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









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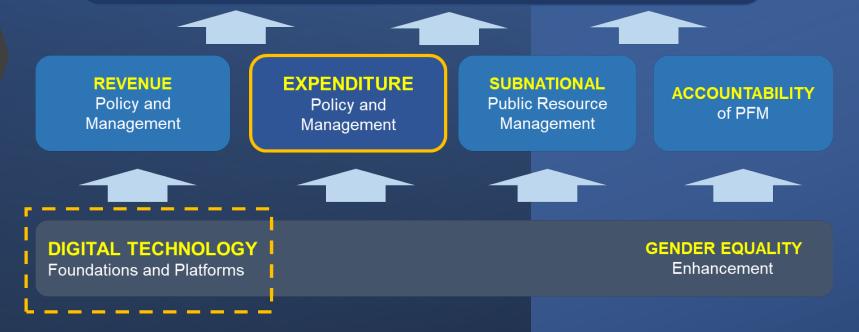
Public Financial Management Multi-Donor Trust Fund (PFM MDTF)

VISION

"Collect More and Spend Better"

DEVELOPMENT OBJECTIVE

Support GOI in improving the quality of revenue and **expenditure policy and management at central and sub-national levels** by enhancing performance orientation and accountability, **including through digital technology** and gender equality.











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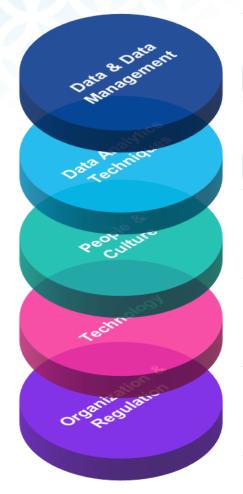


Data Analytics Readiness Assessment (DARA) – Methodology

There are 6 topics with 23 subtopics identified.

Usage Evaluation

Opportunity



UI		Review	Identification	
02	Data Quality Assurance	Data Quality Framework	Data Management Strategy	
UL		Data Access & Sharing	Data Collection	
03	Data Analysis	Organize Unstructured Data	Organize Structured Data	
UU		Reporting and Distribution	Data Visualization	
04	ance	Workforce and Performa Management	Career and Learning Development	
04			Community	
05	Data Repository	Physical Resources	Planning Review	
UIJ		Visualization Tools	Analytics Services	
06	Organizational Design	Leadership	Policies and Procedures	
UU				

Demand & Supply for Data Analytics

Identifies and assesses specific senior management demands and the quality of the data analytics supply to improve decision-making.

Data & Data Management

Identifies new opportunities to leverage existing data and acknowledges gaps for current and future use cases.

Data Analytics Techniques

Identifies and maps the techniques currently used by operational teams, as well as the level of Readiness.

People & Culture

Identifies and produces a detailed mapping and profile of staff directly producing data analytics.

Technology

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

Organization & Regulation

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









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DARA – Data & Data Management: Data Access & Sharing

Come Key Points

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

Subtopic Definition

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

Data & Data Management	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.	Quantitively 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.
Perculue reformed or of the optimized	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.	 There are policies, SOPs, and standards in requests for data access and data sharing (policy and SOP document, filled request form). Web portal (screenshot) or SOP document of data access and data sharing requests in a standardized channel/portal. 	 SOP document or IAM platform (screenshot) with a defined access role to show access and sharing granted systematically. There is a monitoring report for data access and data sharing security. 	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
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