



National Data Index: Improving data management practices in the Kingdom of Saudi Arabia

01 | Introduction: SDAIA, NDMO and NDI

As part of the Saudi Vision 2030, the Saudi Data and Artificial Intelligence Authority (SDAIA) was established to drive the National Data and AI Agenda and support the United Nations Sustainable Development Goals 2030. In line with its mission, SDAIA established the National Data Management Office (NDMO) to oversee the development and implementation of data policies and standards, governance mechanisms, data management and protection capabilities, to enhance the value derived from data, support decision making and to increase the levels of responsibility and transparency.

One of the main programs launched is the National Transformation Program (NTP) which aims to achieve Government Operational Excellence, establish the necessary infrastructure, and raise the standards of living. In accordance with the NTP and its continuous effort to drive the National Data Agenda, SDAIA launched the National Data Index (NDI), the Open Data and the Data Governance Platforms aiming to build a Public Data Hub, enable transparency, promote e-participation and inspire innovation.

The NDI, launched at the end of 2023, is a Data-specific Maturity Index that measures the Data practices of entities across fourteen Data Management domains. The NDI provides entities with essential enablers for measuring their current Data Management practices, achieving high maturity levels, and continuously improving Data Management.

Data Management (DM) and Personal Data Protection (PDP) are crucial for the Kingdom of Saudi Arabia to achieve its vision of becoming a global leader in Data and AI. However, implementing data policies and standards across entities poses several challenges, such as collecting and protecting ever-growing volumes of data, balancing the benefits and risks of data access and sharing, while ensuring compliance with data privacy regulations.

To overcome these challenges, the NDMO needs a way to periodically evaluate the organizations' performance and impact of Data Management and Personal Data Protection practices, and to provide feedback and recommendations for improvement. The NDI was designed to address this need by assessing at a minimum twice per year the compliance and maturity of fourteen Data Management and Personal Data Protection domains (excluding Data Security and Protection Domain from NDMO). The NDI provides a standardized and transparent framework for reporting and improving these practices.



02 | Background: Current state of data management in Saudi Arabia and the need for NDI

The NDMO is responsible for setting the standards for data management and personal data protection. The implementation of these standards was divided into fifteen domains based on three sequential priorities.


While the NDMO provided Controls and Guidelines for Data Management and Governance, the development of the NDI serves a distinct purpose. The NDI provides a dynamic, result-oriented monitoring framework and evaluation Index, which validates whether the NDMO controls are effectively implemented. The NDI provides a standardized and transparent framework for measuring and reporting on Data Management and Personal Data Protection performance. This extension from NDMO to NDI


should happen progressively, as it added the Maturity Assessment and Operational Excellence, providing a more detailed and comprehensive evaluation of data management practices.


Furthermore, the NDI provides a distinctive approach that surpasses best practice frameworks such as the Data Management Association (DAMA) International and the Digital Transformation Services (DMI). This is achieved through the incorporation of Operational Excellence and an agile framework, which can be adapted to suit the size and type of the organizations.


03 | Objectives


Key objectives and resulting benefits of implementing the NDI:


- 

Creating a robust data governance framework & policies that guide data management practices, measuring data management maturity and ensuring compliance.
- 

Improving the data quality and integrity to enhance Data Accuracy, Completeness, and Consistency.
- 

Boosting efficiency and enhancing the effectiveness of the data management operational processes.
- 

Applying Data Lifecycle Management processes to manage data from creation to disposal in a compliant manner.
- 

Establishing mechanisms for compliance reporting and auditing to track and monitor compliance levels.
- 

Promoting a culture of data management through employee training programs and awareness campaigns for the target audiences.



04 | NDI: Core components

The NDI is a data specific maturity index that SDAIA designed based on benchmarking research on global data indices to achieve best practices. The NDI consists of the following three components for activation:

A. Data Management Maturity Assessment Questionnaire:

This assessment evaluates how well the entity follows best practices across the fourteen data management domains, including Personal Data Protection, with respect to individuals, technologies, and operational processes. The entity is required to answer a set of questions that cover these domains, based on international standards and best practices, while aligned with the NDMO's data policies and standards. The answers determine the maturity level of the entity's data management and personal data protection practices, ranging from "absence of capabilities" to "pioneer".

B. Data Management and Personal Data Protection Standards Compliance Assessment:

This assessment evaluates the entity's adherence to the Data Management and Personal Data Protection Standards issued by

the National Data Management Office. The entity needs to provide evidence of compliance with the NDMO's Data Management and Personal Data Protection standards, which include 191 specifications mapped in the maturity questionnaire. The evidence determines the compliance level of the entity's data management and personal data protection practices, ranging from "non-compliant" to "fully compliant".

C. Operational Excellence (OE) Assessment:

This assessment evaluates the level of progress in terms of utilizing the National Data Platforms by examining automated processes and operations of the following six data management domains: Data Sharing and Interoperability, Open Data, Data Catalogue and Metadata, Reference and Master Data Management, Data Quality, and Data Operations. Entities will collect and analyse Data from various sources, such as data catalogues, data lakes, data dashboards, and data audits, to measure the operational performance and impact of their data management and personal data protection practices. The data is used to calculate a set of key performance indicators (KPIs) that determine the Operational Excellence of the entity's data management and personal data protection practices, ranging from unacceptable to leader.

05 | Impact on non-public sectors

Although the NDI was originally designed for the public sector, it also impacts the private sector.

If private entities aim to benefit from the NDI, they will need to establish data activities throughout all divisions, and leverage their data management tools to govern those activities.

In the Operational Excellence for example, the data catalogue tool implemented in the private entity will be treated as the National Data Catalogue where divisions will be required to catalogue their system in the same manner public entities are required to catalogue their systems in the actual National Data Catalogue. The same can be applied to the remaining components of the Operational Excellence.

Private entities can also benefit from streamlined transactions, enhanced Security, and improved data management practices. By centralizing data activities, leveraging data management tools, and aligning with industry standards, private businesses can enhance Operational Excellence and build trust with their stakeholders.

Additionally, the compliance assessment and maturity questionnaire can be tailored based on the entity strategy and needs. Requirements and calculations can be enhanced to accommodate industry standards and best practices in addition to the National mandates.



06 | Challenges

The main challenges that entities may encounter in the NDI implementation are:



Stakeholders' engagement: One of the biggest challenges in implementing the NDI is establishing and maintaining Stakeholders Engagement. The NDI requires entities to work together to improve their data management practices, but this can be difficult when there are different business units and stakeholders involved. Collaboration is key to success in data management.



Technological infrastructure: NDI introduced new concepts for many entities, especially Operational Excellence. It may be challenging to build and monitor the automated processes and operations required to measure all the NDI components and their impact on data management and personal data protection practices. Additionally, there may be a push for improvement in these areas, which can be difficult to achieve without the right tools and resources.



Resource constraints: Monitoring the NDI implementation on a national level, and across different entities requires a significant number of skills and funding.

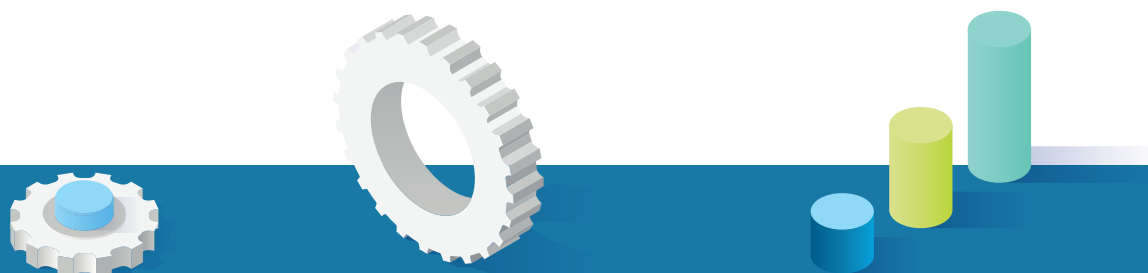
07 | Our point of view

For the country, a well-structured data management system contributes directly to the national economy. When businesses operate efficiently and make informed decisions, the country's competitiveness on the global stage increases. Additionally, the commitment to effective data management ensures compliance with data protection laws and regulations. This responsible approach enhances Saudi's reputation as a trustworthy player in international business, increases the ability to attract foreign investment and strengthens diplomatic ties.

For organizations to effectively manage their data, they should start by defining a data management framework. This framework would enable them to benchmark against industry standards and competitors and manage their data in a proactive and more optimized way. Subsequently, organizations should start analysing their data to identify areas for improvement, optimize processes, and maintain a competitive edge. This will lead to effective data management practices supporting in mitigating data risk, decreasing security vulnerabilities, and avoiding compliance violations. Proactive Risk Management safeguards operations and reputation while optimized data practices reduces operational expenses by eliminating data duplication, streamlining

processes, and ensuring accuracy. Access to reliable data allows trend analysis and better customer behavior understanding which enables better decision-making. Improved customer service, personalized experiences, and data Privacy contribute to increased trust and customer satisfaction. Finally, a robust data management approach fosters innovation, enables the exploration of new business models and ability to develop data-driven products.

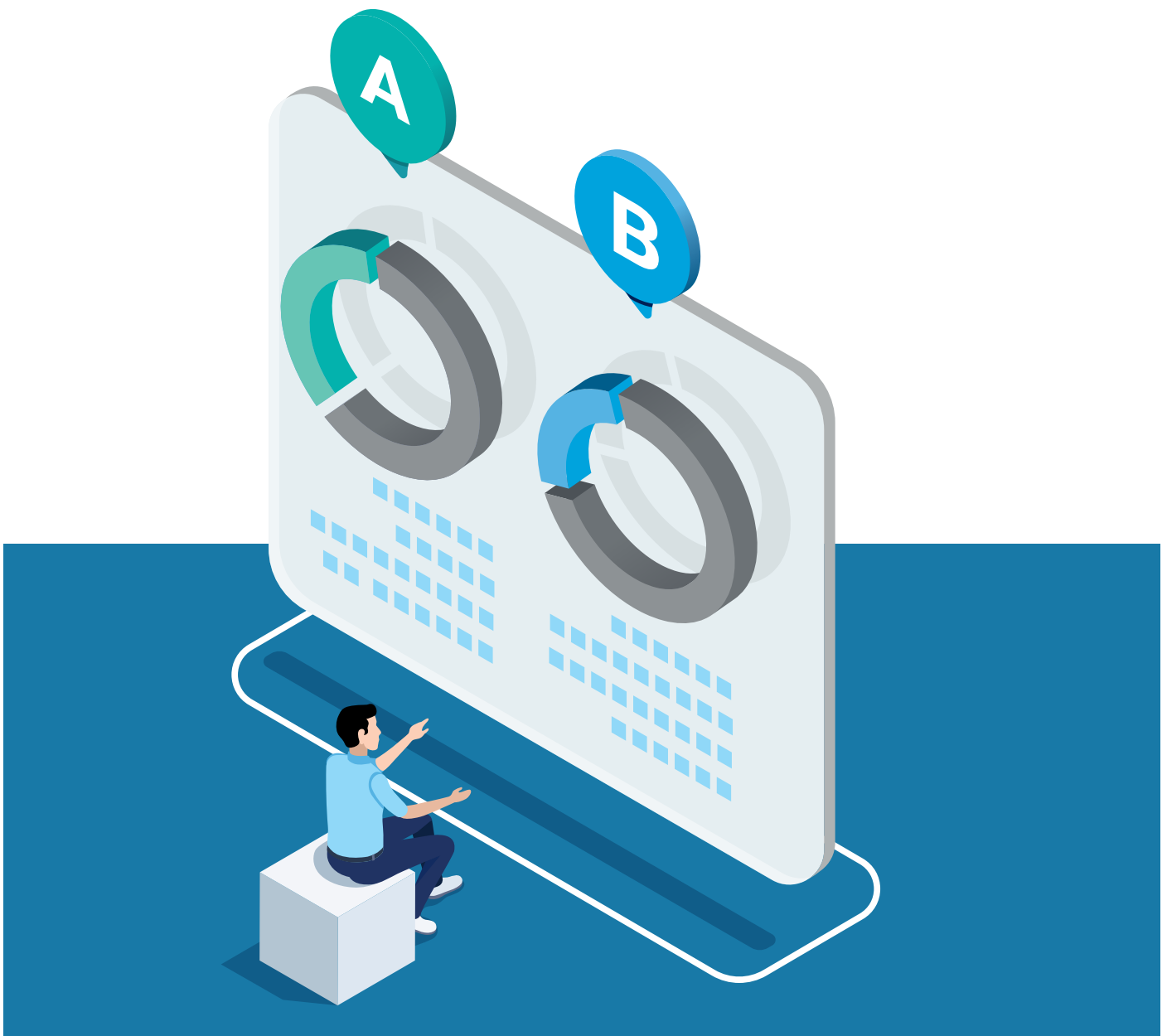
There are several immediate actions that need attention in the transition to the NDI, mostly related to the Operational Excellence measurement. Firstly, KPIs should be defined for Operational Excellence to provide a more comprehensive evaluation of data management practices. Secondly, the data required for Operational Excellence metrics are not straightforward and need to be extracted, which requires more attention and effort to gather the required information from various systems. Lastly, there is a need to create automated processes to efficiently gather and analyse data for Operational Excellence, while adhering to regulations. These actions will ensure a smooth transition and effective implementation of the NDI.



08 | Conclusion

As Saudi Arabia strives to become a global leader in data and AI, the NDI emerges as an instrument in fostering a mature culture of data management. The NDI, as a comprehensive and dynamic data-specific maturity index, addresses the challenges faced by the National Data Management Office (NDMO) in evaluating compliance and maturity across entities.

By employing a three-pronged approach encompassing the Data Management Maturity Assessment Questionnaire, Data Management and Personal Data Protection Standards Compliance Assessment, and Operational Excellence Assessment, the NDI provides a standardized and transparent Framework for measuring, reporting, and enhancing data management and personal data protection practices.



Author



Abdallah El Chal
Partner |
Risk Advisory



Daniel Brierley
Director |
Risk Advisory



Charbel Kheir
Senior Manager |
Risk Advisory



Ziad El Haddad
Partner |
Risk Advisory

Co-authors



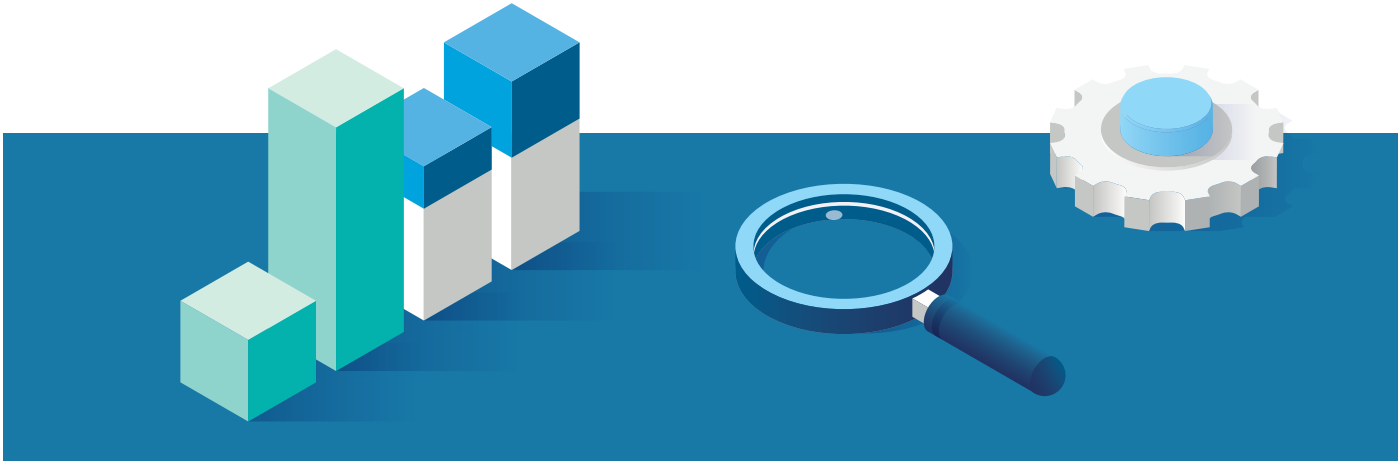
Dana Almaalouf
Assistant Manager |
Risk Advisory



Joe Haikal
Business Analyst |
Risk Advisory

Contributors

We would like to thank Carine Kordab for her valuable contribution to this report.





This publication has been written in general terms and therefore cannot be relied on to cover specific situations; application of the principles set out will depend upon the particular circumstances involved and we recommend that you obtain professional advice before acting or refraining from acting on any of the contents of this publication.

Deloitte & Touche (M.E.) (DME) is an affiliated sublicensed partnership of Deloitte NSE LLP with no legal ownership to DTTL. Deloitte North South Europe LLP (NSE) is a licensed member firm of Deloitte Touche Tohmatsu Limited.

Deloitte refers to one or more of DTTL, its global network of member firms, and their related entities. DTTL (also referred to as "Deloitte Global") and each of its member firms are legally separate and independent entities. DTTL, NSE and DME do not provide services to clients. Please see www.deloitte.com/about to learn more.

Deloitte is a leading global provider of audit and assurance, consulting, financial advisory, risk advisory, tax and related services. Our network of member firms in more than 150 countries and territories, serves four out of five Fortune Global 500® companies. Learn how Deloitte's approximately 457,000 people make an impact that matters at www.deloitte.com.

DME would be pleased to advise readers on how to apply the principles set out in this publication to their specific circumstances. DME accepts no duty of care or liability for any loss occasioned to any person acting or refraining from action as a result of any material in this publication.

DME is a leading professional services organization established in the Middle East region with uninterrupted presence since 1926. DME's presence in the Middle East region is established through its affiliated independent legal entities, which are licensed to operate and to provide services under the applicable laws and regulations of the relevant country. DME's affiliates and related entities cannot oblige each other and/or DME, and when providing services, each affiliate and related entity engages directly and independently with its own clients and shall only be liable for its own acts or omissions and not those of any other affiliate.

DME provides services through 23 offices across 15 countries with more than 7,000 partners, directors and staff. It has also received numerous awards in the last few years such as the 2023 & 2022 Great Place to Work® in the UAE, the 2023 Great Place to Work® in the KSA, and the Middle East Tax Firm of the year.