

Enhancing digital public financial management in Africa

Webinar 2



CONNECT • SHARE • REFORM



Today's webinar

Objective

Present preliminary findings from the first stage of CABRI's Improving Digital PFM in Africa programme, based on four country investigations

Agenda

- 1** **Welcome: CABRI in Digital PFM**
D^{re}. Kay Brown
- 2** **Programme overview**
Giselle Hadley
- 3** **Preliminary Country Findings**
 - A.** **PFM Functionalities**
Giselle Hadley
 - B.** **Different managerial practices**
Nicolas Botton
 - C.** **Emerging technologies**
Nicolas Botton
- 4** **Emerging conclusions and potential next steps**
Giselle Hadley



CABRI TEAM



Dr Kay Brown
Executive Secretary



Priya Beegun
Marketing and Communications
Manager



Ashani Singh
Events Manager



Joana Bento
Acting Head – Public Finance



Giselle Hadley
Program Manager in Public Finance



Nicolas Botton
Expert Consultant – Digital PFM

CABRI in Digital Public Financial Management (dPFM) by Dr Kay Brown | Executive Secretary

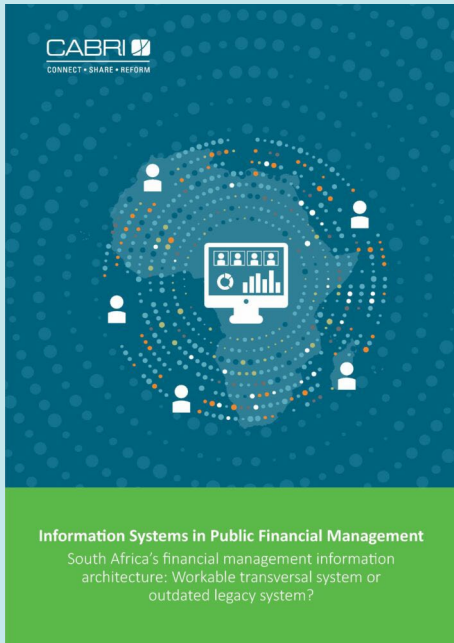
CABRI is an international organisation that works with Ministries of Finance to **strengthen public finance capabilities and systems in Africa**



*Praxis
What Works*



Applying the CABRI approach to dPFM



Looking beyond iFMIS

Ministries of Finance have a role in stewarding digital solutions beyond just an iFMIS system

Learning from experiences

Encouraging learning across countries on what works, and how – including the role of people, politics and change management

Problem-driven approaches

Function over form – the tool chosen is less important than the function it improves

Driving outcomes for populations

Focusing on the functions that have a large impact on service delivery and outcomes

Programme Overview & Preliminary Findings (A) PFM Functions

Giselle Hadley, Programme Manager





CABRI's work in digital PFM has two phases

Phase 1: Scoping and design (6 months)

Phase 2



Webinar 1

Introducing CABRI's digital PFM work area

Recording available on the CABRI website



Country Investigations

Benin, Rwanda, South Africa and Kenya systems were investigated, using desk research, a semi-structured questionnaire, and in-depth interviews in Rwanda and Kenya



Webinar 2

Present preliminary findings from country investigations specific topics or themes for focus of future work. Solicit feedback on the design of future work



Learning Platform/Tool

Implement an approach to improving learning and knowledge sharing in digital reforms in Africa



Today's webinar will:



Review preliminary results from these 4 countries, exploring:

- How digital systems have improved functionality of their PFM systems
- What management challenges were faced in implementing digital systems
- How they overcome management challenges
- What emerging technologies have been used by these countries



Test some options for future CABRI work to improve cross-country knowledge and exchange on digital systems



Have your say!!



Overview of Country Digital Systems for PFM



Benin

Use mix of one COT and several self-developed tools using Microsoft systems, layering tools to produce 6 PFM modules. Digital governance was a focus and key source of success.



Rwanda

Fully integrated FMIS system, developed almost entirely in-house using open-source development with large focus on building in-house capacity as part of a National Digital Strategy.



Kenya

Separate tools for each directorate with both in-house and Oracle COT systems, but with limited integration. Strong links to State Dept for ICT: co-develop standards and approaches to ensure continuity and avoid duplication.



South Africa

Very decentralized tools, often relying on excel-based systems. Focus has been ensuring integration of data based on standards (chart of accounts and budget classification) to enable data to be centralized.

The four countries are on a journey towards digital transformation



DIGITIZE — DIGITALIZE — DIGITAL TRANSFORMATION →

Moving from analogue to digital services

Digitized steps in the accounting process

Tools to collect budget information from each ministry/department

Electronic approval processes

Improve existing processes and forms while digitizing them

Centralized dashboards for decision-making with automatic alerts and indicators.

Shared repositories: tax identifiers, business registers, etc.

Automatic production of budget annexes

Comprehensive Review Utility Processes for All Digital Inputs




Project performance evaluations and cost comparisons

eProcurement overhaul and associated controls

FMIS communication with external systems (health / hr...)

Pilots on ML and AI technologies to reduce costs and streamline

Digital interface with citizens

 All 4 countries  All countries, with partial results  1-3 countries



Credible budgets

- Budgets formed without connection with priorities, or service delivery performance data
- Public expenditures not easily tracked against budgets: difficult to know if spending reflects the budgeted promises.



Benin

- ✓ Budget is now voted in programme budgeting mode (since 2021), and preparation, execution and monitoring steps are all connected
- ! Multi-year forecasts and management still an issue



Rwanda

- ✓ All budget reports including annexes of the budget law produced automatically, streamlining all the data gathering



Kenya

- ✓ iFMIS budget tool helps improve efficiency of processes
- ✓ Enabled better analysis of spending against budget
- ! Hard to improve budget quality
- ! Integration with government strategies



South Africa

- ✓ Focus on standards that enable expenditures to be compared with budgets
- ✓ System is well institutionalized due to consistency over time



Reliable and efficient resource flows

- Inaccurate Cash forecasts leading to rationing
- Payroll personnel lists not updated regularly
- Procurement processes frequently delayed or fail to achieve good value for money, payments not made on time



Benin

- ✓ Commitment plans, tenders, budgeting and accounting are all connected in one system.
- ! Automated controls still in improvement



Rwanda

- ✓ All budget and accounting workflow now in the integrated IFMIS, data available in real time
- ! Procurement data managed in a different system



Kenya

- ✓ Increased in number of suppliers in public procurement, through improved supplier management platform
- ! Expenditure tracking systems have been hardest to implement to date



South Africa

- ✓ Cash flow projections combined with sophisticated excel template and sets link to prevent spending above approved levels
- ! Procurement systems are fragmented and not easily consolidated for monitoring



Institutionalised Accountability

- Funding not tracked to service delivery units
- Financial reports not made accessible to politicians or citizens
- Implementation of projects not effectively monitored / tracked
- Officials/units are not held accountable for non-performance or misuse of funds.



Benin

- ✓ More traceability
- ✓ New ASIN agency working on more publications and more open data



Rwanda

- ✓ Office of the Auditor General now able to certify the accounts
- ✓ RISA in charge of implementing new digital rules including enhanced accountability



Kenya

- ✓ Developed tool to publish budget and expenditure data and increase transparency, although it is not fully rolled out



South Africa

- ! The existing transversal system does not provide comprehensive business intelligence software available to all national and provincial



Have your say!!

Question 1: Which component of your PFM functionality has been most improved with a digital system? (multiple choice - choose up to 3)

1. Budgets connected to priorities and performance
2. Expenditure tracking against budgets
3. Cash forecasting to avoid rationing
4. Payroll to ensure timely payments of staff
5. Value for money and timeliness in procurement
6. Tracking funding to service units (e.g. schools or health facilities)
7. Transparent and accessible financial reporting (to politicians or citizens)
8. Monitoring of capital projects
9. Accountability for non-performance or misuse of funds



Country Discussant



Preliminary findings 2: Different managerial practices

Nicolas Botton, Digital PFM expert



Managerial concerns raised

Source : Field missions and exchanges

Digitizing is no easy thing if the existing process is not sufficiently formalized

Tools and standards exist but no one is able to ensure that they are respected, so they are more like recommendations

Each ministry and directorate has its own rules and the teams do not exchange from one ministry to another

We still use Excel to collect budget information from each ministry/department

Decisions on the FMIS are taken without consulting us at the level of the other ministries, but we would nevertheless have recommendations and suggestions

Three key areas were raised:

- Finding and retaining resources and building capacity,
- Overcoming institutional, legal and cultural constraints,
- Managing multiple systems with multiple data structures



(1/3) Resources and capacity building

The challenges raised:

- Finding and keeping the right team, the right profile in a public environment (HR issue)
- Huge need for capacity building and not only in the IFMIS teams
- Constraints related to long term financing

Some ways these were overcome:



FMIS team holds its own budget with clear workplan to support resourcing

IT staff salaries are benchmarked to an international comparison (in USD)

Line ministry ICT staff seconded by State Dept of ICT, with a database of available talent enabling flexible deployment





(2/3) Institutional, legal and cultural constraints

The challenges raised:

- Ongoing duplication of digital systems with paper-based reporting or signing
- Difficult to involve the end-user
- Change management, no one likes to change to a new unknown tool
- Unrealistic planning
- Linking the FMIS to a more global PFM digital strategy and Government digital strategy

Some ways these were overcome:



New management approach based on developing a centralized tool but very tailored to each directorate and institution's needs (requires a lot of formalization)

A new governance to clarify responsibilities between different agencies (HR / Finance / ICT)





(3/3) Multiple systems with multiple data structures

The challenges raised:

- Many existing systems with unknown data structures, difficult to share
- Unreliable data or outdated data

Some ways these were overcome:



Focused on developing one system for PFM, that was progressively expanded as capabilities increased

Developed a set of guidelines to assess new tools for need / duplication and sustainability. This seeks to avoid too many more systems being implemented.



Focused on establishing clear data rules and applying these consistently over time to build capacity across government in data quality and enable integration.



Have your say!!

Question 2: Which of these management common challenges in digital PFM would you most like to hear ideas or solutions from other country experiences?

1. Procurement and relationship with the vendors
2. Lack of interfacing / interoperability and need for retyping
3. Difficulties formalizing user needs
4. Inappropriate project governance / management.
5. Underestimating costs
6. Lack of ICT expertise in government
7. Lack of computer literacy in government (e.g. among users)
8. Resistance to change
9. Systems obsolescence
10. Hardware infrastructure, datacenters, connectivity



Country Discussant



Preliminary results : Emerging technologies

Nicolas Botton, Digital PFM Expert



CONNECT • SHARE • REFORM



Technology concerns raised

Source: field missions and exchanges

Many parallel projects of production of reports and dashboards, but a real BI approach requires more data to be cross-referenced

Clear benefits of machine learning and AI on the revenue side but on the expense side?
I need to know what's going on elsewhere

Introducing chatbots into exchanges with citizens

Need for a data exchange platform that allows all the data needed for decision-making to be shared

Need for a peer-to-peer exchange: to know better the choices of other countries

The key technological questions that concern you

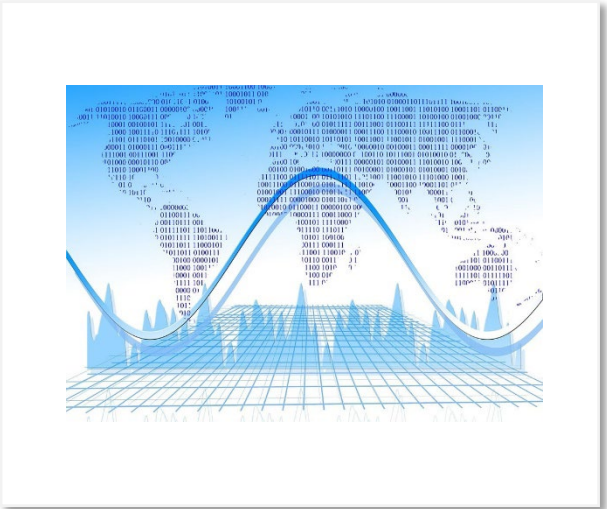
Multiple environments and many different tools but 4 key common questions

How can I improve the governance and the formalization to avoid unrealistic goals or timeframes ?

How do I know what the others are doing with new cutting-edge technologies like ML, AI, micro-services, BI?

How can I address the connectivity divide ?
3 billion people do not have access to the Internet – only 33% in low-income countries

How can I improve the production of reports, data, open data for improved transparency?

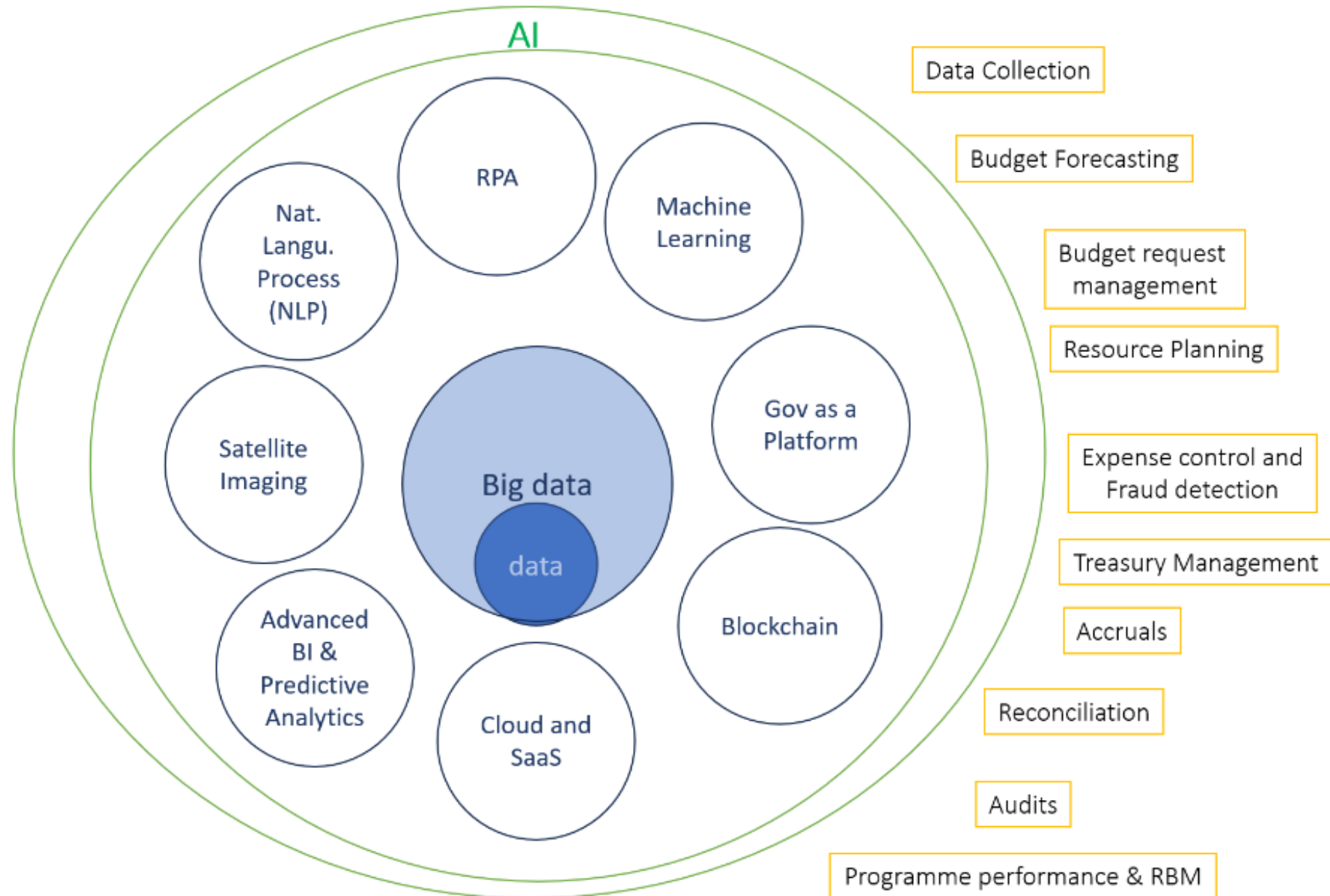


Focus on AI : some key questions and usage on PFM



The future remains to be invented, new uses to come

Artificial intelligence is a large family of technologies, present in all technologies used in PFM, it is clearly considered a priority by many governments but future uses are still unknown





Focus on AI : some key questions and uses on PFM

- **Revenues**

- Risk profiling
- Cross-referencing of data on the taxpayer or economic operator
- Choice of controls

- **Expenditure**

- Communication (chatbot)
- Internal work of agents, e.g. on legal risks or mandatory steps
- Macroeconomic forecasts
- Budget Implementation Alerts



AI is already being used for forecasting and many studies, including a recent IMF study, tend to describe the use of AI as a way to improve the reliability of predictions to the point that research claims that machine learning can do as well as, or even better than, economists (the IMF study called this approach an algorithmic crystal ball)

Jin-Kyu Jung, Manasa Patnam, Anna Ter-Martirosyan (2018) IMF Working Paper : An Algorithmic Crystal Ball: Forecasts-based on Machine Learning.
<https://www.imf.org/en/Publications/WP/Issues/2018/11/01/An-Algorithmic-Crystal-Ball-Forecasts-based-on-Machine-Learning-46288>



Have your say!!

Question 3: Which of the following tools have you used in your country (or are you planning to test/implement)?

1. Business Intelligence
2. Automated dashboards
3. Machine learning
4. Artificial intelligence
5. Chatbots
6. Electronic signatures
7. Public Key Infrastructures
8. Mobile-phone technologies (e.g. apps)
9. SMS technologies to reach areas with low connectivity

What do countries need to support their digital journey?



CONNECT • SHARE • REFORM

Three cross-cutting themes emerged in our research



- 1 Embracing the modular or incremental approach
- 2 Moving beyond Ministry of Finance
- 3 Learning from other experiences / standards

Embracing the modular or incremental approach

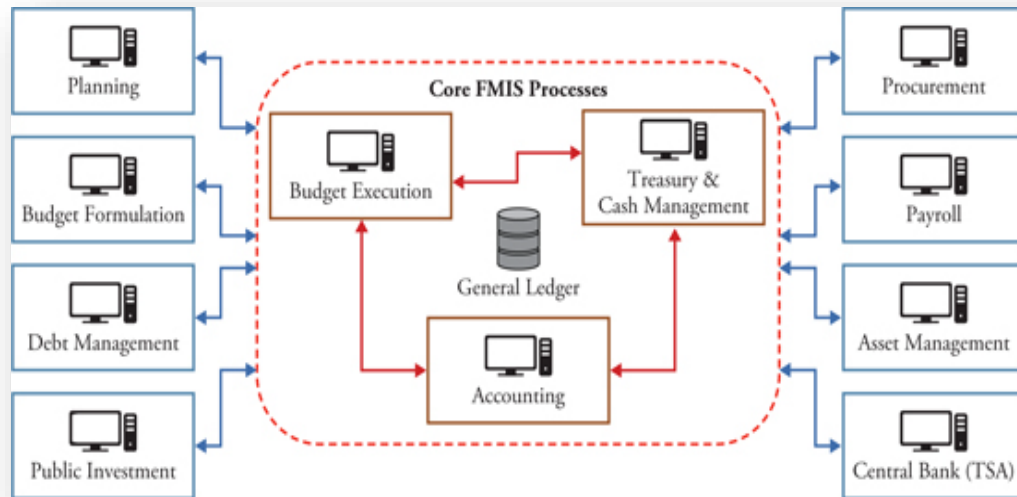


COUNTRIES ARE ALREADY WORKING MODULARLY, BUT HOW CAN WE DO THIS WITH BETTER GUIDING PRINCIPLES

Not a debate between COTs vs in-house development: both work!

- Study countries had varying experiences with both approaches, and many use a combination of systems

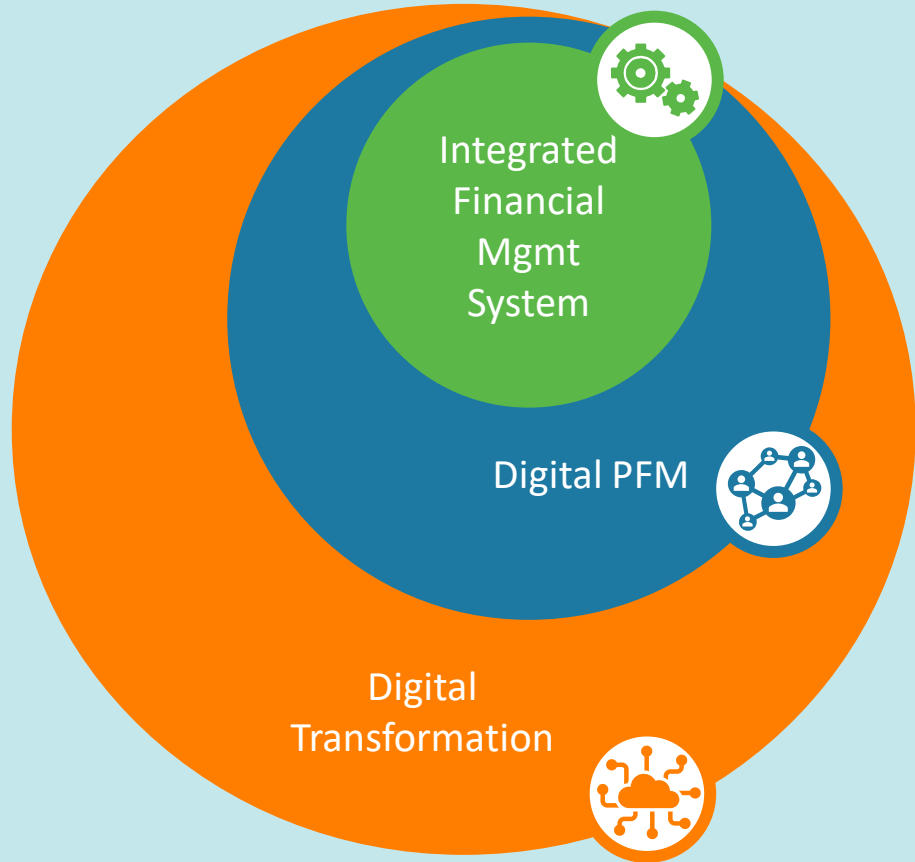
IMF's modular approach



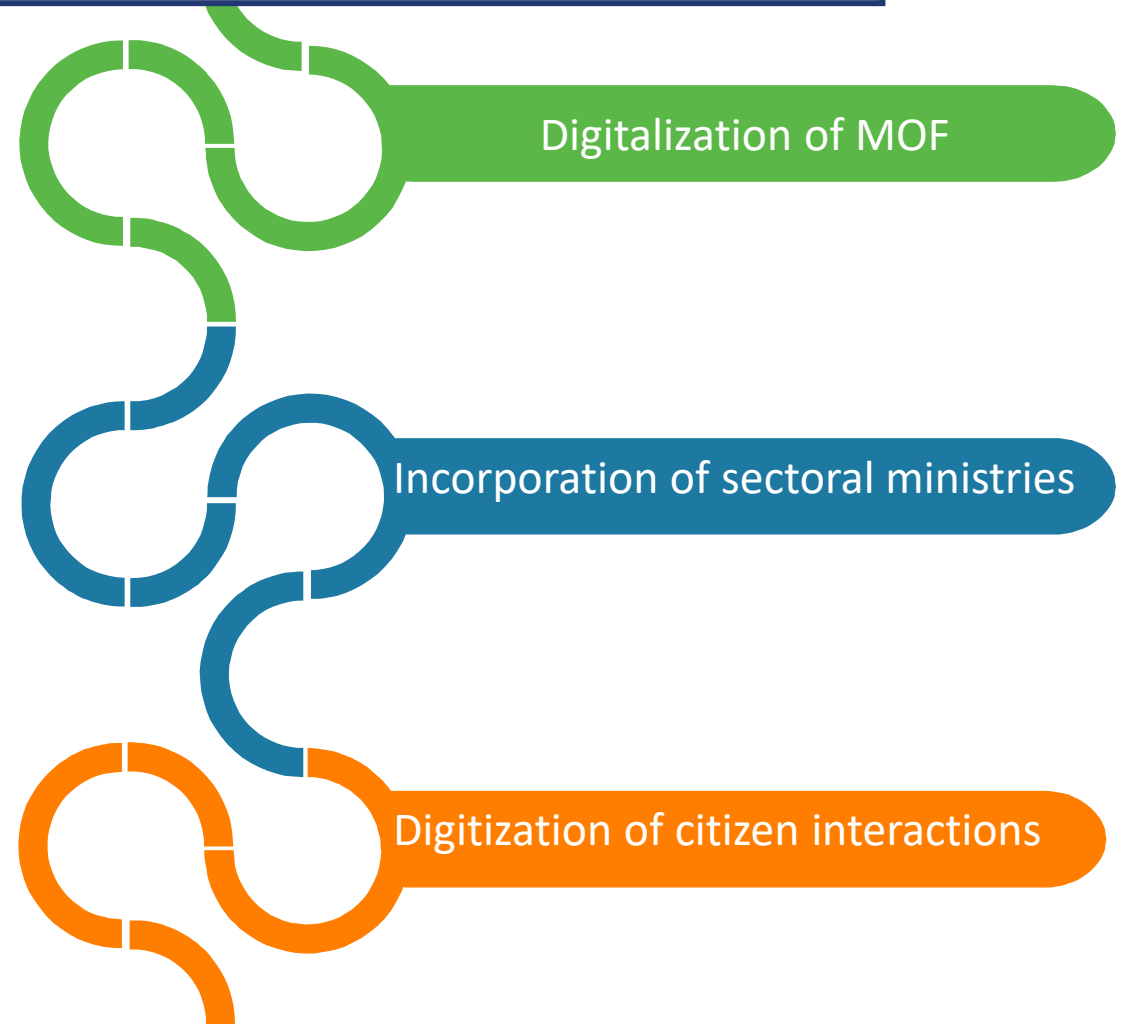
Prevailing experience suggests a step-by-step approach to building a digital system:

- Reusable and connected digital "blocks" or "modules" can drive innovation, e.g. payment system or citizen platform
- National digital strategies can help guide adoption of digital technologies
- Guiding principles and governance is important to enable integration and interoperability as modules evolve

Moving beyond Ministries of Finance



SHARED GOVERNANCE AND OBJECTIVES



STRUGGLING TO THINK ABOUT DIGITAL PFM OUTSIDE OF IFMIS SYSTEM



LACKING INFORMATION ON REGIONAL INITIATIVES AND INNOVATIONS OR FORUMS TO EXCHANGE IDEAS ON DIGITALIZATION EFFORTS ACROSS AFRICA

Private sector standards:

- COBIT
- ITIL
- ISO27001 et ISO27005


OECDs 12 Areas of digital Transformation

DIMENSIONS DU CADRE D'ACTION INTÉGRÉ	INFORMATIONS CLÉS SUR LES PAYS FAIBLE REVENU ET REVENU INTERMÉDIAIRE
ACCÈS 	<ul style="list-style-type: none"> • En 2019, le réseau de fibre optique de l'Afrique mesurait 1.02 million de kilomètres (km). Les réseaux de fibre optique terrestre pourraient ne jamais couvrir environ 30 % de la population rurale isolée d'Afrique. • Dans les PMA, 35 % des établissements d'enseignement secondaire disposent d'un accès à l'internet. • Il faudrait investir au moins 20 milliards USD par an pour alimenter en électricité, d'ici 2030, les 600 millions de personnes qui n'y ont pas accès en Afrique subsaharienne. • Les mécanismes visant à étendre l'accès aux services, à l'instar des Fonds de services universels, donnent des résultats mitigés.
UTILISATION 	<ul style="list-style-type: none"> • Dans les PMA, seuls 27 % de la population utilisent l'internet. • En 2020, les dix pays dans lesquels les prix pratiqués pour un gigaoctet (Go) de données étaient les moins abordables étaient des pays en développement. En République centrafricaine, le prix d'un Go de données représente 24.4 % du revenu national brut par habitant, soit l'équivalent d'environ 10 USD. • Dans les PMA, un smartphone coûte plus de la moitié du revenu mensuel moyen. • La raison la plus souvent invoquée dans les pays en développement pour expliquer la non-utilisation de l'internet est le défaut de maîtrise du numérique. • Dans les économies à faible revenu, plus d'un tiers des individus âgés de 15 ans ou plus ne disposent pas d'un identifiant officiel ; 44 % des femmes et 28 % des hommes n'ont pas d'identifiant.
INNOVATION 	<ul style="list-style-type: none"> • En 2020, seuls 14 pays d'Afrique ont obtenu un score élevé à l'Indice de développement de l'administration électronique. Dans la plupart des pays, la transformation numérique se concentre plutôt dans le secteur des technologies financières. • Les pays d'Afrique subsaharienne figurent en bas de classement pour la quasi-totalité des indicateurs qui composent l'Indice de l'intelligence artificielle. • Sur les 20 économies ayant obtenu les valeurs les plus basses à l'Indice de 2020 du commerce électronique entre entreprises et consommateurs, 18 sont des PMA.
EMPLOIS 	<ul style="list-style-type: none"> • Dans certains pays de la région Amérique latine et Caraïbes (ALC), l'écart entre les petites et les grandes entreprises possédant leur propre site web est supérieur à 30 points de pourcentage. • Dans les pays de la région ALC, deux emplois sur dix sont fortement menacés par l'automatisation, et, parmi les emplois restants, l'automatisation pourrait induire des changements profonds dans quatre cas sur dix. En Afrique, les emplois dans les secteurs à

Public sector resources:

- OECD's 12 areas of digital transformation
- IMF's Digital Guidelines/DIGIT methodology: self assessment around: functional, architectural, IT, and governance and management.
- IMF's Modular iFMIS approach

Potential areas of CABRI future work

 **Have your say!!**

Which of the following should CABRI consider doing in the future?

Problem-driven iterative adaptative approach for Digital Reforms

A

Tailor a Building Public Capabilities Programme for digital – bring together multidisciplinary teams, including from line ministries, and focus on PFM functional improvements with data

Regional dialogues and platforms for sharing

B

Upcoming ODI / CABRI Conference on PFM in the Digital Era
Please share examples of country experiences to share at the conference in the chat

Online repository for country examples of digital tools or management techniques

C

Collect country examples and experiences in digital reforms (through a survey or similar) to create an online resource for improved knowledge sharing



SE CONNECTER • PARTAGER • RÉFORMER

Je vous remercie.
Nous sommes CABRI !



Suivez nous !



SE CONNECTER • PARTAGER • RÉFORMER



CABRI – Collaborative Africa Reform Initiative



[cabri.sbo](https://www.facebook.com/cabri.sbo)



[CABRI_SBO](https://twitter.com/CABRI_SBO)



www.cabri-sbo.org

The FMIS must be integrated into a broader approach



IFMIS

Integrated
Financial
Management
System



- System providing timely, reliable and comprehensive reports, covering expenses, revenues and other modules.
- Used both to generate and use financial data as well as to support financial management processes.
- The basic PFM system needs to evolve and is not sufficient to meet the needs of the population.

Digital PFM

Digital PFM



- PFM uses an architecture that enables rapid innovation and data sharing.
- Is not limited to budget and accounting data, and includes ways to make data available and understandable to non-experts (e.g. public portal)
- Ways to encompass the data and systems of line ministries, local authorities, public enterprises.

Digital Transformation

Digital Transformation



- PFM is digital by design, it is redesigned around new processes
- PFM is built around the needs of decision-makers, civil servants and citizens with formalised priorities