



# Unlocking Data Excellence

## How Successful Adoption of the National Data Index is Shaping Saudi Arabia's Digital Future

The National Data Index (“NDI”) is a pivotal framework designed to evaluate and enhance data governance maturity across organizations in Saudi Arabia. As a cornerstone of their ambitious digital transformation efforts, the NDI plays a strategic role in aligning data management practices with national objectives, directly contributing to Saudi Arabia’s Vision 2030 goals. By providing a structured and standardized approach to data management, the NDI helps organizations assess their progress in areas like data governance and personal data protection, while also encouraging continuous improvement in their data maturity.

What are the practical implications for organizations aiming to strengthen their data management practices? How do the NDI’s comprehensive evaluation criteria enable organizations to assess their maturity and compliance with standards set by the National Data Management Office (“NDMO”)? How can the NDI help align data practices with broader goals such as innovation, economic diversification and the responsible use of AI in Saudi Arabia?

There are some significant challenges that organizations face in managing the complexities of NDI compliance reporting. One method to navigate this is to use a comprehensive digital assessment tool tailored to streamline compliance activities and simplify the data maturity measurement process. This enables organizations to centralize evidence management, automate workflows and improve coordination across departments, ultimately enhancing the efficiency and accuracy of NDI reporting. As organizations continue

to navigate the evolving landscape of data governance, embracing digital solutions like these is key to achieving higher levels of maturity and maintaining compliance with evolving regulations.

In an era of AI-driven automation, advanced technologies such as Natural Language Processing (NLP) offer immense potential to intelligently analyze and extract critical insights from NDMO evidence. These innovations could take compliance measurement to new levels of efficiency, driving further improvements in data management practices and helping organizations better align with national and global standards. Through such forward-thinking solutions, organizations can ensure that they remain at the forefront of data governance, prepared for the demands of a data-driven world.

For actionable insights and solutions to support successful NDI adoption, there are five key areas to address:

- 1. Understanding NDI:** What is the NDI and what are its key components, structure and evaluation criteria?
- 2. Strategic Alignment:** How does the NDI align with Saudi Arabia’s Vision 2030 and broader digital transformation initiatives and what strategic advantages does it offer?
- 3. Challenges in Adoption:** Considering NDI is a large-scale initiative, what are the key challenges in adopting and reporting NDI score?
- 4. Optimizing Regulatory Measurement:** How can organizations approach the complexity of NDI maturity measurement to support the efficiency and accuracy of reporting?
- 5. AI-Powered Compliance:** In an era of AI-driven automation, how can organizations streamline NDI compliance measurement, reduce reliance on manual efforts and enhance overall compliance accuracy and efficiency?

By addressing these critical questions, this perspective equips organizations with actionable insights to strengthen their data governance capabilities and streamline NDI adoption efforts.

## Understanding NDI: What is the NDI and what are its key components, structure and evaluation criteria?

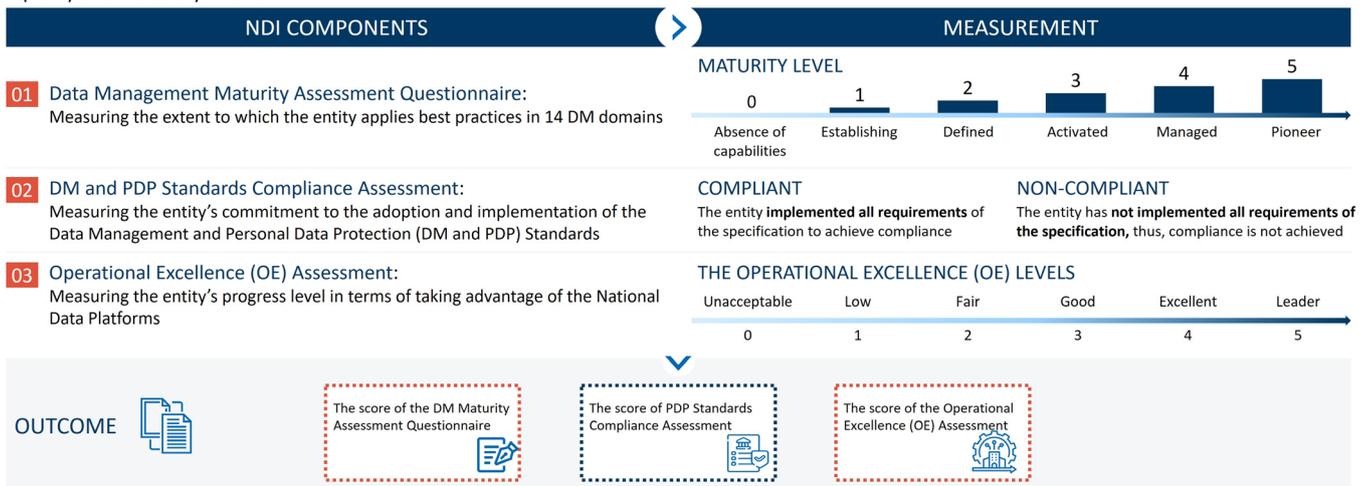
“NDI” is a strategic initiative launched by the Saudi Data & Artificial Intelligence Authority (“SDAIA”) to advance Saudi Arabia’s data-driven economy and improve national data maturity. As a cornerstone of Saudi Arabia’s digital transformation efforts, the NDI provides a comprehensive framework designed to assess the maturity of data management practices across organizations. By ensuring alignment with established data governance standards, the NDI plays a vital role in supporting Saudi Arabia’s Vision 2030 objectives.

While the **NDI itself does not introduce new regulations**, it serves as an evaluation tool that measures adherence to the standards set forth by the **National Data Management Office**. Through NDI, organizations are assessed on their compliance with key areas of **Data Management (“DM”)**. By promoting consistent data practices, the NDI fosters regulatory alignment while encouraging responsible and strategic data utilization.

This section explores the key components, structure and evaluation criteria that define the NDI, detailing how it works as both a **progress tracking** and a **performance tool** for data governance in Saudi Arabia.

### TO IMPROVE NDMO IMPLEMENTATION, SDAIA HAS LAUNCHED THE NATIONAL DATA INDEX, WHICH UNIFIES THE REPORTING OF COMPLIANCE RESULTS ACROSS GOVERNMENT ENTITIES

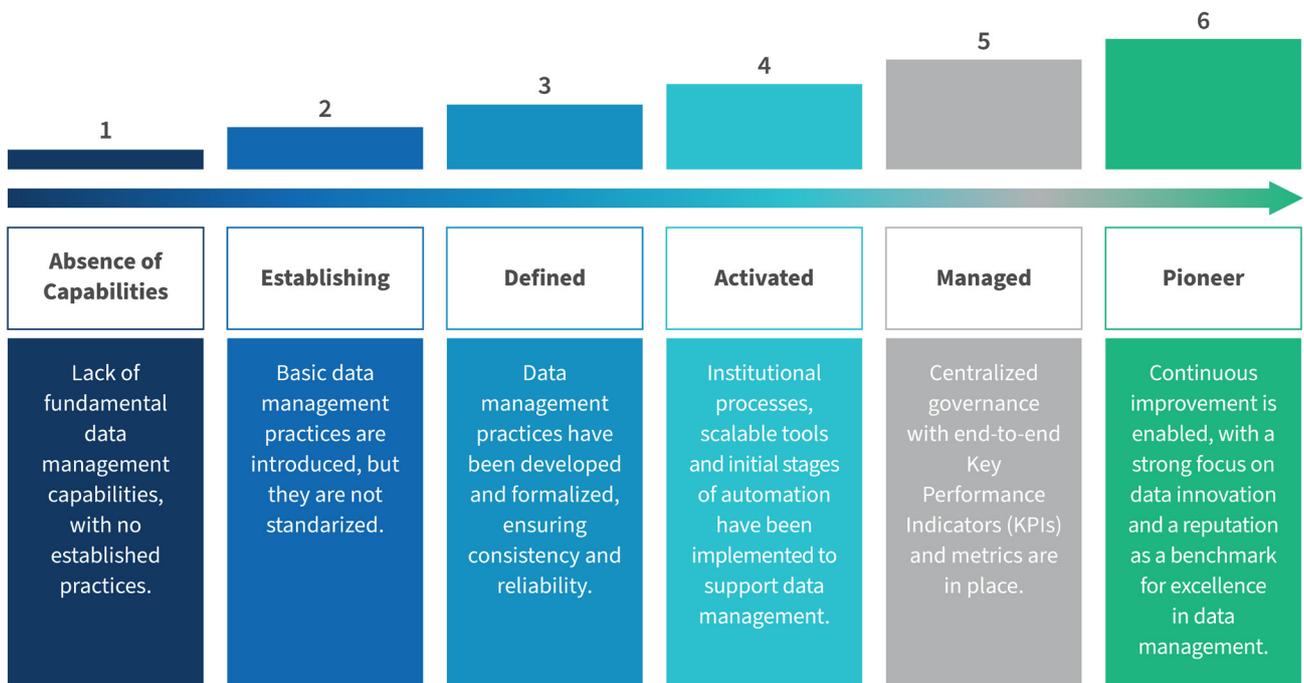
The National Data Index was designed with a new model to contribute to enhancing transparency among all government agencies and improving the quality and credibility of data



Sources: Saudi Data & AI Authority (“SDAIA”)

### 1. Maturity Assessment

The maturity assessment evaluates an organization’s progress in implementing effective data practices. This is conducted through a structured questionnaire, where entities provide evidence to demonstrate their alignment with six defined maturity stages:



### 2. Compliance Assessment

Derived from the same questionnaire, the compliance assessment validates an entity’s adherence to the NDMO’s Data Management and Personal Data Protection Standards.<sup>1</sup>



Sources: Saudi Data & AI Authority (“SDAIA”)

### 3. Operational Excellence (“OE”)

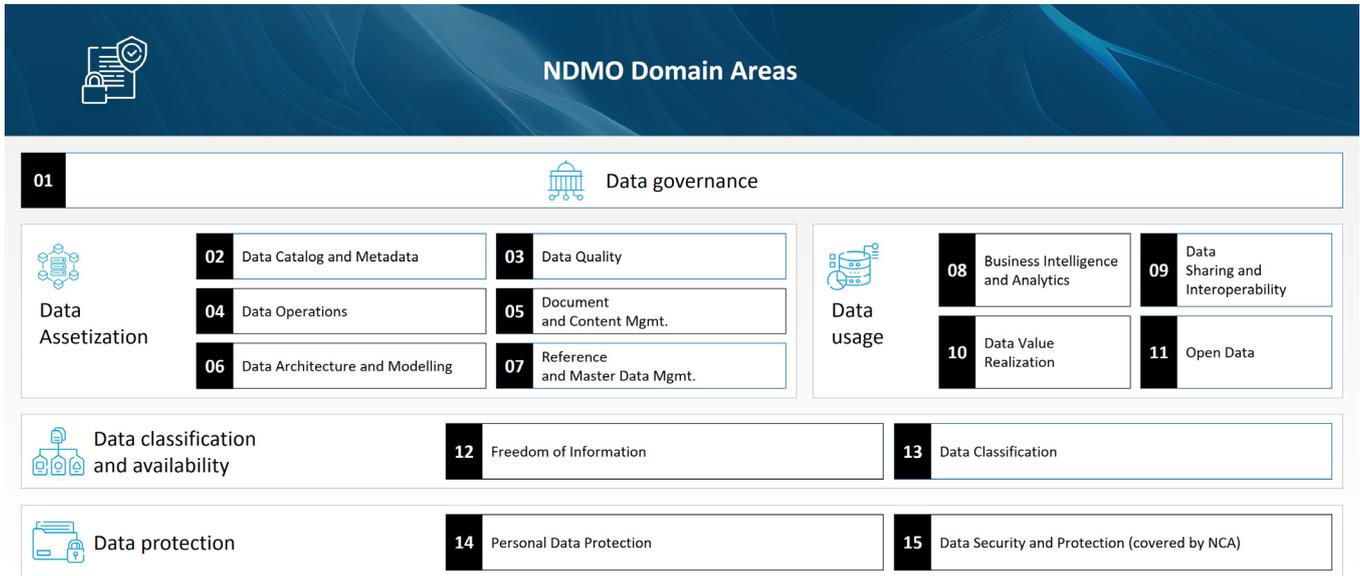
The OE Component measures the extent to which entities utilize SDAIA’s data platforms, such as:

- National Data Cloud (“NDC”)
- National Data Catalog (“NDC”)
- Government Service Bus (“GSB”)
- Riyadh Data Platform (“RDP”)

This evaluation reflects how well organizations integrate automation, advanced analytics and data-driven processes into their daily operations.<sup>2,3</sup>

### 4. Domains Covered by the NDI

The NDI spans 14 critical domains, each addressing key aspects of data governance and personal data protection across the data lifecycle.<sup>4,5</sup> These include:



Sources: Saudi Data & AI Authority (“SDAIA”)

Each of the domains has a set of controls and specifications that NDI covers through its questionnaire framework:

	01	02	03
	STRUCTURE	DOMAIN LEVEL	CONTROL LEVEL
<p>National Data Management Office Data Management and Personal Data Protection Standards Version 1.5 January 2021</p>	<p><b>DESCRIPTION</b></p> <p>The domain is a knowledge area defined by the Kingdom of Saudi Arabia’s (KSA) Data Management and Privacy Framework</p> <p><b>15</b></p>	<p><b>CONTROL LEVEL</b></p> <p>The control is a grouping of the specifications addressing a common area within the domain</p> <p><b>77</b></p>	<p><b>SPECIFICATION LEVEL</b></p> <p>The specification defines the required outcomes that need to be realized to be compliant with the Data Management and Privacy Standards</p> <p><b>191</b></p>

AS SUCH, EACH OF THE 15 DATA MANAGEMENT AND PRIVACY DOMAINS BREAKS DOWN TO A SET OF CONTROLS THAT FURTHER BREAK DOWN INTO A LIST OF RELATED SPECIFICATIONS

Sources: Saudi Data & AI Authority (“SDAIA”)

### Global Comparisons and Insights

While the NDI is tailored to Saudi Arabia’s national vision, several international frameworks reflect similar objectives in promoting data maturity.

- **UK Government’s Data Maturity Assessment:** Designed to improve internal data governance and enhance operational efficiency within public sector entities.<sup>6</sup>
- **EU Open Data Maturity Index:** Focuses on assessing open data readiness, promoting transparency and

encouraging data-driven innovation across member states.<sup>7</sup>

- **US Federal Data Strategy:** Implements annual data maturity self-assessments to improve data-driven decision-making across federal agencies.<sup>8</sup>

These frameworks illustrate the increasing global recognition of structured data maturity models as essential tools to assist informed decision-making, regulatory compliance and strategic data utilization.



## Strategic Alignment: How does the NDI align with Saudi Arabia's Vision 2030 and broader digital transformation initiatives and what strategic advantages does it offer?

Saudi Arabia's Vision 2030 is built on three foundational pillars: a vibrant society, a thriving economy and an ambitious nation. Achieving these goals requires leveraging data as a strategic asset to drive innovation, enhance decision-making and accelerate digital transformation — out of 96 of the direct and indirect goals of the vision, 66 are related to data and AI.<sup>9</sup> The ambitious Vision 2030 aims to enhance Saudi Arabia's image globally and develop an economy that has multiple sources of income by supporting non-oil sectors and industries.

The NDI plays a pivotal role in strengthening Saudi Arabia's data ecosystem, ensuring the Kingdom of Saudi Arabia's (KSA) digital transformation is both effective and sustainable. The NDI initiative aligns with Vision 2030 in several critical ways:

### 1. Driving Innovation and Unlocking the Economic Value of Data

The NDI enables Saudi Arabia to harness data as a strategic asset, fueling innovation, economic diversification and technological advancement. By promoting structured data governance, it empowers businesses, startups and research institutions to develop AI-driven solutions, optimize operations and create new revenue streams. It also enhances investment attractiveness by demonstrating regulatory maturity and fostering secure data-sharing between the public and private sectors. Through these efforts,

the NDI transforms data into a key driver of sustainable growth, aligning with Vision 2030's push for a thriving digital economy.

### 2. Enabling Digital Transformation and AI Adoption

Saudi Arabia's commitment to digital transformation and AI is demonstrated through flagship **initiatives like the Digital Government Program and the National Strategy for AI and Data, aimed at positioning the Kingdom as a global leader in digital government and AI.**<sup>10</sup> The NDI supports these efforts by embedding data maturity practices directly into public institutions and maximize data and AI's contribution to realizing the objectives of Vision 2030.<sup>11</sup>

Key contributions of the NDI to digital transformation and AI include:

- **Standardized Evaluation Framework:** The NDI establishes a unified method for assessing data maturity across entities, ensuring that transformation efforts are data-driven.
- **Sustainable Digital Growth:** By promoting data management practices, the NDI helps ensure that digital transformation initiatives are scalable and effective in the long term.
- **Advancing National AI Vision:** The NDI complements SDAIA's broader ambition to position Saudi Arabia as a top AI-driven economy by 2030, accelerating the adoption of advanced analytics and machine-learning models across sectors.

By embedding structured data practices into government operations, the NDI **accelerates Saudi Arabia's transition to a smart, AI-driven government**, enhancing both operational efficiency and decision-making capabilities.

### 3. Enhancing Transparency and Public Trust

Transparency and accountability are core to Saudi Arabia's Vision 2030, particularly in reinforcing public confidence in government institutions. The NDI plays a pivotal role in promoting these values by:

- Ensuring the **accuracy and reliability** of government data, reports and statistics.
- Driving **open data initiatives** that empower citizens, researchers and businesses with accessible and trusted information.
- Promoting **evidence-based policymaking**, where decisions are guided by verified data rather than assumptions.

This strengthens public confidence, enables more informed policymaking and enhances citizen services through greater data accessibility and reliability.

Through the NDI, Saudi Arabia is becoming a future-ready data ecosystem, one that empowers organizations to innovate responsibly, comply efficiently and compete globally.

The National Data Index is more than an assessment framework — it is a strategic enabler of Saudi Arabia's digital transformation, economic diversification and global positioning in AI and data governance.

### Challenges in Adoption – Considering NDI is a large-scale initiative, what are the key challenges in adopting and reporting NDI score?

Although the NDI offers a robust framework for measuring compliance with NDMO regulatory standards, its reporting by public sector entities introduces distinct operational challenges that can impede its effectiveness.



The complexities involved in assessing maturity across multiple data management domains, combined with stringent evidence requirements, can make traditional assessment processes cumbersome, prone to delays and difficult to scale. Without streamlined processes, organizations risk inefficient reporting cycles that undermine their data maturity goals.

### Key Challenges Organizations Face in Reporting NDI Scores

Organizations navigating the NDI reporting process frequently encounter three primary obstacles:

#### 1. 1. Complexity of Evidence Collection and Centralization:

The NDI demands extensive documentation to demonstrate compliance, requiring organizations to gather a wide range of materials such as:

- Data governance policies
- Process maps and frameworks
- Security protocols and access controls
- Training records, audit logs and procedural evidence

Managing this volume of evidence presents several challenges:

- **Siloed Information:** Evidence is often dispersed across departments, making retrieval time-consuming.
- **Version Control Issues:** Maintaining up-to-date documentation aligned with NDMO requirements is often inconsistent.
- **Audit Readiness Pressure:** Ensuring documentation is consistently available for SDAIA audits requires proactive organization and regular updates.

#### 2. Manual Review and Coordination

Typically, organizations rely on manual processes for reviewing and coordinating their NDI assessment activities. This typically involves:

- Numerous email exchanges across departments
- Repeated document submissions with unclear version control
- Prolonged review cycles that introduce delays and are resource-intensive

Such fragmented coordination increases the risk of inconsistent evidence quality, miscommunication between teams and operational bottlenecks. This lack of automation not only affects accuracy but also compromises the organization's ability to meet NDI deadlines efficiently.

### 3. Time-Sensitive Compliance Deadlines

Organizations must maintain an “**always-ready**” posture due to SDAIA’s periodic audits. These audits often require rapid submission of accurate, verifiable evidence.

However, the pressure to compile and submit data under tight deadlines frequently leads to:

- **Incomplete or Inaccurate Submissions:** Rushed efforts result in missing evidence or errors in documentation.
- **Compliance Gaps:** Organizations without well-maintained documentation risk non-compliance due to inadequate preparation.
- **Increased Resource Strain:** The recurring nature of SDAIA’s assessments places continuous pressure on internal teams, diverting focus from long-term data improvement initiatives.

### Optimizing Regulatory Measurement: How can organizations approach the complexity of NDI maturity measurement to support the efficiency and accuracy of reporting?

In response to these pain points, FTI Delta has developed a comprehensive digital assessment tool designed specifically to address the intricacies of NDMO and NDI compliance. Leveraging SDAIA’s NDI guidelines, our solution offers a structured and highly streamlined approach to maturity assessment across

all 14 domains.

What are the key capabilities of this tool and how do they mitigate compliance complexities?

#### 1. Simplified and Centralized Evidence Management:

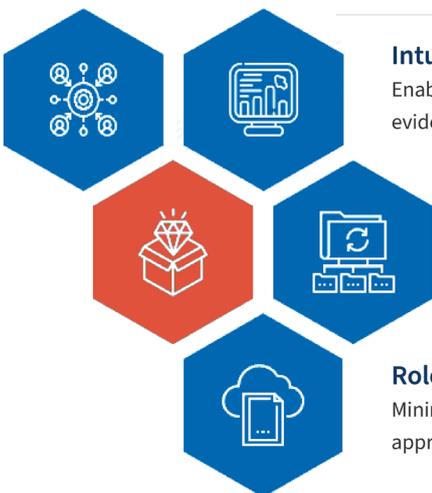
- Users can upload multiple documents through the tool across supported formats, directly into an integrated, centralized repository, ensuring version control, preventing accidental modifications and eliminating the risk of document loss.
- Files are organized clearly by domain and linked explicitly to maturity questions, eliminating confusion and ensuring evidence traceability.
- Non-priority tagged pieces of evidence are captured utilizing a maturity-based specification tagging to allow tracking of this crucial acceptance evidence across domains.

#### 2. Automated Approval Workflows:

- Multiple stakeholders submit their evidence through the platform based on domain ownership, triggering automated notifications for compliance officer review, thereby eliminating manual email-based reviews.
- Domain owners and Compliance Officers have a clear, intuitive UI for evidence assessment, approvals, or rejections. Each step generates automatic notifications to all involved stakeholders, significantly streamlining communication.

#### Simplified and Centralized Evidence Management

Reduces document tracking time by ~60% with a single repository for uploading, tagging, and linking evidence to NDI questions, ensuring traceability, version control, and zero loss.



#### Intuitive Dashboard and Comprehensive Reporting

Enables instant visibility into compliance status with real-time dashboards, showing maturity scores, evidence gaps, and quarterly trends, eliminating the need for manual report creation.

#### Automated Approval Workflows

Cuts manual review cycles by 5-7 days by auto-routing evidence to reviewers, sending instant notifications, and enabling real-time approvals and feedback, removing dependency on emails and follow-ups.

#### Role Based Access

Minimizes compliance risk by restricting access based on roles, only authorized users can submit, edit, or approve, ensuring accountability and secure handling of evidence.

### 3. Intuitive Dashboards and Comprehensive Reporting:

- Real-time reporting features, such as domain-level maturity scores, evidence completion rates and quarterly trends, provide actionable insights to prioritize and target improvement areas.
- The tool automatically calculates maturity scores and key compliance indicators based on standardized NDI question sets. Dashboards are instantly updated upon evidence submission, providing an up-to-date view of compliance status with minimal manual effort.

### 4. Role-Based Access:

- Role-based access ensures that only authorized personnel can view, edit, or approve specific compliance documents and reports. This minimizes the risk of unauthorized changes and accidental modifications to streamline responsibilities and avoid unauthorized access.

With these capabilities, our in-house developed digital assessment tool addresses NDMO and NDI challenges.

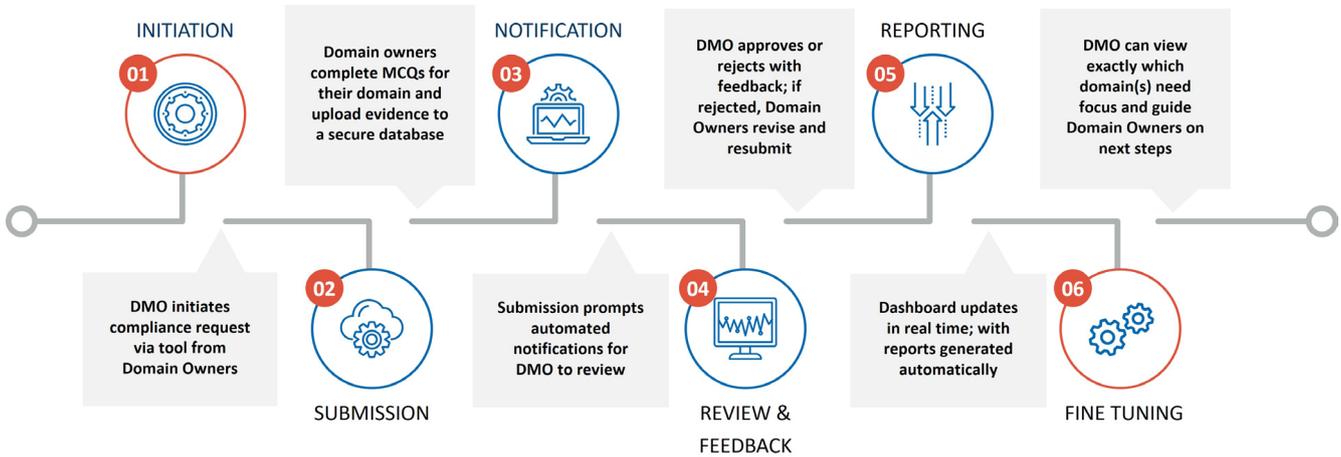
- **Simplifies Complexity:** Centralized questionnaires and a clearly segmented UI reduce the feeling of

inundation, guiding users systematically through domain-specific maturity questions and evidence collection.

- **Eliminates Manual Bottlenecks:** Automated notifications and role-based approval workflows eradicate inefficient manual coordination and drastically cut down review cycles.
- **Ensures Readiness and Audit Compliance:** By continually capturing quarterly snapshots of evidence and maturity status, our tool helps organizations maintain an audit-ready posture, enabling them to respond confidently to SDAIA’s assessment requirements with significantly reduced turnaround times.

Organizations can no longer afford the inefficiencies and risks of manual compliance processes. Adopting our specialized NDMO and NDI maturity assessment tool streamlines compliance efforts and improves the overall effectiveness of your data governance initiatives. By automating evidence management, providing clear scoring transparency and offering insightful, real-time dashboards, our solution empowers you to focus less on manual data collection and more on strategic improvements.

#### AUTOMATED AND INTEGRATED COMPLIANCE WORKFLOW



Take a proactive step towards simplified and robust data governance — schedule a demonstration of our NDMO and NDI digital maturity assessment tool and transform your compliance process today.



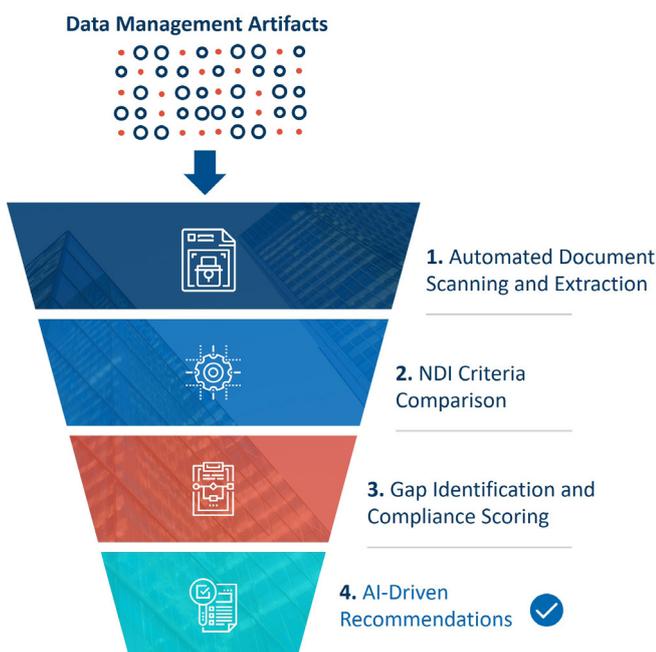
## AI-Powered Compliance: In an era of AI-driven automation, how can organizations streamline NDI compliance measurement, reduce reliance on manual efforts, and enhance overall compliance accuracy and efficiency?

Compliance with the NDI demands meticulous evidence review across 14 data management domains — a resource-intensive process that places a significant burden on compliance teams. Traditionally, this manual review process requires compliance officers to evaluate numerous documents, ensuring each aligns with the NDMO and NDI evidence acceptance criteria. This method is not only time-consuming but also prone to human error, increasing the risk of incomplete submissions and regulatory gaps.

In an era defined by AI-driven automation, organizations can significantly streamline NDI compliance measurement by leveraging technologies such as Generative AI. These advanced solutions automate evidence review, identify gaps and generate actionable recommendations, reducing reliance on manual efforts while improving accuracy and efficiency.

### How AI Can Streamline NDI Compliance and Reporting

AI-driven solutions can offer a structured and scalable approach to improving NDI reporting outcomes. Key capabilities include:



#### 1. Automated Document Scanning and Information

**Extraction:** AI-powered tools process data management-related artifacts/evidence (e.g., policies, procedures, reports) by using **OCR** to digitize the content and applying **Natural Language Processing (NLP)** to understand the text and extract key information.

#### 2. NDI Criteria Comparison:

AI models analyze submitted content against predefined **NDI evidence acceptance criteria**. By aligning documentation with regulatory standards, the AI models ensure submissions meet NDI’s requirements **without manual cross-referencing**.

#### 3. Gap Identification and Compliance Scoring:

An AI-powered model can proactively assess compliance gaps by analyzing submitted data and documentation against NDI criteria. Key functionalities may include:

- **Detection of Incomplete Evidence:** Identifies missing documentation, policies, or required reports, ensuring all compliance requirements are met.
- **Validation of Content Alignment:** Flags evidence that does not fully align with NDI standards, highlighting areas that require revision or enhancement.

#### 4. AI-Driven Recommendations:

AI enables real-time validation by providing proactive feedback and corrective actions. Rather than waiting for periodic compliance cycles, organizations can receive ongoing insights, enabling them to address gaps before SDAIA audits occur. This reduces the risk of last-minute errors and incomplete submissions.

## Expected Benefits of Integrating AI to NDI Compliance

- 1. Increased Efficiency:** AI-driven evidence analysis reduces manual effort by up to 80%, cutting compliance cycle times from approximately 168 hours to just 18. This not only delivers substantial cost savings but also allows compliance teams to shift their focus from repetitive administrative tasks to more strategic governance and oversight activities.
- 2. Enhanced Accuracy:** AI reduces the risk of human error that can occur when multiple individuals manually assess evidence against regulatory standards. It ensures that evaluations are consistent, unbiased, and fully aligned with NDMO requirements, thereby strengthening an organization's compliance integrity and reducing the risk of non-compliance.
- 3. Improved Readiness:** AI's ability to continuously monitor compliance status ensures organizations are always prepared for SDAIA audits. By

automatically flagging outdated, incomplete, or misaligned evidence, organizations can maintain a protective stance, avoiding the reactive scramble often seen in manual compliance cycles.

By leveraging AI-driven automation into the NDI compliance process, organizations can transform a traditionally burdensome and reactive task into a streamlined, proactive and strategic process. AI empowers compliance teams to operate with greater precision, ensuring that regulatory obligations are met while resources are optimized for higher-value activities.

### Endnotes

<sup>1</sup> National Data Management Office, "Data Management and Personal Data Protection Standards," National Data Management Office (2021) <https://sdaia.gov.sa/ndmo/Files/PoliciesEn001.pdf>

<sup>2</sup> Saudi Data and Artificial Intelligence Authority, "National Data Index (NDI) V1.0," SDAIA (2023) [https://sdaia.gov.sa/en/Research/Documents/National-Data-Index\\_v1.0\\_EN.PDF](https://sdaia.gov.sa/en/Research/Documents/National-Data-Index_v1.0_EN.PDF)

<sup>3</sup> ECZA Data Management Office, "Comprehensive NDI Playbook," Internal Document (2025)

<sup>4</sup> National Data Management Office, "Data Management and Personal Data Protection Standards," National Data Management Office (2021) <https://sdaia.gov.sa/ndmo/Files/PoliciesEn001.pdf>

<sup>5</sup> Saudi Data and Artificial Intelligence Authority, "National Data Index (NDI) V1.0," SDAIA (2023) [https://sdaia.gov.sa/en/Research/Documents/National-Data-Index\\_v1.0\\_EN.PDF](https://sdaia.gov.sa/en/Research/Documents/National-Data-Index_v1.0_EN.PDF)

<sup>6</sup> UK Cabinet Office, "Data Maturity Assessment for Government Framework," UK Government (2022) <http://www.gov.uk/government/publications/data-maturity-assessment-for-government-framework>

<sup>7</sup> European Commission, "Open Data Maturity Report," European Commission (2022) <https://data.europa.eu/en/news-events/news/open-data-maturity-report-2022-out>

<sup>8</sup> U.S. Office of Management and Budget, "Federal Data Strategy: Action Plan and Maturity Assessments," OMB (2020) <https://strategy.data.gov/action-plan/>

<sup>9</sup> Saudi Data & AI Authority, "Vision 2030 Data & AI Alignment Report," <https://sdaia.gov.sa/en/SDAIA/SdaiaStrategies/Pages/sdaiaAnd2030Vision.aspx>

<sup>10</sup> U.S. International Trade Administration, "Saudi Arabia – Digital Economy," U.S. Commercial Service (2023) <https://www.trade.gov/country-commercial-guides/saudi-arabia-digital-economy-0>

<sup>11</sup> Saudi Data and Artificial Intelligence Authority, "National Strategy for Data and AI," SDAIA (2022) <https://sdaia.gov.sa/en/SDAIA/SdaiaStrategies/Pages/NationalStrategyForDataAndAI.aspx><https://data.europa.eu/en/news-events/news/open-data-maturity-report-2022-out>

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