across all entries.

c. Use a shared glossary to define recurring KPI terms such as “uptime”, “timeliness”, etc.

A

5.1.B
Cont.
(2/2)

- ii. **Define data sources and measurement frequency:** The Business Data Analyst provide supporting details on how and when each KPI will be updated.
 - a. For each KPI, complete the following fields:
 - Data Source: Dataset(s), platforms, or pipeline feeding the KPI
 - Measurement Frequency: e.g., Daily, Weekly, Monthly, Quarterly, On Demand
 - Last Updated Date: The most recent data refresh or reporting date
 - b. Validate that KPI measurement aligns with availability of system logs, statistical production schedules, or platform telemetry.
 - c. Flag any KPIs that require manual updates for future automation planning.
- iii. **Record ownership, status, and supporting context:** The Data Governance Specialist confirms who is responsible for each KPI and captures relevant commentary.
 - a. For each KPI, complete the following:
 - Owner: The named role (e.g., Analytics Manager, Chief Statistician, Platform Admin) responsible for updating and reporting
 - Status: On Track / Off Track
 - Comments: Any explanatory notes (e.g., delayed rollout, definition change, system upgrade impact)
 - b. Use the “Comments” field to highlight dependencies, known issues, or upcoming enhancements.
 - c. Ensure KPI owners understand their responsibilities for maintaining accuracy and reporting cadence.

5.1.C
(1/2)

Assign Ownership and Update Responsibilities: This step ensures that KPI ownership recorded during documentation is formally confirmed, communicated, and integrated into the Entity’s ongoing governance and reporting processes. Ownership is not just about assigning names in a register—it is about ensuring accountability, clear responsibilities, and sustained maintenance of the statistics and analytics KPI portfolio. The Data Governance Specialist is responsible for leading this step in coordination with Department Heads.

- i. **Confirm and validate KPI owners recorded in the register:** The Data Governance Specialist follows up with individuals or teams listed as owners in Step 5.1.B to formally confirm responsibility.
 - a. Verify that the assigned owner has the mandate, capacity, and access needed to maintain the KPI.
 - b. For each KPI, confirm acceptance via email, formal assignment memo, or governance platform.
 - c. Where needed, reassign ownership or designate alternates to ensure accountability.
- ii. **Define and communicate owner responsibilities:** The Data Governance Specialist provides clear guidance on what is expected from each owner.
 - a. Responsibilities include:

A

5.1.C
Cont.
(2/2)

- Ensuring the KPI is updated on time based on the defined frequency
- Validating the calculation methodology and underlying data sources
- Raising risks or issues if data is missing, inaccurate, or delayed
- Participating in KPI review meetings and strategy performance assessments

b. Share a short KPI Owner checklist outlining key duties and update protocols.

iii. **Integrate KPI ownership into governance processes:** The Data Governance Specialist ensures that KPI ownership is embedded into operational workflows, dashboards, and governance routines.

- a. Tag KPI owners in dashboards and reporting platforms for transparency.
- b. Include owners in performance review schedules or reporting cycles (e.g., quarterly reviews).
- c. Share the confirmed owner list with the Data Committee and store it in the governance workspace for reference and audit readiness.

5.1.D

A

Maintain and Publish the KPI Portfolio: This step guides the Entity to store, maintain, and govern its Statistics and Analytics KPI Portfolio in a centralized and accessible format. Publishing the KPI register ensures transparency across teams, supports integration with monitoring tools, and enables periodic reviews to keep metrics relevant and reliable over time. The Data Governance Specialist is responsible for executing this step, in coordination with KPI Owners.

i. **Store the KPI register in a centralized governance workspace:** The Data Governance Specialist ensures the KPI Portfolio is housed in an official, version-controlled location.

- a. Upload the completed KPI Register (populated in Step 5.1.B) to the Entity's approved governance repository (e.g., SharePoint, intranet, governance platform).
- b. Apply access controls to allow visibility for key stakeholders (e.g., Data Committee, KPI Owners, Strategy Office).

ii. **Publish a reference view of the KPI Portfolio for broader use:** The Data Governance Specialist coordinates to make the KPI set visible to operational and strategic users.

- a. Provide a read-only dashboard or export (e.g., PDF snapshot or table view) to business units, analytics teams, and Section Heads.
- b. Link the portfolio to strategy monitoring tools to enable automated KPI pull-ins.
- c. Where appropriate, include selected KPIs in executive dashboards or strategy reports.

iii. **Establish a process for periodic review and updates:** The Data Governance Specialist defines how the KPI Portfolio will be maintained and refreshed over time.

- a. Conduct a formal KPI review semi-annually or annually, involving KPI Owners and Strategy Leads.
- b. Archive outdated KPIs and log any changes in methodology, ownership, or definitions.
- c. Use feedback from performance monitoring (Activity 5.3) to refine, add, or retire KPIs as needed.

RACI Matrix - Statistics and Analytics KPIs Portfolio

Indicative

Sr No.	Activity	Data Management & Security Director	Data Architecture and Analytics Section Head	Data Strategy Expert	Data Governance Specialist	Business Data Analyst	KPI Owners
5.1.A	Define KPI Scope and Classification	I	A	R	R	R	
5.1.B	Document Technical Specifications for Each KPI		A		R	R	
5.1.C	Assign Ownership and Update Responsibilities	I	A/C		R		
5.1.D	Maintain and Publish the KPI Portfolio		A		R		R

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

Based on this Activity, the Entity can



Define Statistics and Analytics KPIs



Maintain and Publish KPIs

5.2 Statistics and Analytics User Guide

This activity supports the development and maintenance of user guides for the Entity’s statistical and analytical outputs. These guides provide clear instructions and reference materials to help internal users and stakeholders effectively navigate, interpret, and apply insights from the implemented dashboards, reports, and analytics tools. By promoting data literacy and self-service, the user guide ensures that the full value of statistical and analytics outputs is realized across all business domains.

Process – Statistics and Analytics User Guide

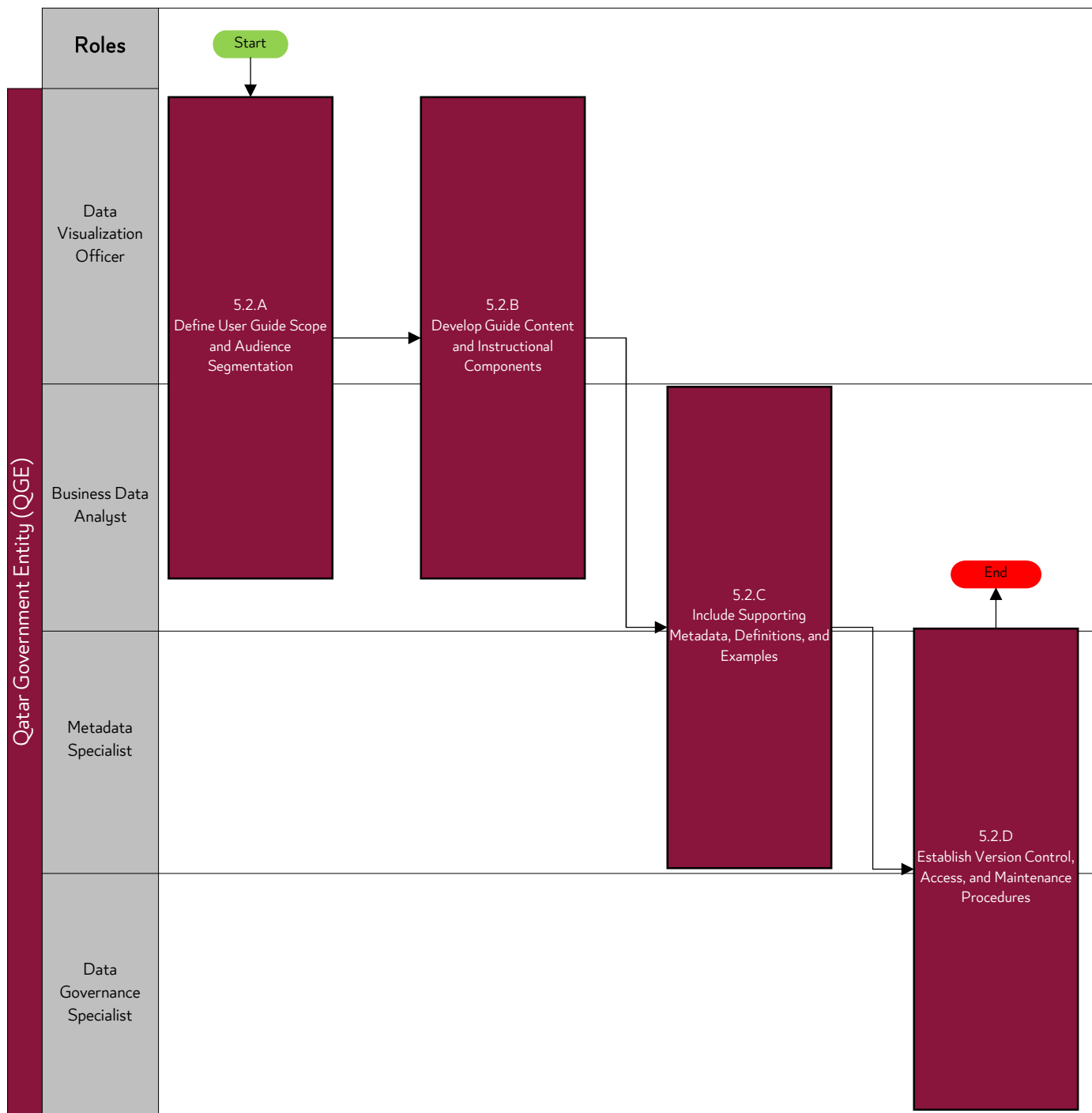


Figure 34: Statistics and Analytics User Guide Process Map

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

5.2.A
(1/2)

A

Define User Guide Scope and Audience Segmentation: Identify the intended audiences for each user guide and clearly define the scope of content based on the statistical and analytics solutions being delivered. The segmentation enables tailored guidance that reflects users' data literacy levels, reporting needs, and system access profiles. The Business Data Analyst is responsible for executing this step in coordination with the Data Visualization Officer and in consultation with Data Owners and the Data Governance Specialist.

- i. **Classify the types of user guides to be developed:** Determine the coverage and format of the user guides based on the nature of the analytics products deployed.
 - a. Identify key reporting and analytics tools in scope
 - Include operational dashboards, strategic scorecards, open data visualizations, forecasting models
 - Document the analytics platforms or BI tools used (e.g., Power BI, Tableau, Qlik)
 - b. Define use case-based user guides vs. tool-based guides
 - Use case-based: Explaining a water consumption dashboard or a revenue forecasting model
 - Tool-based: Generic instructions for interacting with platform features (e.g., filters, exports)
 - c. Document which outputs require stand-alone guides
 - Prioritize high-impact dashboards, frequently used reports, and predictive/prescriptive models
 - Consider creating a single consolidated guide for less complex outputs
- ii. **Segment the audience based on roles and capabilities:** Map user groups according to their functional responsibilities, data literacy level, and required depth of insight.
 - a. Group users into personas by access and purpose
 - Examples: Executives (high-level KPIs), Managers (operational tracking), Analysts (in-depth exploration)
 - Include internal and external stakeholders if applicable (e.g., regulators, consultants)
 - b. Define levels of technical complexity required
 - Basic: Navigation, filters, KPIs; Intermediate: Drill-downs, scheduling
 - Advanced: Ad hoc analysis, data exports
 - Align guide format and content depth with user segment needs
 - c. Capture user expectations and pain points through interviews or surveys
 - Gather feedback on usability issues, questions frequently asked, and features that need clarification
 - Use results to fine-tune the structure and tone of the guide

5.2.A
Cont.
(2/2)

- iii. **Document audience scope and intended outcomes per guide:** Define the purpose, target audience, and success criteria for each guide as a preface to development.
- Write a "Guide Purpose and Intended Audience" section
 - Describe what the guide enables users to do and who it is for
 - Use language suited to the target group's data literacy level
 - Identify key user actions the guide must support
 - Examples: Accessing weekly KPIs, interpreting forecast bands, navigating time-series filters
 - Align actions with analytics use cases from Activity 2.2
 - Outline accessibility and language requirements
 - Specify whether the guide will be provided in Arabic, English, or both
 - Indicate expected delivery formats (PDF, web-based, embedded in dashboard)

5.2.B
(1/2)

Develop Guide Content and Instructional Components: Produce user-friendly content that helps end users understand how to access, navigate, and interact with dashboards, reports, or analytics tools. The guide should be instructional, clearly organized, and adapted to the technical capabilities and information needs of different user groups. The Data Visualization Officer is responsible for executing this step in collaboration with the Business Data Analyst and in consultation with Data Stewards and the Data Governance Specialist.

A

- Structure the guide in logical, task-oriented sections:** Organize content based on typical user actions to streamline orientation and enhance usability.
 - Provide a clear, navigable table of contents
 - Include quick links to major sections: login, filters, interpretation, exports, FAQs
 - Use consistent headers, icons, and numbering across all guides
 - Outline step-by-step user journeys
 - Begin with "how to access the tool" → "how to interpret visuals" → "how to extract or share insights"
 - Use flow diagrams or screen walkthroughs where possible
 - Segment the guide based on user role or level
 - Include beginner-friendly summaries and appendices with advanced features
 - Use callouts like "For Analysts Only" or "Executive Quick View"
- Incorporate visual examples and annotated screenshots:** Use annotated visuals to enhance understanding, especially for non-technical users.
 - Capture screenshots of key pages and functionalities
 - Mark up visuals with arrows, callout boxes, and tooltips
 - Include both Arabic and English versions if multilingual interface is available

5.2.B
Cont.
(2/2)

- b. Highlight common interface elements and actions
 - Filters, drop-downs, KPI tiles, graphs, tables, export buttons
 - Annotate icons or visuals with brief, plain-language explanations
- c. Include "how-to" walkthroughs for typical tasks
 - Examples: "View monthly breakdown by region," "Download PDF version," "Apply custom filter"
 - Keep instructions concise and paired with screenshots
- ii. **Provide contextual help, tips, and embedded learning:** Enhance user self-sufficiency by embedding guidance within or alongside the analytics interface.
 - a. Write user tips and FAQ sections for each module
 - Example: "Why is this KPI blank this month?" or "How do I change the timeframe?"
 - Include known limitations or common misunderstandings
 - b. Embed guidance within dashboards where possible
 - Include info icons, help popovers, or contextual explanations alongside metrics
 - Link to relevant guide pages or videos from within the dashboard
 - c. Provide links to supplementary resources and training
 - Link to the Entity's data glossary, methodology documentation, or video tutorials
 - Include contact details or help desk references for technical support

5.2.C
(1/2)

Include Supporting Metadata, Definitions, and Examples: Integrate relevant metadata, indicator definitions, data sources, and illustrative examples into the user guide to ensure clarity, transparency, and consistency in interpreting analytics outputs. This promotes informed decision-making and supports responsible reuse of insights across the organization. The Metadata Specialist is responsible for executing this step in collaboration with the Business Data Analyst and in consultation with Data Stewards.

- i. **Embed key metadata elements for each report or dashboard component:** Provide users with clear and concise metadata alongside visuals and KPIs.
 - a. Define mandatory metadata fields per indicator or KPI
 - Name, definition, calculation formula, data source, update frequency, owner, last update
 - Align with the structure of the KPI Register Template used in Activity 5.1
 - b. Display metadata in context and in summary tables
 - Include info icons, collapsible panels, or metadata tables at the end of each section
 - Ensure metadata follows consistent formatting and language across all reports
- ii. **Provide plain-language definitions and classification mappings:** Help users understand terminology, indicator structure, and domain-specific classifications.

A

5.2.C
Cont.
(2/2)

- a. Refer users to the Business Glossary in the Data Catalog (where needed)
 - Ensure that terminology is defined in Arabic and English where applicable
 - b. Explain disaggregation categories and groupings
 - Examples: gender, region, age group, industry codes, performance quartiles
 - Clarify any mappings from source data (e.g., codes to descriptions)
 - c. Include explanations for statistical or model-derived values
 - Clearly explain confidence intervals, forecast bands, scoring logic
 - Add notes on assumptions, thresholds, or modeling caveats
- iii. **Add annotated examples and scenario-based use cases:** Provide realistic walkthroughs to help users learn by doing and apply insights in context.
- a. Include sample visualizations with annotations
 - Highlight how to read a time series chart, trend arrow, or target vs. actual indicator
 - Use tooltips or image captions to guide interpretation
 - b. Write scenario-based usage examples
 - E.g., “How a planning manager tracks monthly budget utilization,” or “How a policy officer compares unemployment by region”
 - Structure examples with step-by-step logic and screenshots
 - c. Provide downloadable or interactive sandbox views (if applicable)
 - Link to a test dashboard or dummy dataset for users to explore safely
 - Clarify the difference between training/demo vs. production environments

5.2.D

Establish Version Control, Access, and Maintenance Procedures: Implement procedures to govern the creation, publishing, access, and ongoing maintenance of statistics and analytics user guides. This ensures that guides remain up-to-date, traceable, accessible to the right audiences, and aligned with the evolution of dashboards, reports, and data assets. The Data Governance Specialist is responsible for executing this step in coordination with the Metadata Specialist and in consultation with the Business Data Analyst and IT Team.

- i. **Implement formal version control and document traceability:** Ensure that all guides are versioned, auditable, and properly linked to the evolution of analytics outputs.
 - a. Define version numbering and update history conventions
 - Use a standard version format (e.g., v1.0, v1.1, v2.0) with date and author
 - Include a version log summarizing key changes per release
 - b. Link guide versions to corresponding report or dashboard versions'
 - Each user guide should indicate the dashboard/report version it applies to
 - Include reference IDs or timestamps to ensure alignment

A

RACI Matrix - Statistics and Analytics User Guide

Indicative

Sr No.	Activity	Data Management & Security Director	Data Architecture and Analytics Section Head	Data Owners	Data Stewards	Metadata Specialist	Data Governance Specialist	Business Data Analyst	Data Visualization Officer	IT Team
5.2.A	Define User Guide Scope and Audience Segmentation	I	A	C			C	R	R	
5.2.B	Develop Guide Content and Instructional Components	I	A		C		C	R	R	
5.2.C	Include Supporting Metadata, Definitions, and Examples	I	A		C	R		R		
5.2.D	Establish Version Control, Access, and Maintenance Procedures		A			R	R	C		C

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

Based on this Activity, the Entity can



Develop User Guides



Establish Version Control, Access, and Maintenance Procedures

5.3 Statistics Indicators and Analytics Use Case Performance Monitoring

This activity defines the procedures and tools required to continuously monitor the operational and strategic performance of implemented statistical indicators and analytics use cases. It ensures that deployed outputs remain reliable, relevant, and value-generating by tracking outcome realization, pipeline health, and user adoption. This activity also supports the identification of enhancements, user-driven changes, and opportunities for refinement across the analytics lifecycle.

Process – Statistics Indicators and Analytics Use Case Performance Monitoring

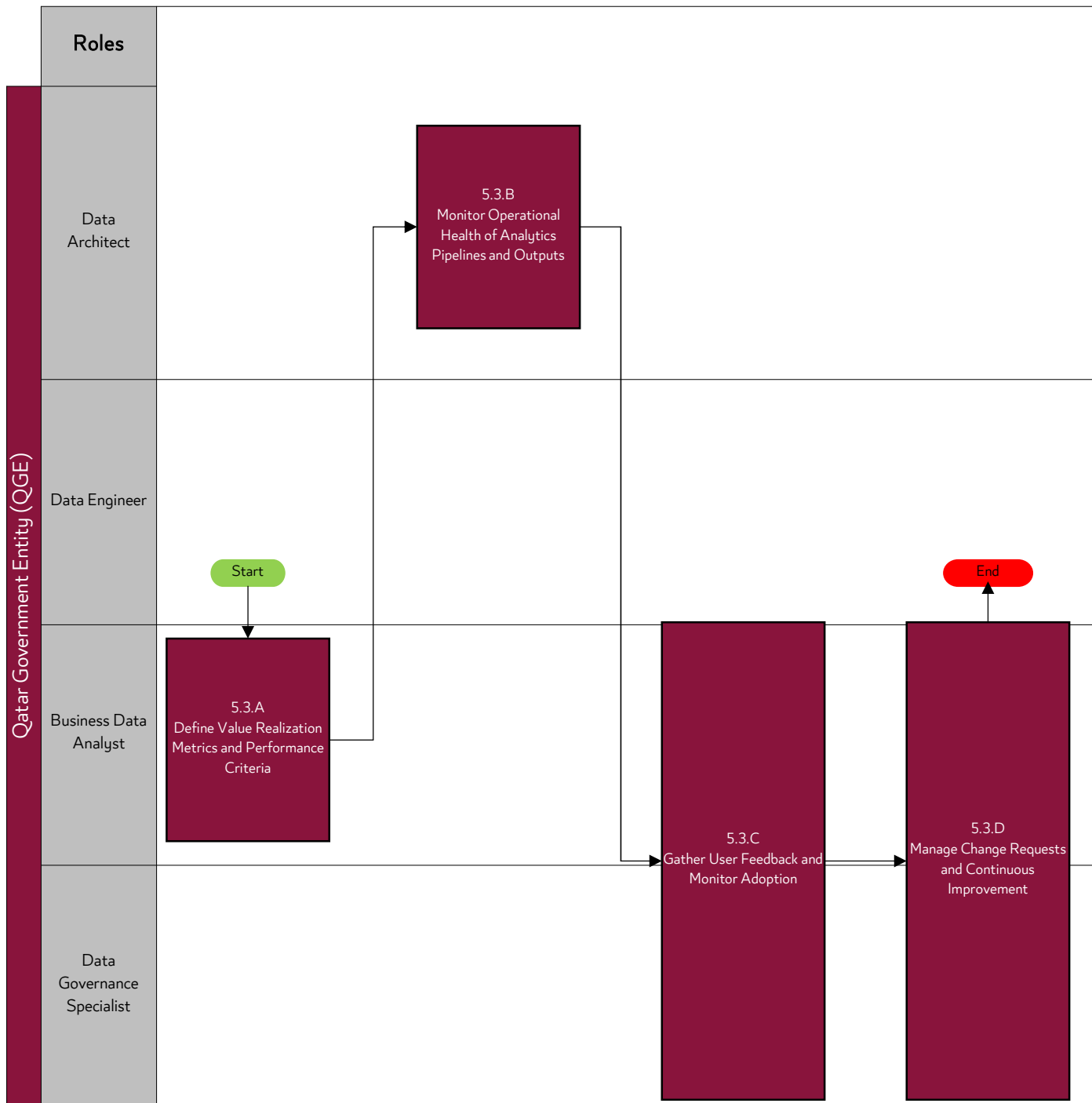


Figure 35: Statistics Indicators and Analytics Use Case Performance Monitoring Process Map

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

5.3.A
(1/2)

VA

Define Value Realization Metrics and Performance Criteria: Establish a structured set of outcome-based metrics and success criteria to evaluate whether implemented indicators and analytics use cases are generating their intended value. These metrics are drawn from the KPIs documented in Activity 5.1 and are used to support transparency, accountability, and strategic alignment across statistical and analytics initiatives. The Business Data Analyst is responsible for executing this step in consultation with the Data Owners, the Data Governance Specialist and KPI owners.

- i. **Define value realization dimensions and categories:** Identify what constitutes “value” for each analytics use case or indicator based on its original business case or intended outcome.
 - a. Categorize expected value into strategic, operational, and informational benefits
 - Strategic: improved decision-making, policy impact, increased transparency
 - Operational: time saved, cost reduced, automated reporting
 - Informational: improved insight quality, faster access to intelligence
 - b. Align value dimensions with documented use case charters (see 2.2)
 - Reference expected benefits and ROI estimates defined (if applicable)
 - Map each benefit to one or more measurable KPIs
 - c. Include qualitative and quantitative indicators of success
 - Example: “Time-to-decision reduced by 30%” or “User satisfaction score > 80%”
 - Use Likert scales, usage rates, and policy citations when quantitative metrics are not applicable
- ii. **Develop a performance measurement framework per use case:** Define how performance will be measured, tracked, and evaluated consistently across all deployed outputs.
 - a. Select relevant KPIs from the Statistics and Analytics KPI Portfolio (see Activity 5.1)
 - Use KPIs previously documented, ensuring their definitions, sources, and formulas are stable
 - Reference each KPI’s unique ID or title for traceability
 - b. Define baseline and target values for each metric
 - Use historical data or pre-implementation values for comparison
 - Identify stretch targets if applicable for innovation-oriented use cases
 - c. Establish measurement frequency and review cycles
 - Define monthly, quarterly, or ad hoc review cycles depending on use case sensitivity
 - Set calendar triggers for performance check-ins
- ii. **Link value realization metrics to business outcomes and governance:** Ensure value monitoring is embedded in the entity’s performance management and analytics governance.
 - a. Align metrics with entity-wide strategy and performance goals
 - Link use case outcomes to strategic KPIs, ministry-level goals, or national development indicators
 - Use existing balanced scorecard or strategy map frameworks if available

5.3.A
Cont.
(2/2)

- b. Assign ownership and accountability for performance tracking
 - Identify a KPI owner (often the same as the analytics use case owner)
 - Assign responsibility for data collection and reporting
- c. Define escalation and remediation thresholds
 - Set alert rules for underperformance (e.g., below 80% of target for 2 cycles)
 - Outline procedures for initiating reviews or corrective actions

5.3.B
(1/2)

Monitor Operational Health of Analytics Pipelines and Outputs: Establish monitoring procedures and tools to ensure the timely, accurate, and reliable operation of analytics pipelines, indicators, and dashboard outputs. This includes technical observability, automated alerts, and operational logging to detect and resolve failures or anomalies in data processing and reporting. The Data Engineer is responsible for executing this step in coordination with the Data Architect and in consultation with the Data Quality Specialist and Platform Administrators.

VA

- i. **Define technical monitoring scope across the analytics lifecycle:** Establish what should be monitored to ensure successful generation and refresh of analytics outputs.
 - a. Identify critical pipeline components and stages
 - Examples: data ingestion connectors, data transformation scripts, model scoring jobs, dashboard refresh processes
 - Include batch jobs, streaming jobs, and any scheduled model runs
 - b. Map dependencies between source systems and output delivery
 - Document upstream systems, APIs, and scheduling dependencies
 - Identify single points of failure and fallback procedures
 - c. Classify analytics outputs by operational criticality
 - High (e.g., daily operations dashboards), Medium (e.g., monthly policy reports), Low (e.g., ad hoc models)
 - Use classification to determine alerting thresholds and escalation paths
- ii. **Implement logging, metrics, and alerts for key pipeline components:** Use monitoring tools to detect failures, slowdowns, or irregularities across analytics services.
 - a. Configure automated logging and technical health metrics
 - Monitor success/failure status, record count mismatches, processing time, data freshness, API response codes
 - Centralize logs using a platform such as ELK, Grafana, or cloud-native observability tools
 - b. Set alert thresholds and notification channels
 - Examples: Alert if a daily job fails, data latency exceeds SLA, dashboard refresh is skipped
 - Send alerts via email, chat, or monitoring dashboard with severity levels

5.3.B
Cont.
(2/2)

- c. Maintain monitoring dashboards for analytics infrastructure
 - Visualize job statuses, data latency, model uptime, refresh timestamps
 - Provide a shared interface for IT and data operations teams
- iii. **Establish issue resolution and recovery procedures:** Ensure there is a clearly defined playbook for addressing failures, delays, or degradation in analytics service delivery.
 - a. Document standard operating procedures (SOPs) for failure scenarios
 - Define response steps for common issues: data delay, schema change, timeout, resource exhaustion
 - Assign triage responsibilities to specific roles or teams
 - b. Define service-level objectives (SLOs) and acceptable downtime windows
 - E.g., “Data refresh must complete within 2 hours of scheduled time,” or “Dashboard must update by 9:00 AM daily”
 - Set expected recovery times for high-priority outputs
 - c. Maintain incident logs and post-mortem reports
 - Record root cause analysis (RCA) for recurring or major issues
 - Use findings to refine pipeline design or system architecture

5.3.C
(1/2)

Gather User Feedback and Monitor Adoption: Establish structured mechanisms to collect feedback and usage insights from end users of indicators and analytics use cases. This feedback enables continuous refinement of outputs, ensures they remain relevant and user-friendly, and promotes widespread adoption and engagement across the entity. The Data Governance Specialist is responsible for executing this step in collaboration with the Business Data Analyst and in consultation with Data Owners.

VA

- i. **Design and deploy user feedback collection mechanisms:** Gather qualitative and quantitative input on how analytics outputs are used and perceived.
 - a. Develop feedback forms embedded within dashboards and reports
 - Use lightweight popups or form links asking for relevance, clarity, usefulness ratings
 - Include open-text fields for comments or feature requests
 - b. Conduct periodic user satisfaction and experience surveys
 - Segment users by persona (e.g., executives, analysts, operational staff)
 - Include questions on ease of use, trust in data, and business relevance
 - c. Facilitate feedback through focus groups and direct interviews
 - Organize sessions with target departments or working groups to gather deeper qualitative insights
 - Prioritize high-impact or newly implemented dashboards for live feedback
- ii. **Monitor usage metrics to track adoption and engagement:** Track system activity and behavioral patterns to assess adoption levels and identify underutilized assets.

5.3.C
Cont.
(2/2)

- a. Track access frequency, session duration, and report interaction logs
 - Use analytics platform telemetry (e.g., Power BI Service, Tableau Server logs)
 - Identify which reports are viewed most and least, and which filters or tabs are used
 - b. Monitor user segmentation and reach
 - Assess how many users across departments are actively engaging with each use case
 - Identify gaps in access or adoption across critical roles or business units
 - c. Set adoption thresholds and red flags
 - E.g., "Less than 40% of targeted users accessed the dashboard this quarter"
 - Flag outputs with declining usage or consistently poor feedback for review
- iii. **Analyze and act on feedback and adoption insights:** Translate findings into tangible improvement opportunities and change recommendations.
- a. Compile findings into quarterly or biannual adoption reports
 - Summarize satisfaction scores, feature requests, and usage patterns
 - Visualize changes in adoption over time by role or business unit
 - b. Prioritize improvement actions based on impact and feasibility
 - Address high-friction usability issues or visibility challenges first
 - Identify "quick wins" (e.g., reordering tabs, adding explanation tooltips)
 - c. Share feedback summaries and planned responses with users
 - Communicate "you said, we did" outcomes to foster trust and engagement
 - Encourage continued feedback through transparency

5.3.D
(1/2)

Manage Change Requests and Continuous Improvement: Establish a formal process to log, assess, approve, and implement change requests related to analytics indicators, dashboards, models, or reports. This ensures continuous improvement of statistical and analytics use cases, informed by operational performance, user feedback, and evolving business needs. The Data Governance Specialist is responsible for executing this step in coordination with the Business Data Analyst and in consultation with Data Owners, and Platform Administrators.

- i. **Define change request triggers and intake channels:** Identify what types of changes warrant formal review and how they are initiated.
 - a. List eligible change types for indicators and use cases
 - Examples: formula modifications, new filters, visualization redesign, new KPIs, layout updates, platform migration
 - Include both content-level and technical/functional changes
 - b. Establish channels for submitting change requests

VA

5.3.D
Cont.
(2/2)

- Embedded “Request Change” button in dashboards, helpdesk tickets, or internal forms
- Enable role-based access to initiate changes (e.g., Data Owners, Analysts)
- c. Capture context, rationale, and impact in each request
 - Include fields for use case ID, requested change, reason, urgency, and impact scope
 - Reference operational or feedback data as supporting evidence
- ii. **Assess, prioritize, and approve changes:** Use structured criteria to review each request and determine whether it should be implemented.
 - a. Evaluate each request based on defined criteria
 - Value added, risk, urgency, compliance implications, effort required
 - Use a scoring model or change impact matrix for consistent evaluation
 - b. Involve key stakeholders in review and approval
 - Consult the original use case owner, Data Steward, and/or platform team
 - Consult with the Data Governance Office for major changes
 - c. Maintain a change log and decision history
 - Document all requests, decisions (approved/rejected), rationales, and status
 - Store log in a centralized, accessible system with version tracking
- iii. **Plan and implement approved changes systematically:** Ensure changes are implemented in a controlled, transparent, and reversible manner.
 - a. Coordinate implementation through development lifecycle
 - Use staging environments, UAT (user acceptance testing), and release plans
 - Ensure dashboard/report versioning is updated alongside documentation
 - b. Update all related documentation and guides
 - Revise user guides (see Activity 5.2), metadata, and KPI registers (5.1) as needed
 - Communicate changes to impacted users with release notes
 - c. Monitor post-change performance and adoption
 - Evaluate whether the change improved usability, insight value, or performance
 - Continue feedback collection (see 5.3.C) to validate improvement success

RACI Matrix - Statistics Indicators and Analytics Use Case Performance Monitoring

Indicative

Sr No.	Activity	Data Management & Security Director	Data Architecture and Analytics Section Head	Data Owners	Data Architect	Data Quality Specialist	Data Governance Specialist	Business Data Analyst	Data Engineer	KPI Owners	Platform Administrators
5.3.A	Define Value Realization Metrics and Performance Criteria	I	A	C			C	R		c	
5.3.B	Monitor Operational Health of Analytics Pipelines and Outputs	I	A		R	C			R		C
5.3.C	Gather User Feedback and Monitor Adoption	I	A	C			R	R			
5.3.D	Manage Change Requests and Continuous Improvement			C			R	R			C

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

Based on this Activity, the Entity can



Define Value Realization Metrics

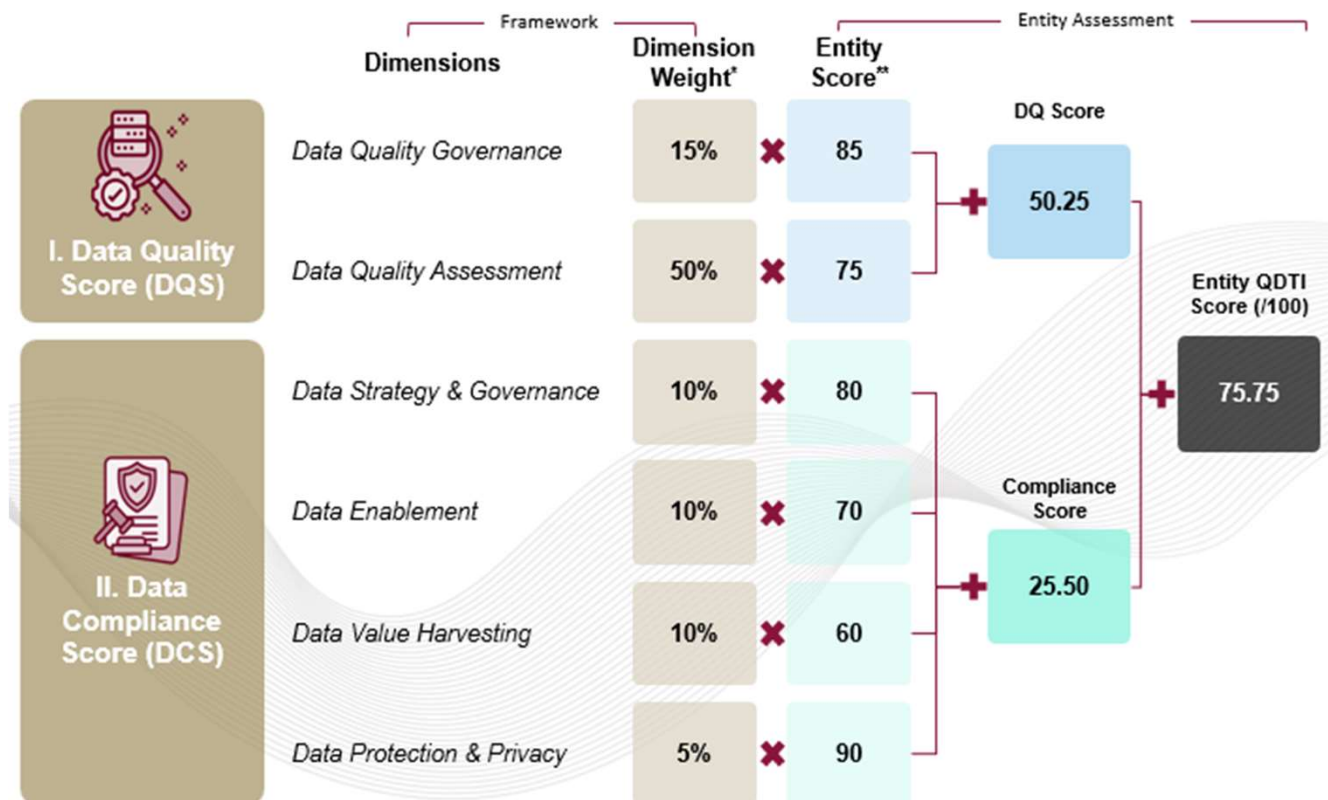


Manage Change Requests

5.4 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 36: Illustrative QDTI Scoring Methodology for an Entity

5.4.A

Initiate Statistics and Analytics 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 Statistics and Analytics specifications within National Data Standards.



Key Message / Information

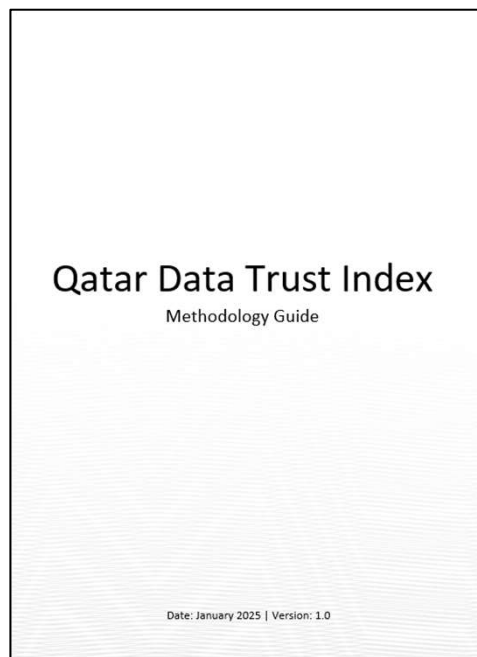
The Statistics and Analytics Domain falls under the Data Value Harvesting Dimension in the National Data Management Framework and, consequently, within the QDTI Dimension.

5.4.B

Conduct Statistics and Analytics Compliance Assessment: Initiate the self-assessment to evaluate adherence to the National Statistics and Analytics 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.1.1.1: 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.

5.4.C

Submit Statistics and Analytics Score to the DGO: Submit the Statistics and Analytics 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

Sr No.	Activity	DGO	Data Management & Security Director	Data Management and Governance Section Head	Data Compliance Specialist	Data Governance Specialist
7.4.A	Initiate Statistics and Analytics Compliance Assessment		I	A	R	
7.4.B	Conduct Statistics and Analytics Compliance Assessment		I	A	R	C
7.4.C	Submit Statistics and Analytics 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 Data Management Strategy and Governance Compliance Score

6. Appendix



6.1. Templates and Frameworks

Asset No.	Asset Name	Description	File Name
1	Business Objectives Template	Template used to document the Entity's overarching Business Objectives	NPC_DGO_QDKC_SA_Business Objectives Template
2	Analytics Use Case Library Template	Template used to capture the longlist of potential analytics use cases	NPC_DGO_QDKC_SA_Analytics Use Case Library Template
3	Analytics Use Case Prioritization Framework	Template used to prioritize the longlist of analytics use cases	NPC_DGO_QDKC_SA_Analytics Use Case Prioritization Framework
4	Indicator Long List Template	Template used to document all candidate statistics indicators	NPC_DGO_QDKC_SA_Indicator Long List Template
5	Statistics Indicator Prioritization Framework	Template used to prioritize the longlist of statistics indicators	NPC_DGO_QDKC_SA_Indicator or Prioritization Framework
6	Analytics Use Case Charter Template	Template used to document all the key elements of the shortlisted analytics use cases	NPC_DGO_QDKC_SA_Analytics Use Case Charter Template
7	Statistics Indicator Charter Template	Template used to document all the key elements of the shortlisted statistics indicators	NPC_DGO_QDKC_SA_Indicator or Charter Template
8	Analytics Use Case Implementation Roadmap	Template used to document the high-level information for each use case as well as develop the plan	NPC_DGO_QDKC_SA_Analytics Use Case Implementation Roadmap
9	Indicator Requirements Template	Template used to document the technical and structural foundations of the shortlisted statistics indicators	NPC_DGO_QDKC_SA_Indicator or Requirements Template

6.1. Templates and Frameworks

Asset No.	Asset Name	Description	File Name
10	Statistics Indicator Implementation Roadmap	Template used to document the high-level information for each statistics indicator as well as develop the plan	NPC_DGO_QDKC_SA_Statistics Indicator Implementation Roadmap
11	Statistics and Analytics Data Sourcing Register Template	Template used to document the datasets, systems, and data elements required for each prioritized statistics indicator and analytics use case	NPC_DGO_QDKC_SA_Statistics and Analytics Data Sourcing Register Template
12	Statistics & Analytics Platform Requirements Template	Template used to document the requirements gathered during the workshops/meetings	NPC_DGO_QDKC_SA_Statistics and Analytics Platform Requirements
13	Statistics and Analytics Tool Selection Criteria Template	Template used to document the statistics and analytics tool features	NPC_DGO_QDKC_SA_Statistics & Analytics Tool Selection Criteria Template
14	Statistics and Analytics KPIs Portfolio Template	Template used to provide a brief overview of the statistics and analytics KPIs	NPC_DGO_QDKC_SA_Statistics and Analytics KPIs Portfolio Template
15	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
16	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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