

# Data Science and Artificial Intelligence (AI)

*Leveraging Data Science to Improve Treasury Management, Organizational Performance and Decision-Making Process*

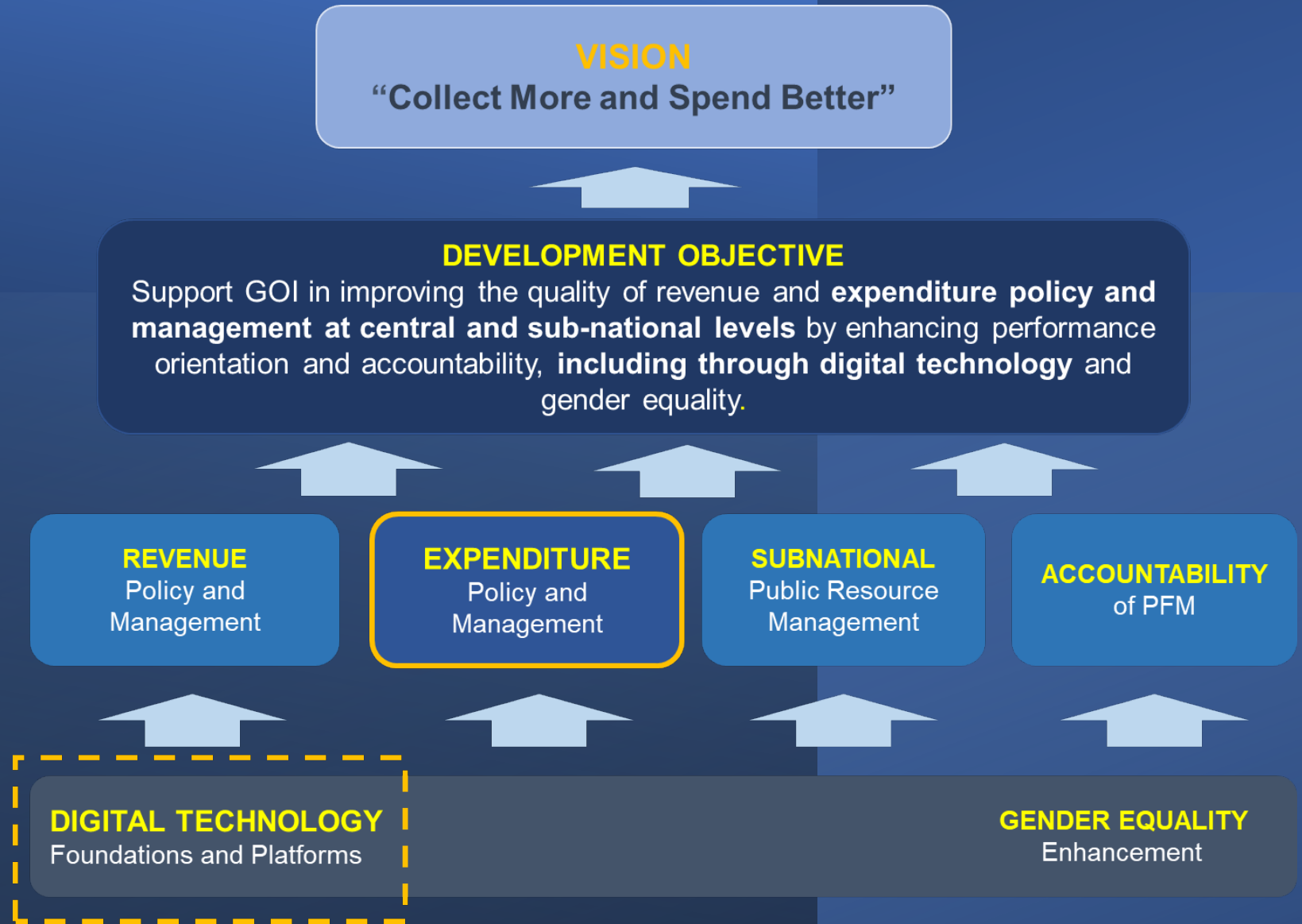
PEMPAL TREASURY COMMUNITY OF PRACTICE

25 April 2024

# Today's Agenda

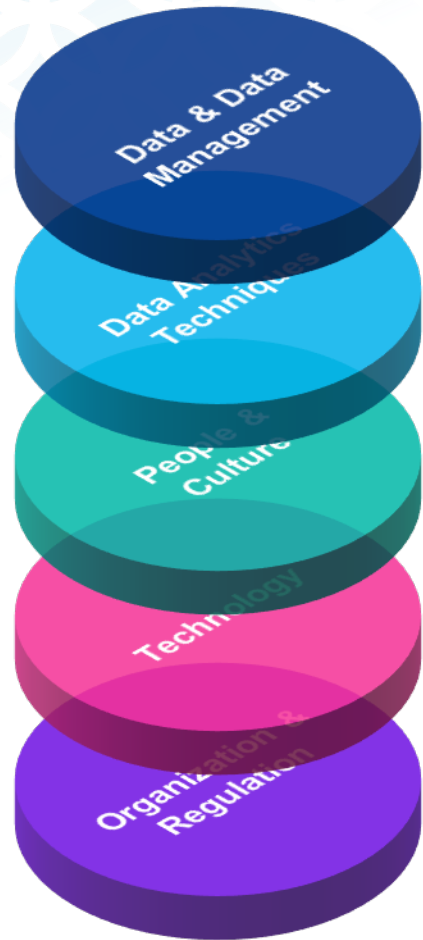
- Short Introduction to PFM MDTF
- Data Analytics Readiness Assessment (DARA)
- Implementation of Data Science at DG Treasury – MOF  
Indonesia

# Public Financial Management Multi-Donor Trust Fund (PFM MDTF)



# Data Analytics Readiness Assessment (DARA) – Methodology

There are **6 topics** with **23 subtopics** identified.



**01 Demand & Supply for Data Analytics**  
Identifies and assesses specific senior management demands and the quality of the data analytics supply to improve decision-making.

**02 Data & Data Management**  
Identifies new opportunities to leverage existing data and acknowledges gaps for current and future use cases.

**03 Data Analytics Techniques**  
Identifies and maps the techniques currently used by operational teams, as well as the level of Readiness.

**04 People & Culture**  
Identifies and produces a detailed mapping and profile of staff directly producing data analytics.

**05 Technology**  
Identifies existing infrastructure (usage and potential gaps) and core data management issues.

**06 Organization & Regulation**  
Identifies potential organizational constraints and enablers for data analytics, as well as informal structures that have fostered this work.

# DARA – Data & Data Management: *Data Access & Sharing*

Demand & Supply for Data Analytics

Data & Data Management

Analytics Techniques

People & Culture

Technology

Organization & Regulation

Organization & Regulation

## Key Points

- Provides insights into the data quality aspect of the data management.
- Potential issues with data privacy and data sharing constraints, among others.
- Identifies which data points must be shared to develop specific data analytics use cases.

## Subtopic Definition

The procedures and guidelines governing the solicitation, authorization, and monitoring of data access from primary and secondary information systems.

### Readiness Levels

#### Initial Level 1

Data access and sharing of data are severely limited, and there are no well-defined processes for data access.

#### Managed Level 2

Data access and sharing, spanning internal and external stakeholders, are granted on an ad hoc basis, or the processes and policies governing data access and sharing are inconsistently enforced.

#### Defined Level 3

There is a formalized procedure for requesting data access and sharing, governed by a comprehensive data access policy that applies to both internal organizations and external parties.

#### Quantitatively Managed Level 4

Data access and sharing are broadly outlined for both internal organizations and external parties, with continuous monitoring conducted to address security concerns.

#### Optimizing Level 5

Regular reviews are conducted to balance accessibility with security, ensuring that data access and sharing are maximized while safeguarding critical information.

### Indicator

1. There is no grant for data access and data sharing process inside or outside the organization.

1. There is an access permission change history report without an E-mail/other requests document for data access and data sharing to show request access is inconsistent.

1. There are policies, SOPs, and standards in requests for data access and data sharing (policy and SOP document, filled request form).  
2. Web portal (screenshot) or SOP document of data access and data sharing requests in a standardized channel/portal.

1. SOP document or IAM platform (screenshot) with a defined access role to show access and sharing granted systematically.  
2. There is a monitoring report for data access and data sharing security.

1. Data access & sharing schedule review report showing data is as accessible as possible while securing critical information.

### General Explanation of The Levels

Readiness not addressed

Readiness addressed in an ad-hoc manner

Readiness normally addressed with standardized documentation

Readiness consistently addressed and governed

Readiness reviewed regularly to enable continuous improvement