



Digital Transformation in Governance Reimagining Government for the Digital Age

Presentation by:

Arun Arya, IAS

Former PFM Task Team Leader for
Indonesia, World Bank
Senior PFM Adviser, Iraq, GIZ
MPA Candidate, London School
of Economics

At IIM Lucknow, on July 26, 2025

Scheme of Presentation

Setting the Stage – Why Digital
Governance

Global Benchmarks – e-Government
Development Index (EDGI)

Indonesian Case Study – Digital
Transformation of Ministry of Finance

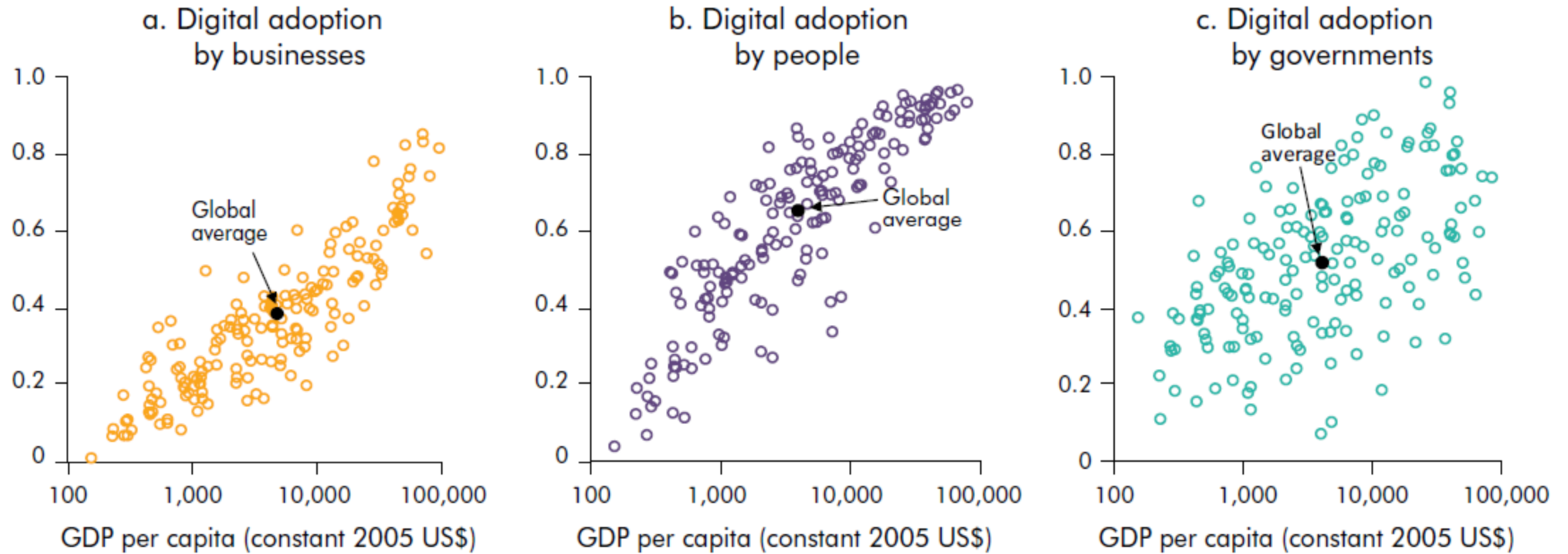
Digital Dashboard for Minister of
Finance for Iraq

5. Closing Reflections

A large audience of people is seated in a dark room, likely a conference or lecture hall. They are all facing towards the front of the room, where a bright light source, possibly a screen or stage, is visible. The audience members are mostly seen from behind, and their faces are in shadow. The overall atmosphere is one of a formal gathering or presentation.

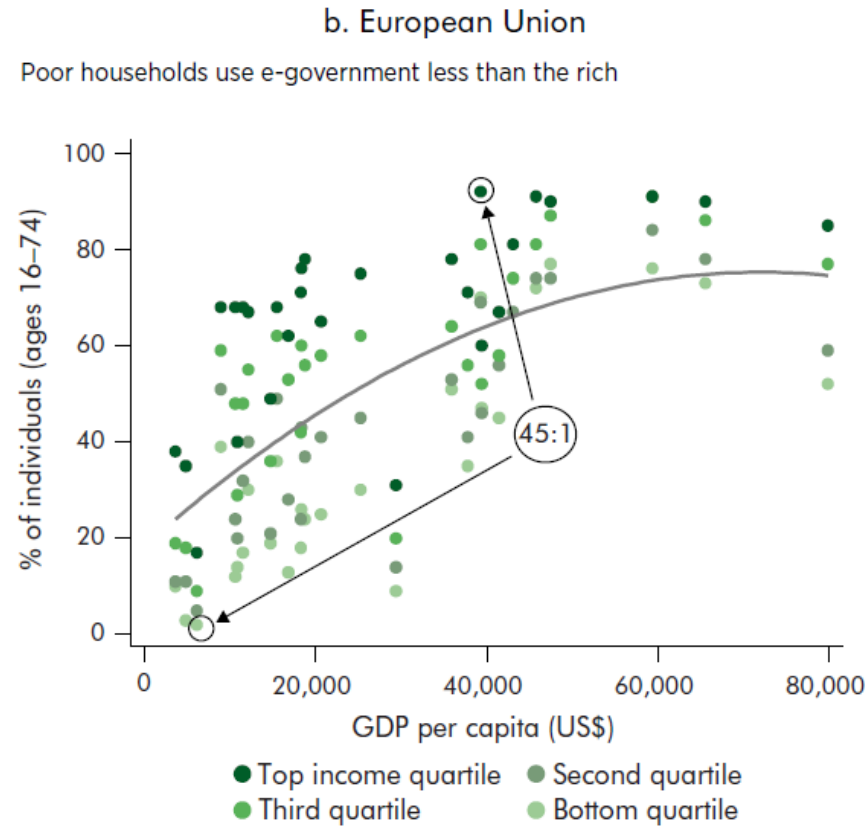
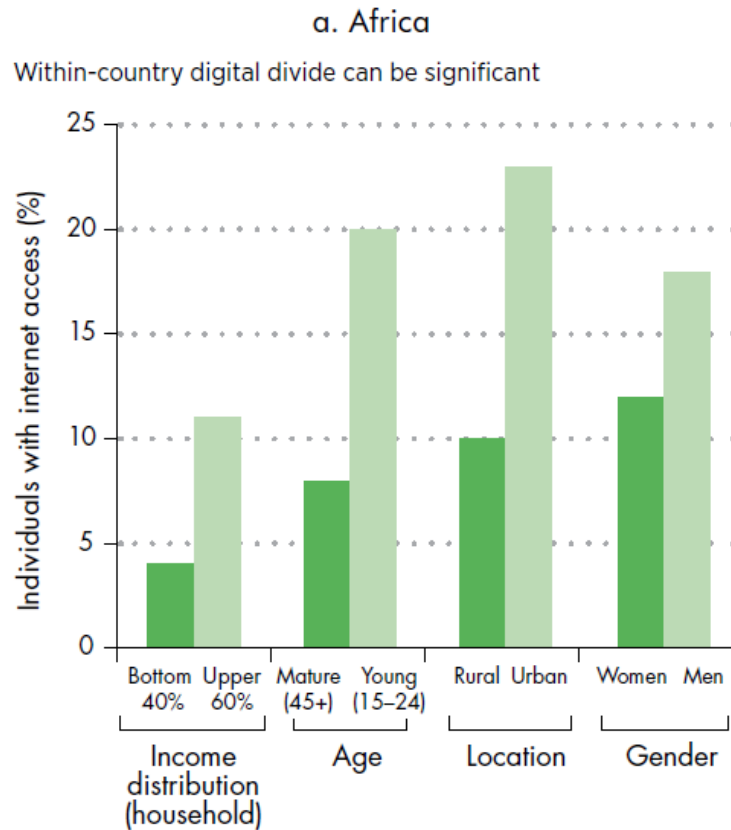
1. Setting the Stage – Why Digital Governance?

Digital technologies have spread rapidly in much of the world

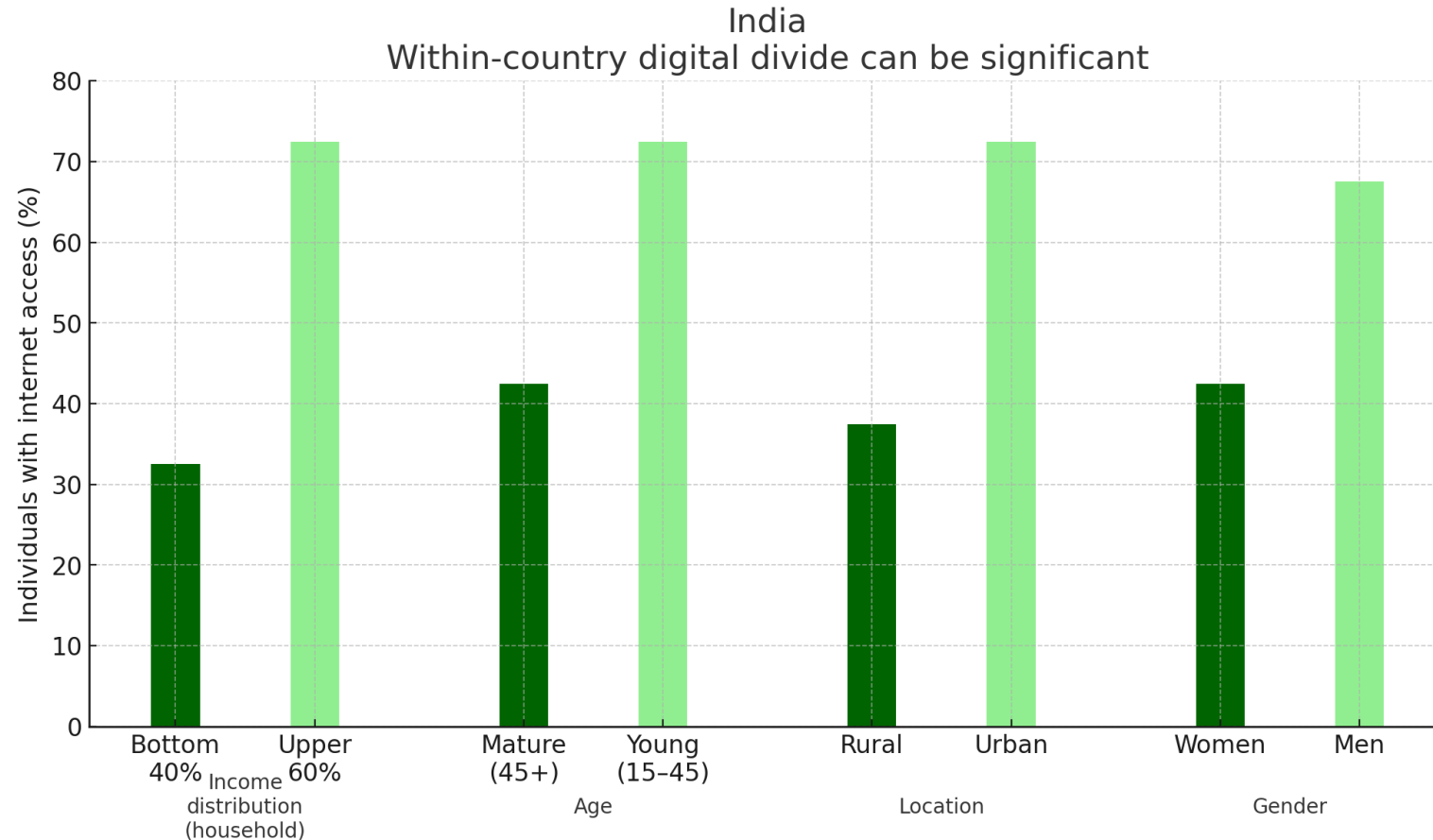


Source: World Development Report 2016

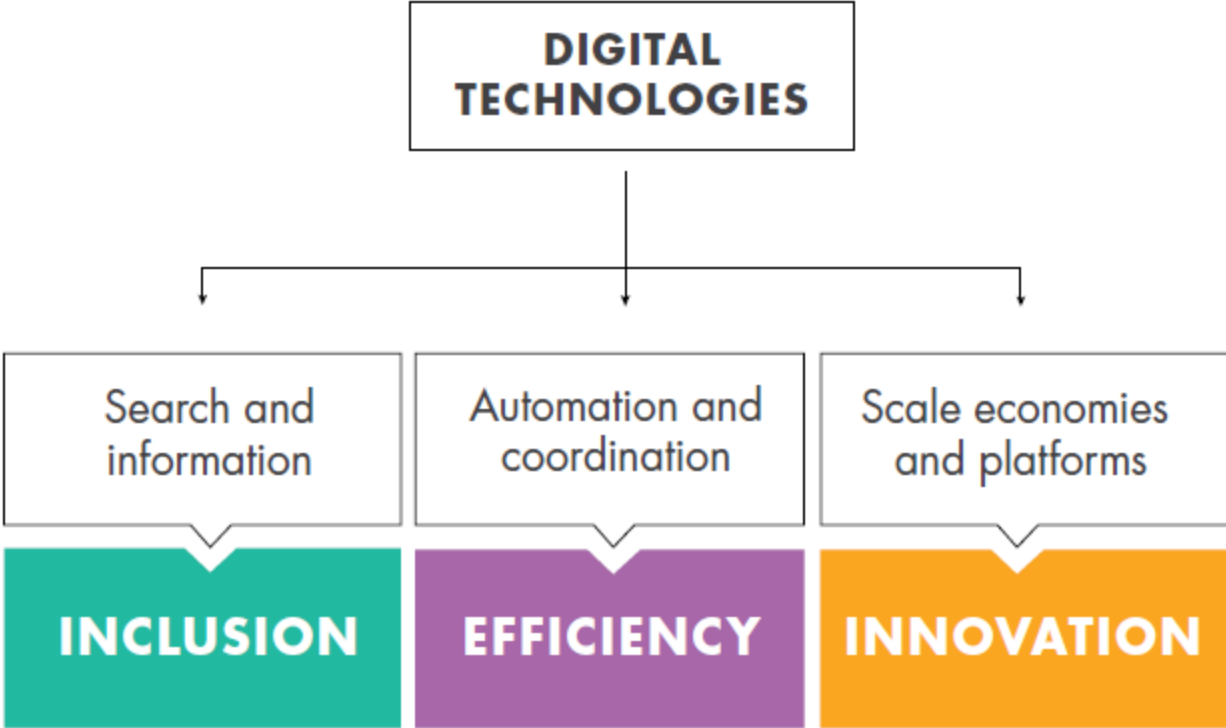
The digital divide in access is high in Africa and the divide in capability is high in the European Union



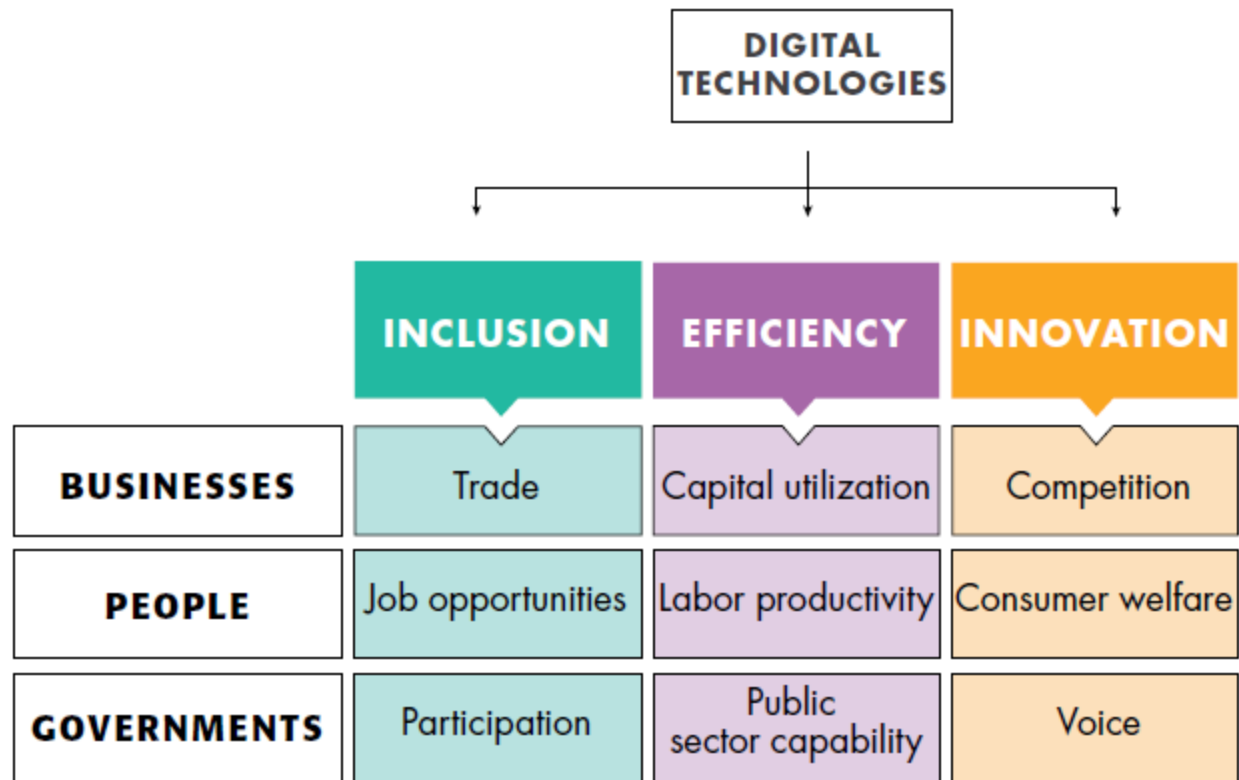
India – Within Country Divide is significant



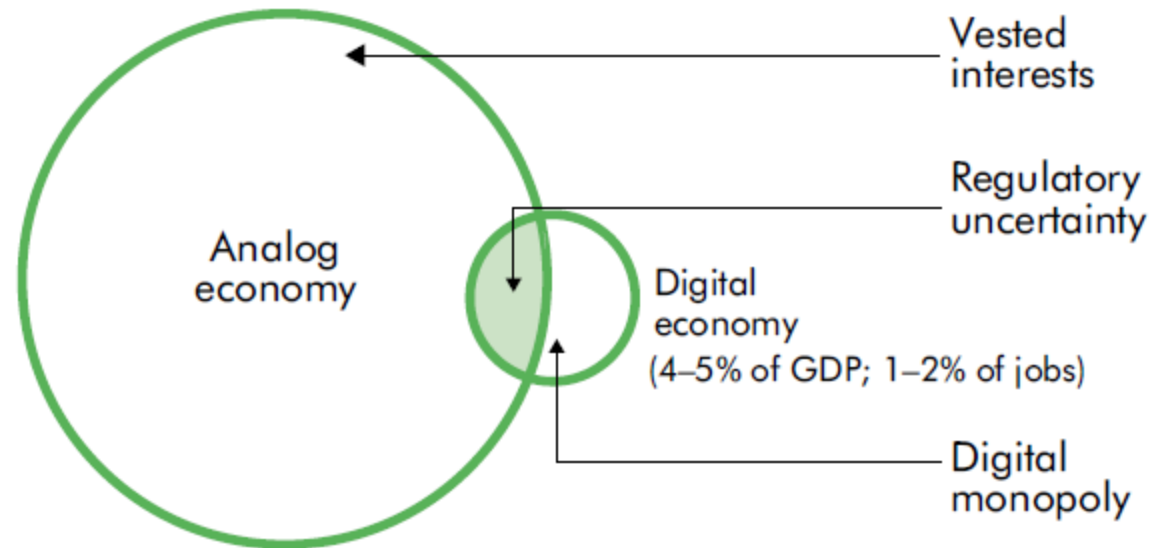
The internet promotes development through three main mechanisms



How the three mechanisms apply to businesses, people, and governments



Factors explaining the lower adoption of digital technologies by businesses

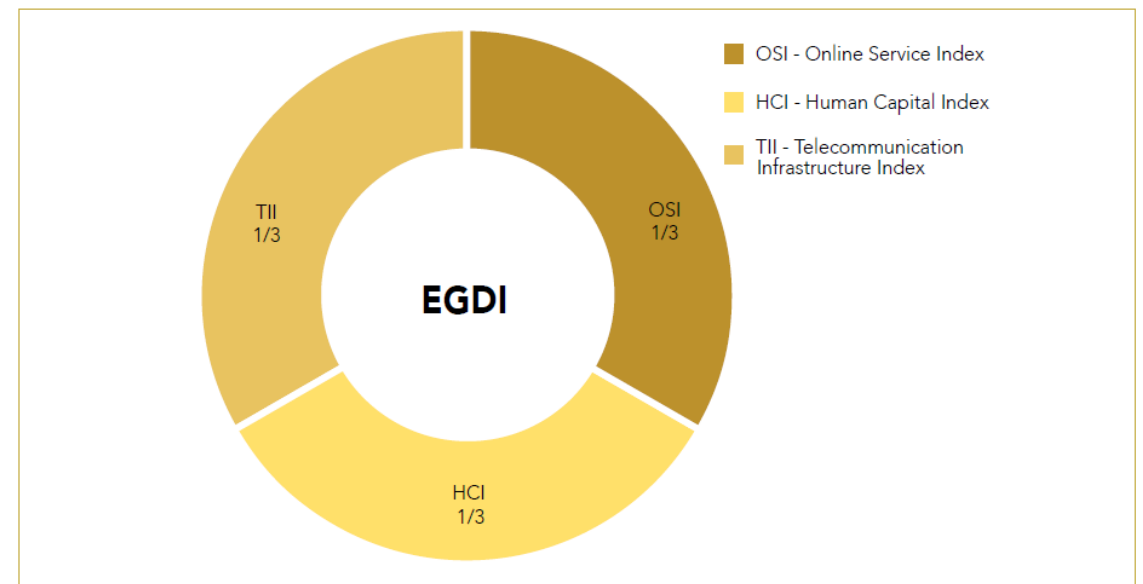


Source: *Word Development Report 2016*

2. Global Benchmarks – E-Government Development Index (EDGI)

The three components of E-Government Development Index (EGDI)

Components	Subindices
Online Services Index (OSI)	Institutional framework (IF)
	Services provision (SP)
	Content provision (CP)
	Technology (TEC)
	E-participation (EPI) <ul style="list-style-type: none"> (a) e-information (b) e-consultation (c) e-decision-making
Telecommunications Infrastructure Index (TII)	Internet users
	Mobile cellular subscribers
	Wireless broadband subscribers
	Broadband affordability*
Human Capital Index (HCI)	Adult literacy rate (AL)
	Gross enrolment ratio (GER)
	Expected years of schooling (EYS)
	Mean years of schooling (MYS)
	E-government literacy (EGL)*



Average EGDl and subindex values by income group, 2022

Country grouping by income	EGDI average	OSI average	TII average	HCI average
Low income	0.2963	0.3024	0.2139	0.3726
Lower-middle income	0.5032	0.4562	0.4441	0.6092
Upper-middle income*	0.6470	0.5725	0.6040	0.7645
High income	0.8241	0.7542	0.8420	0.8762
Average for all income groups	0.6102	0.5554	0.5751	0.7001

Source: 2022 United Nations E-Government Survey.

Leading countries in e-government development, 2024

Country	Rating class	Region	OSI	HCI	TII	EGDI (2024)	EGDI (2022)
Denmark	VH	Europe	0.9992	0.9584	0.9966	0.9847	0.9717
Estonia	VH	Europe	0.9954	0.9497	0.9731	0.9727	0.9393
Singapore	VH	Asia	0.9831	0.9362	0.9881	0.9691	0.9133
Republic of Korea	VH	Asia	1.0000	0.9120	0.9917	0.9679	0.9529
Iceland	VH	Europe	0.9076	0.9953	0.9983	0.9671	0.9410
Saudi Arabia	VH	Asia	0.9899	0.9067	0.9841	0.9602	0.8539
United Kingdom of Great Britain and Northern Ireland	VH	Europe	0.9535	0.9450	0.9747	0.9577	0.9138
Australia	VH	Oceania	0.9222	1.0000	0.9509	0.9577	0.9405
Finland	VH	Europe	0.9097	0.9836	0.9791	0.9575	0.9533
Netherlands (Kingdom of the)	VH	Europe	0.9212	0.9688	0.9715	0.9538	0.9384
United Arab Emirates	VH	Asia	0.9163	0.9436	1.0000	0.9533	0.9010
Germany	VH	Europe	0.9238	0.9672	0.9236	0.9382	0.8770
Japan	VH	Asia	0.9427	0.9117	0.9509	0.9351	0.9002
Sweden	VH	Europe	0.8836	0.9275	0.9868	0.9326	0.9410
Norway	VH	Europe	0.9117	0.9175	0.9654	0.9315	0.8879
New Zealand	VH	Oceania	0.9453	0.9615	0.8728	0.9265	0.9432
Spain	VH	Europe	0.9054	0.8961	0.9603	0.9206	0.8842
Bahrain	VH	Asia	0.9030	0.8680	0.9877	0.9196	0.7707

Sources: 2022 and 2024 United Nations E-Government Surveys.

Performance of India in EDGI, 2024

EDGI:
0.6678

OSI:
0.8184

TII:
0.5700

HCI:
0.6149

EPI:
0.6575

Rank:
97/193





3. Indonesia Case Study: Digital Transformation of MOF



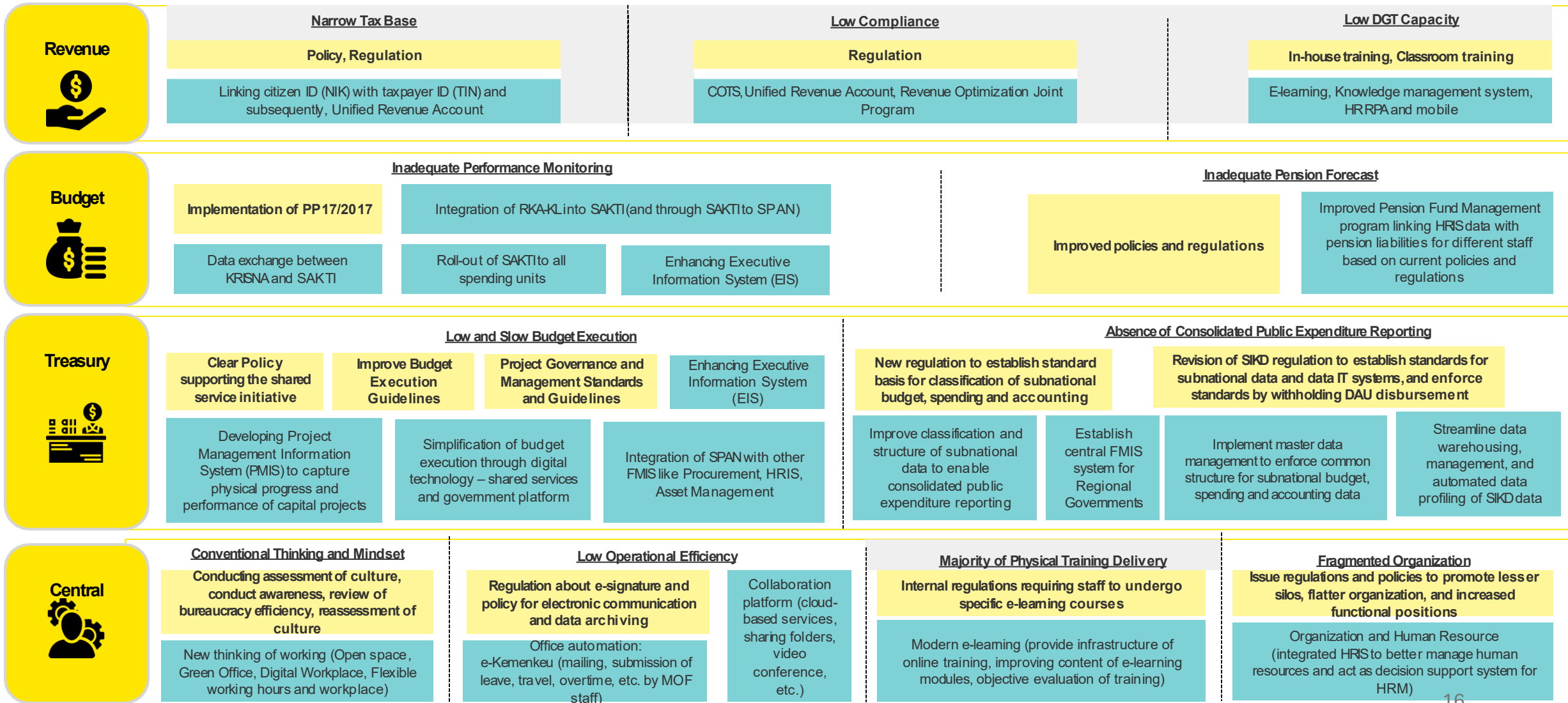
- **Archipelago Size:** Over 17,000 islands (6,000 inhabited), making it the world's largest archipelago.
- **Population:** Approximately 273 million (4th most populous country as of 2023).
- **GDP:** Around USD 1.2 trillion – largest economy in Southeast Asia, growing at 5% per annum.
- **GDP Per Capita:** Approximately USD 4,500 (upper middle-income country), aspiring to become high-income (USD 14,000) by 2045.
- **Annual Budget:** USD 209 billion (2023), focused on economic growth and infrastructure.



The public financial management (PFM) challenges in Indonesia...

<p>Revenue</p> 	<p>Narrow Tax Base</p> <ul style="list-style-type: none"> • Low Registered Individual Taxpayers as compared to households (55%) • Low registration of Corporate taxpayers (10% of total number of companies) 	<p>Low Compliance</p> <ul style="list-style-type: none"> • Individuals filing returns (73%), of which, 80% through e-filing) • Business houses filing income tax returns (65%), Of which, 36% through e-filing) • VAT Compliance, Of which, through e-invoice • Outdated core tax system 	<p>Low DGT Capacity</p> <p>Most DGT tax are not specialized and lack of sufficient training for tax auditors</p>	
<p>Budget</p> 	<p>Inadequate Performance Monitoring</p> <p>Lack of integration of planning and budgeting</p>	<p>Inadequate Forecasting Pension Outlays in the Future Years</p> <p>Inadequate link between HRIS and Budget Module</p>		
<p>Treasury</p> 	<p>Low and Slow Capital Budget Execution</p> <ul style="list-style-type: none"> • Capital Budget Execution – 87.74 % of Budget allocation (2017) • Cumulative Disbursement at end third quarter – 24.24% (2017) • Disbursement in 4th quarter – 63.5 % (2017) • Uncertainty in government operational expenditure payment 		<p>Absence of consolidated public expenditure reporting</p> <p>Absence of subnational data for macro-economic, policy prioritization and performance management purposes</p>	
<p>Central</p> 	<p>Conventional thinking and mindset of MOF staff in doing their work</p>	<p>Dependence on paper work and manual procedures leading to low operational efficiency</p>	<p>Most trainings are delivered physically in class rooms leading to high cost of training and limited capacity to train</p>	<p>Fragmented organization with several layered hierarchies and inadequate functional positions, leading to low organizational effectiveness</p>

The PFM challenges require both analog (policy, regulations) and digital interventions...



Proposed Digital Initiatives

Revenue	Budget	Treasury	Central
Linking of NIK with TIN (NPWP) and subsequently, Unified Revenue Account	Integration of RKAKL into SAKTI (and to through SAKTI to SPAN)	Developing Project Management Information System (PMIS) to capture physical progress and performance of capital projects	New thinking of working (Open space, Green Office, Digital Workplace, Flexible working hours and workplace)
COTS, Unified Revenue Account, Revenue Optimization Joint Program	Data exchange between Krisna and SAKTI	Integration of SPAN with other FMIS like Procurement, HRIS, Asset Management	Office automation - E-Kemenkeu (mailing, submission of leave, travel, overtime, etc. by MOF staff)
E-learning, Knowledge Management System, HR Robotics Process Automation and Mobile	Roll-out of SAKTI to all spending units	Simplification of budget execution through digital technology – shared services and government platform	Office automation - Collaboration platform (cloud-based services, sharing folders, video conference, etc.)
	Enhancing Executive Information System (EIS)	Implement master data management to enforce common structure for subnational budget, spending and accounting data	Modern e-learning (provide infrastructure of online training, Improving content of e-learning modules, objective evaluation of training)
	Improved Pension Fund Management program linking HRIS data with pension liabilities for different staff based on current policies and regulations.	Improve classification and structure of subnational data to enable consolidated public expenditure reporting	Organization and Human Resource (integrated HRIS to better manage human resources and act as decision support system for HRM)
		Streamline data warehousing, management, and automated data profiling of SKD data	
		Establish central FMIS system for Regional Governments	

Digital Transformation Vision



“Transforming Ministry's **business model**, **digitalizing business processes** and **upskilling human resources** by **adapting digital technology** on a **secured platform** to enable the Ministry to take informed decisions based on **connected data** by **2025**”.

Purpose

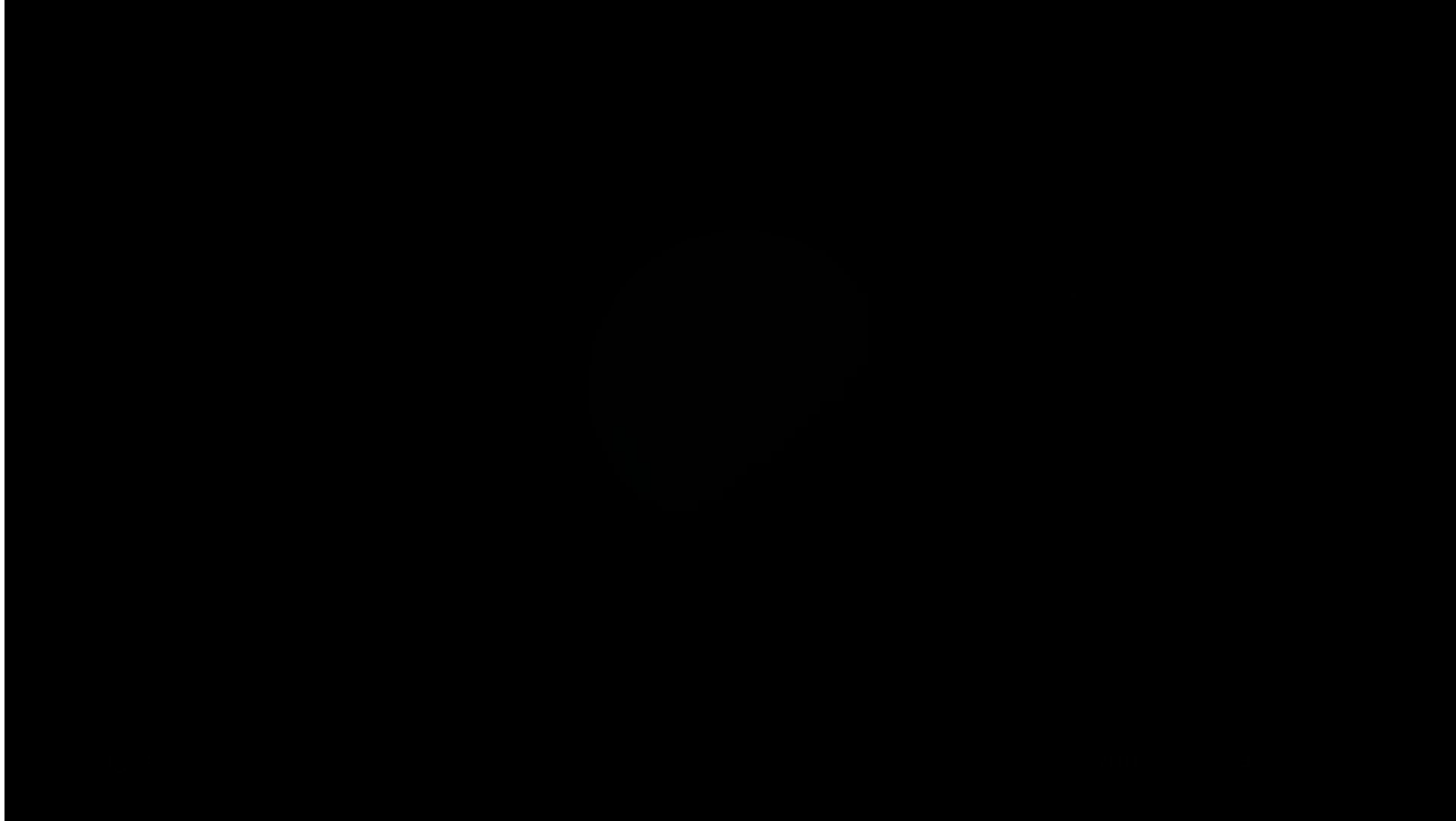


To provide **citizens** with **transparent**, and **cost and time efficient services**, and **line ministries** with improved **control** over their **budget planning** and **execution**.

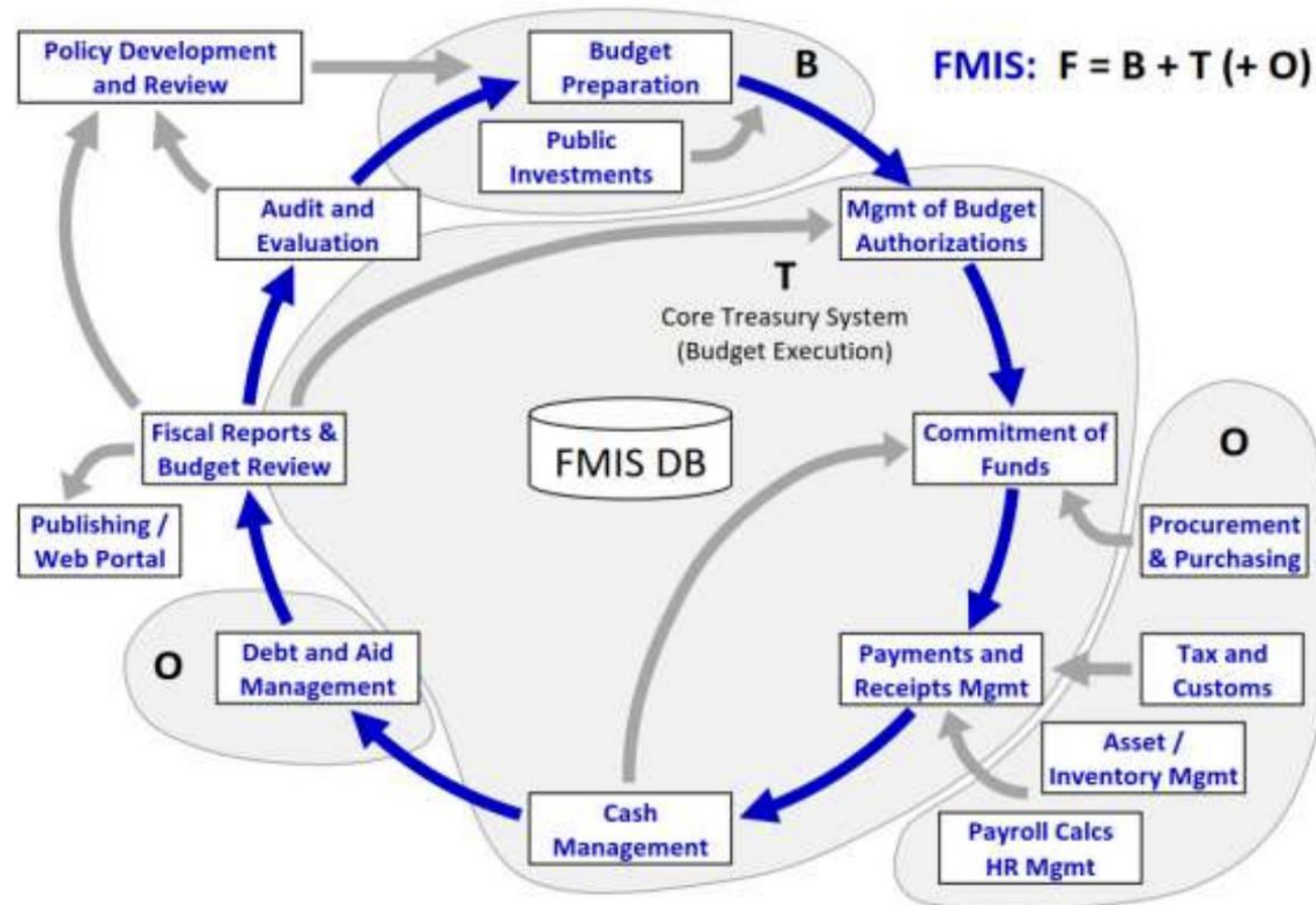


Digital Transformation Vision

Digital Transformation Journey of Indonesia...



Implementation of FMIS (SPAN)



Impact of IFMIS (SPAN)

- **Annual savings** \$55m in **printing costs** by implementing FMIS
- **Direct Payment** through FMIS
 - 1.6 M *employees*
 - 300,000 *vendors*
 - 4 M *social assistance and subsidy beneficiaries*
- **Treasury Single Account**—\$175 M Annual savings in interest payments
- 70% of government contracts awarded through **Open Competition**
- **ACCRUAL-BASED** accounting system introduced in 2016
- **OM SPAN**—100,000+ *employees have access to real-time expenditure information*



Technological change and the emergence of the digital economy holds a great potential to drive the economic growth in Indonesia

“ Indonesian economy is being transformed from relying on raw commodities export to the digital economy. e-Commerce and digital economy will transform Indonesia’s economy...”



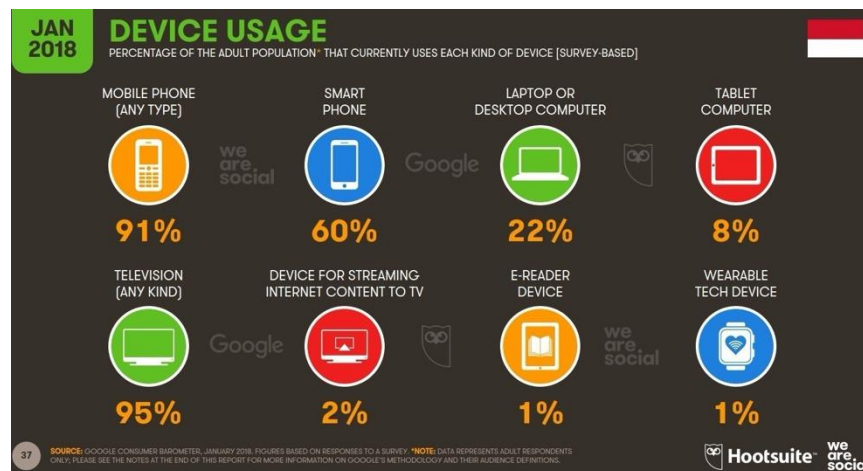
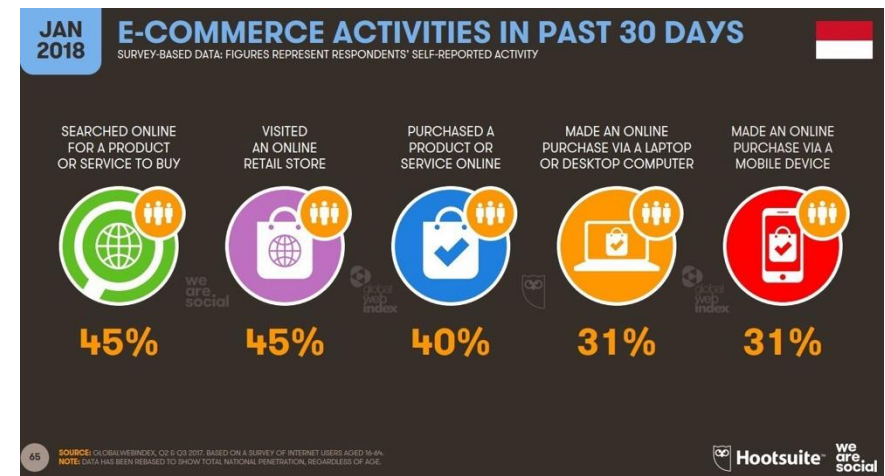
Pak Jokowi Widodo,
The President of Indonesia



“ Indonesian Government is open for inputs from the stakeholders to improve policies and regulations to make disruptive technology as an opportunity...”



Ibu Sri Mulyani Indrawati,
The Minister of Finance, Indonesia



Source:
we are social
<https://www.ke.men.keu.go.id/en/publications/news/president-promote-s-indonesia-digital-economic-transformation-to-new-zealand/>
<https://www.ke.men.keu.go.id/en/publications/news/attempt-to-make-technology-disruptive-as-an-opportunity-the-governments-open-for-inputs/>

Mobile Application for Budget Transparency

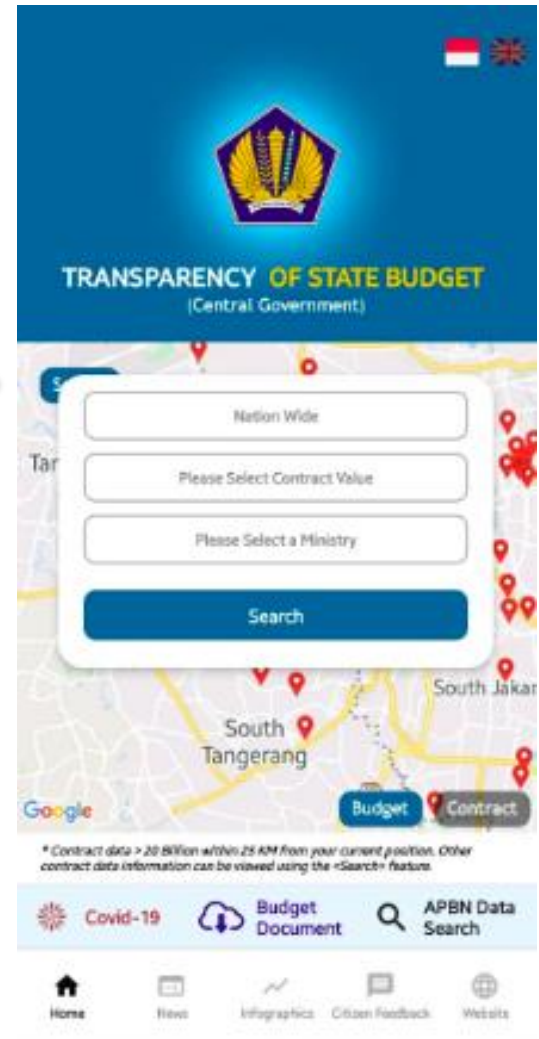


Budget Information



KAB. BOALEMO (billion rupiah)		
	Budget	Realization
Ministry Expenditure	132.238	67.936
TKDD	190.505	431.302
Income	0.000	0.000

Contract Information



Search

:: Cari Data Anggaran

Tahun
 Agregat Detil

Fungsi

Instansi

Provinsi



Function Budget

:: ANGGARAN FUNGSI [2019]

EKONOMI	193.86 T	>
KETERTIBAN DAN KEAMANAN	167.12 T	>
PERTAHANAN	148.67 T	>
PENDIDIKAN	146.54 T	>
PELAYANAN UMUM	95.97 T	>
PERUMAHAN DAN FASILITAS UMUM	34.99 T	>
KESEHATAN	33.81 T	>
PERLINDUNGAN LINGKUNGAN HIDUP	13.08 T	>
AGAMA	10.56 T	>
PARIWISATA	5.22 T	>
PERLINDUNGAN SOSIAL	4.14 T	>



Ministry Budget

:: ANGGARAN K/L [2019]

KEMENTERIAN PEKERJAAN UMUM DAN PERUMAHAN RAKYAT	83.63 T	>
KEMENTERIAN PERHUBUNGAN	49.33 T	>
KEMENTERIAN PERTANIAN	25.76 T	>
KEMENTERIAN KELAUTAN DAN PERIKANAN	7.35 T	>
KEMENTERIAN ENERGI DAN SUMBER DAYA MINERAL	6.04 T	>
KEMENTERIAN PERDAGANGAN	3.89 T	>
BADAN PENGUSAHAAN KAWASAN PERDAGANGAN BEBAS DAN PELABUHAN BEBAS BATAM	2.50 T	>
KEMENTERIAN KETENAGAKERJAAN	2.43 T	>
KEMENTERIAN KOMUNIKASI DAN INFORMATIKA	1.81 T	>
KEMENTERIAN PERINDUSTRIAN	1.73 T	>
BADAN METEOROLOGI, KLIMATOLOGI DAN GEOFISIKA	1.63 T	>



Sub-Function Budget Screen

Search

Sub-Funcion Budget

:: ANGGARAN SUB-FUNGSI [2019]

TRANSPORTASI	39.49 T	>
PENGAIRAN	39.46 T	>
EKONOMI LAINNYA	3.58 T	>
LITBANG EKONOMI	0.75 T	>
INDUSTRI DAN KONSTRUKSI	0.35 T	>



Program Budget

:: ANGGARAN PROGRAM [2019]

Program Penyelenggaraan Jalan	39.49 T	>
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Activity Budget

:: ANGGARAN PROGRAM [2019]

Program Penyelenggaraan Jalan	39.49 T	>
Pelaksanaan Preservasi dan Peningkatan Kapasitas Jalan Nasional	38.51 T	>
Pengaturan Dan Pembinaan Fasilitas Jalan Daerah, Metropolitan, Kota Besar Dan Bebas Hambatan	0.65 T	>
Pengaturan, Pengusahaan, Pengawasan Jalan Tol	0.21 T	>
Pengaturan Dan Pembinaan Pengembangan Jaringan Jalan	0.07 T	>



Output Budget

:: ANGGARAN PROGRAM [2019]

Program Penyelenggaraan Jalan	39.49 T	>
Pelaksanaan Preservasi dan Peningkatan Kapasitas Jalan Nasional	38.51 T	>
Preservasi Rutin Jembatan	9.12 T	>
Pelebaran Jalan Menambah Lajur	6.32 T	>
Pelebaran Jalan Menuju Standar	5.76 T	>



:: DATA ANGGARAN DETAIL

FUNGSI
EKONOMI

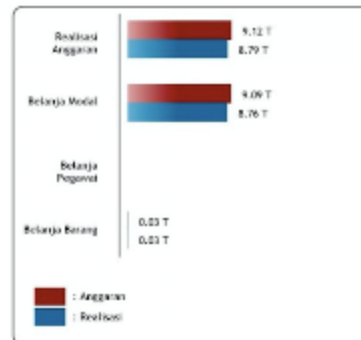
KEKANTORAN
KEMENTERIAN PEKERJAAN UMUM DAN PERUMAHAN RAKYAT

SUB FUNGSI
TRANSPORTASI

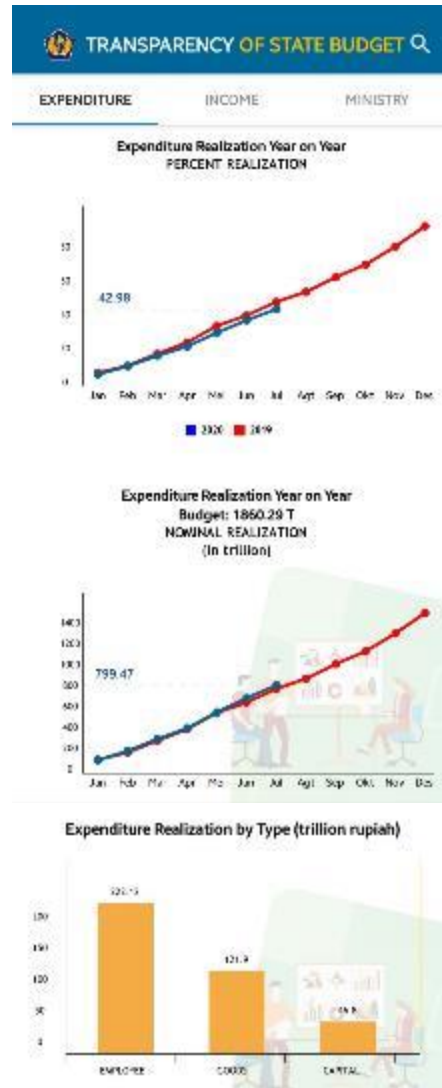
KEGIATAN
Pelaksanaan Preservasi dan Peningkatan Kapasitas Jalan Nasional

PROGRAM
Program Penyelenggaraan Jalan

OUTPUT
Preservasi Rutin Jembatan

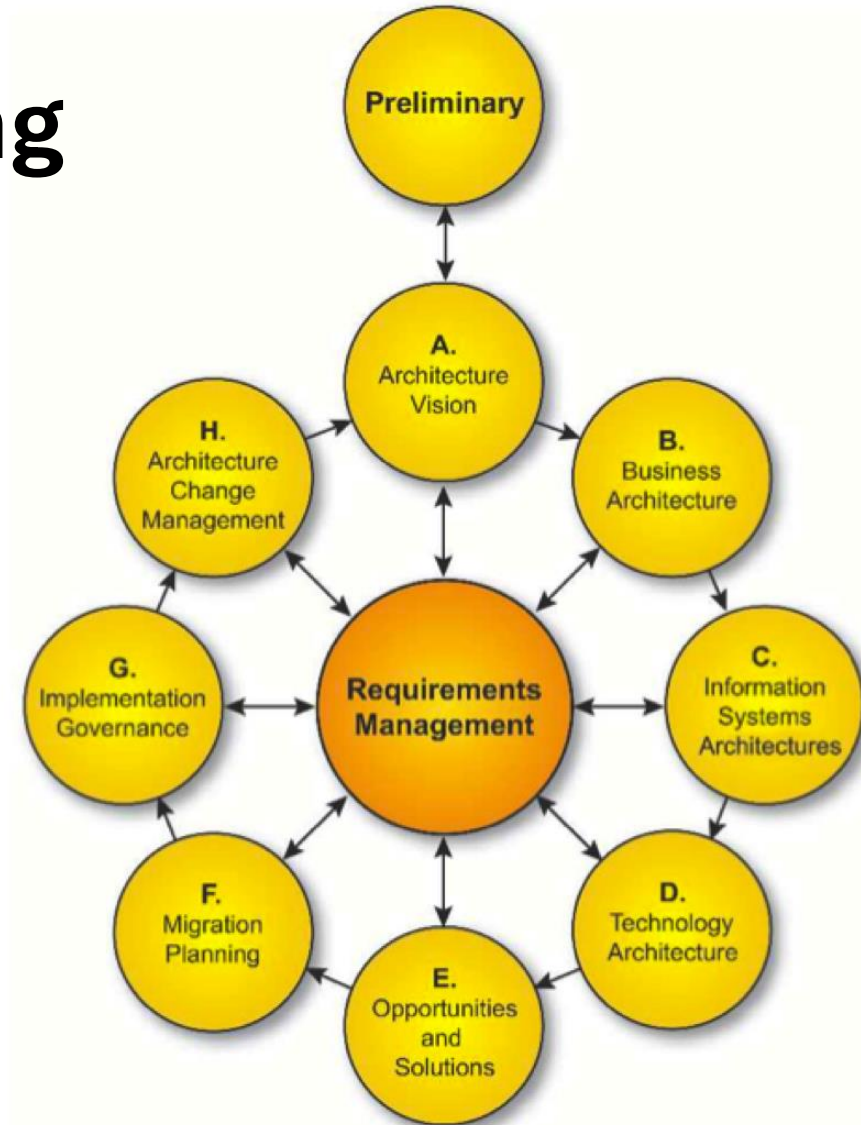


Infographics



Development of Enterprise Architecture Blueprint using TOGAF

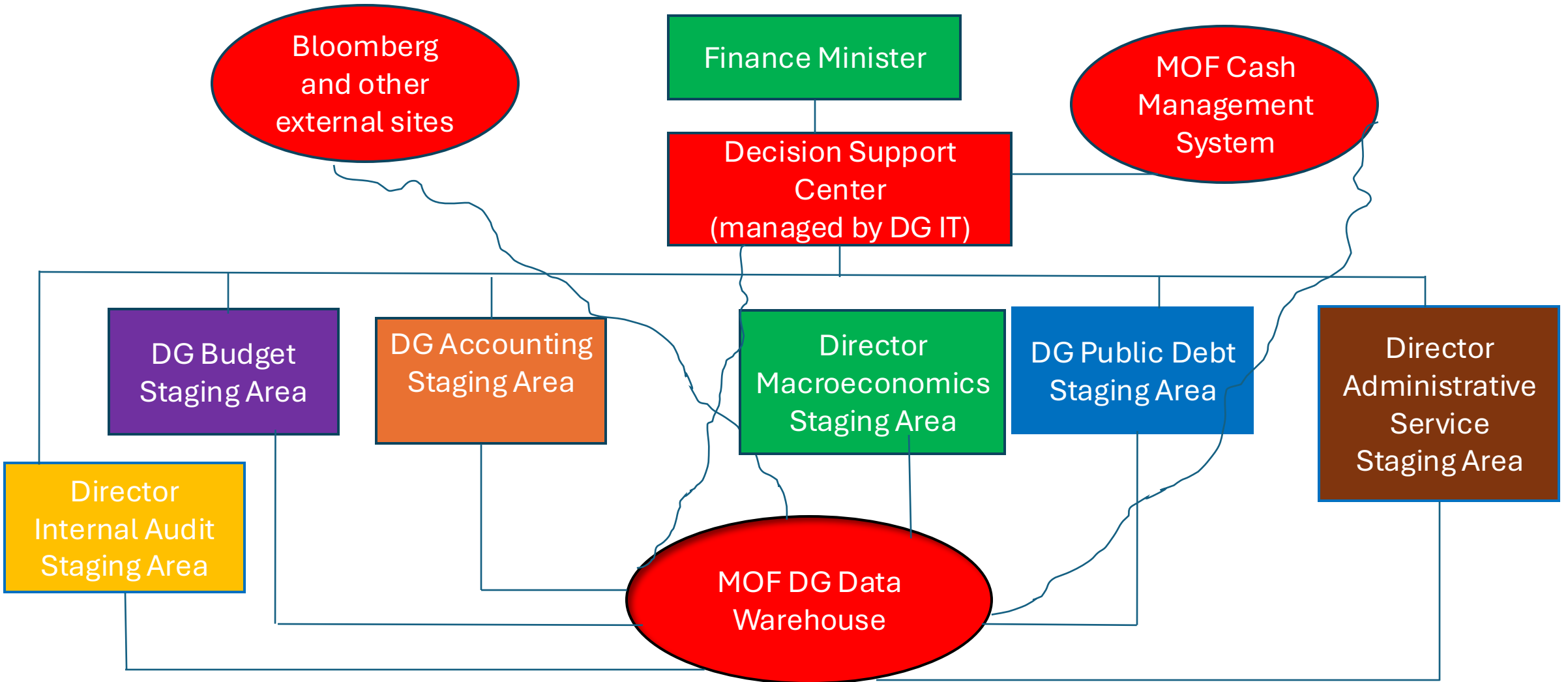
1. **#Business Processes** reduced from 16,500 to 5,200
2. **#IT Applications** reduced from 325 to 25
3. **#Central Database (SPAN)** reduced to 1 (Oracle)
4. **#Spending Unit Database(SAKTI)** reduced to one middleware stack—**Java EE, Red Hat JBoss EAP, Linux OS, and Red Hat OpenShift**)





4. Digital Dashboard for Minister of Finance for Iraq

Digital Dashboard for the Minister of Finance



Dashboard to provide an at-a-glance view of key financial indicators and performance metrics

- **Budget Execution:** This section will provide an overview of the budget execution status, showing the allocated budget, actual expenditures, and variances.
- **Revenue Analysis:** This section will display revenue streams, such as taxes, customs duties, and other income sources.
- **Debt Management:** This section will be linked with DMFAS under operation in MoF and highlight the country's debt position, including outstanding debt, debt service payments, and debt-to-GDP ratio.
- **Economic Indicators:** This section will present key economic indicators, such as GDP growth, inflation rate, unemployment rate, and exchange rates.
- **Expenditure Breakdown:** This section will provide a breakdown of expenditures by sector or category, such as education, healthcare, infrastructure, and defense.
- **Performance Metrics:** This section will include performance metrics related to financial management, such as compliance with fiscal rules, efficiency of budget execution, and effectiveness of public financial management systems.



Closing Reflections...

- **Digital is not just tech**
– it's transformation.
- Combine analog and digital reforms.
- Centralize standards, decentralize innovation.
- Invest in culture and capacity, not just hardware.
- Citizen trust is the new infrastructure.

• Questions & Discussion Welcome!

• Contact:
a.arya5@lse.ac.uk;
arun@arunarya.com

• Website:
<https://www.arunarya.com>