Fulfilling the promise of e-procurement reform

LESSONS FROM 5 AFRICAN COUNTRIES

OPEN
CONTRACTING
PARTNERSHIP

Executive summary

Public procurement — especially manual, paper-based public procurement — has a reputation of inefficiency, corruption, and waste. It is where money, power and discretion come together in government, making it government's number one corruption risk. Digitisation of the whole procurement process, often through an overarching electronic government procurement (e-GP) system that can manage the many transactions involved across the procurement process, holds out the promise of delivering a transformational change in the efficiency, effectiveness and accountability of procurement. New research, shortly to be published by the Copenhagen Consensus Center, projects that the return on investment for a smaller economy could be of the order of 8-58 times if done comprehensively.

Yet, over the last few years across Africa, many governments have struggled to procure, build, and institutionalise electronic government procurement systems despite tens of millions of dollars in headline Public Financial Management (PFM) reforms from donors, including the World Bank.

This report spoke directly to those at the forefront of these reforms across Africa focussing on five countries — Ethiopia, Nigeria, Rwanda, Uganda, and Zambia — to distill key lessons, recommendations and tools that can help e-GP implementation teams and their development partners to deliver successful and transformational e-GP reform projects.

8 Lessons

We found 8 key lessons that any reform team and its international supporters need to implement. They are:

1 .... **Articulate clear, outcome-oriented goals through an e-GP strategy**

2 .... **Set yourself up for success with an effective governance structure and a strong project team**

3 .... **Plan for sustainability (and system maintenance) from the start**

4 .... **Align the policy and legal framework to enable digital transformation**

5 .... **Design the system and define requirements (including data!) with your stakeholders**

6 .... **Tailor your choice of implementation type to your context and your needs**

7 .... **Ensure flexibility and collaboration with your vendor through careful contract and relationship management**

8 .... **Develop and execute a robust change management and capacity building strategy**

Without these success factors, the promise of e-GP will risk remaining unfulfilled.

This report explains these lessons learnt in more detail and why they matter. The guidance, tools and templates featured can help future reformers to better design, implement, and sustain e-GP projects across Africa (and elsewhere) in the future.

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Introduction

Electronic government procurement (e-GP) is a key tool for countries working to modernise and improve their public procurement processes. Done well, e-GP can help to improve and maintain objectives of any country's procurement system, including:

- **Increased transparency and efficiency**

- **Reduced fraud and corruption loopholes**

- **Improved public procurement accountability through monitoring, reporting and audit**

- **Increased compliance and budgetary discipline**

- **Standardisation of the public procurement processes**

- **Increased security of documents and easy archiving**

However, despite significant investments made to implement such systems in Africa, many governments across the region have faced challenges with systems that affected adoption, effectiveness, and sustainability of the e-procurement system — leaving the above goals unmet.

To help partners to break this pattern, we analysed five countries' experiences with e-GP implementation to establish a deeper understanding of what it takes to make e-GP projects successful, why they are falling short in many cases, and what needs to be done to change this trend. In our report, we draw together the key lessons learnt from the five countries' implementations into eight recommendations to guide current and future e-GP implementing countries, funders and developers.

The research evaluated the implementation of e-GP systems in Rwanda, Uganda, Zambia, Ethiopia and two Nigerian States (Kaduna and Edo). This range is significant considering only nine Sub-Saharan African countries have so far implemented an end-to-end e-GP system. The research compliments a World Bank study that was released in January 2022 on the different procurement types. The five selected countries in the sample were purposely chosen to represent the different approaches to e-GP implementation as highlighted in the World Bank study and based on the various vendors. The table on the next page provides a summary outlook on the level of implementation of the e-GP system in the selected countries.

Country	Indicator	Number	Pilot start	Status
ZAMBIA	No. of Procuring and Disposal Entities (PDEs)	166	2016	**Customised off the Shelf (COTS).** National roll-out in progress.
	No. of bidders	38,000		
	No. of tenders published	534		
	No. of contracts awarded	572		
RWANDA	No. of PDEs	220	2016	**Custom.** Roll-out completed up to the District Hospitals.
	No. of bidders	10,990		
	No. of tenders published	24,294		
	No. of contracts awarded	23,864		
UGANDA	No. of procuring entities	25	2021	**COTS.** Roll out in progress.
	No. of bidders	5,953		
	No. of tenders published	764		
	No. of contracts awarded	165[1]		
ETHIOPIA	No. of PDEs	9	2021	**Custom.** Pilot ongoing.
	No. of bidders	1,626		
	No. of tenders published	22		
	No. of contracts awarded	0		
KADUNA STATE, NIGERIA	No. of PDEs	19	2021	**Software as a Service (SaaS).** Pilot ongoing.
	No. of bidders	301		
	No. of tenders published	98		
	No. of contracts awarded	113		
EDO STATE, NIGERIA	No. of PDEs	212	2021	**SaaS.** Pilot ongoing.
	No. of bidders	276		
	No. of tenders published	41		
	No. of contracts awarded	39		

[1] This number excludes micro-contracts (RFQs) - 333 and call-off orders - 1,223

Our methodology used some key indicators to understand the e-GP implementation, including looking at:

The description of each indicator is in Annex 1 of this document, along with the interview guide composed of around 40 questions on several topics related to the above indicators.

This report dives deep into each of the eight key factors, including lessons learned, recommendations, and useful tools to help e-GP project teams, funders and developers.

1. Project conception and motivation to establish an e-GP system;

2. E-readiness assessment;

3. implementation strategy and the system coverage in functionality;

4. Legal framework;

5. Type of implementation adopted;

6. The governance structure and adopted sustainability model;

7. Change management and adoption levels;

8. Maintenance and operations arrangements; and

9. Future plans and sustainability.

1

Articulate clear, outcome-oriented goals

Technology and e-GP are a means to an end, and not an end in themselves. There will be political, institutional, legal and technological challenges to be overcome. Given the sums of money involved, vested interests will try to block changes, especially if they are beneficiaries of the current system. Without a clear plan to manage change and an overarching goal for what you want to achieve, reform energy soon fizzles. So it really pays to start with clear goals for procurement reforms and to work out the concrete political, institutional, legal and technological changes needed to get there and then to lead others through a process to get to those objectives.

Solid objectives may include: improving fairness and access to public procurement opportunities, more sustainable purchasing, reducing corruption risks, improving transparency, streamlining internal processes, ensuring a leveled ground for competitiveness by providing equal access to information, achieving financial gains through reduced bid prices, or others. Developing the objectives should be through a comprehensive consultative process that should involve a wide range of internal stakeholders and across government agencies, the private sector, and civil society. This will get the buy-in of important stakeholders and reduce the possible resistance to change that sometimes affects proper system implementation. Some of the objectives and insights may be integrated into the RFP and thus reduce possible change requests at the development stage of the system that are costly.

Our research found that some e-GP implementations were driven much more by international donor demands and availability of financing rather than a strongly articulated domestic need or, indeed, even a needs assessment anchored in the local context. Speaking to reformers, it was very clear that implementation was more successful and sustainable in cases where the idea for e-GP implementation came from a local needs assessment, rather than being pushed by external agents.

Among the implementing countries covered by this study, some countries had planned the e-GP systems ahead of any development partners' funding projects as part of their Public Finance Management reforms and ICT strategy. In Rwanda, Ethiopia, and Uganda, for example, the e-GP was part of their Rwanda NICI-2010[2], Ethiopia e-Government Strategy 2013[3], and 2014 Strategy and Roadmap[4] for the Implementation of e-Government Procurement respectively.

[2] National Information and Communication Infrastructure policy and plan: www.ist-africa.org/home/files/rwanda_nici2010.pdf

[3] E-Government Strategy 2013: https://unctad.org/system/files/non-official-document/CSTD_2013_WSIS_Ethiopia_E-Gov_Strategy.pdf

[4] E-Procurement Strategy: www.ppda.go.ug/download/e-procurement/e-procurement/e-Procurement-Strategy-GOU.pdf

Set yourself up for success with an effective governance structure and a strong team

No one actor can handle all the different dimensions of procurement reform by themselves, so you need to build a high performing team of reformers who can navigate all different areas involved from technology to political engagement. And you need leadership who can bring them together at the right time into a coherent strategy. Our research revealed that where implementing entities had a dedicated team focusing on e-GP implementation alone, the development and testing of the system went much better than where staff had dual roles and had to balance their work on the e-GP project with other substantive responsibilities.

The research also revealed that these teams need to be in place at the outset. Some e-GP projects delayed recruitment of their project teams and experienced associated challenges as a result. One of the participating country e-GP Project Managers recommended that the team be in place before the contracts are signed with vendors so that they can provide inputs on the requirements, and the terms and take "ownership" over them.

This is especially important given so much of user-discovery and system design work is front loaded to the start of the project for obvious reasons: If you get that wrong, the rest won't follow. In cases where teams have been recruited at a later stage of implementation, the government did not have an impact on the final product and ended up receiving a system not fully responding to the desired outcome. Moreover, in one of the countries, there was not enough technically knowledgeable staff in systems implementations and this created challenges in playing their role adequately during the project implementation.

In the worst-case scenario, the team should at least be recruited before the start of the system design so that they can participate in the implementation of the design.

There is also a need for a clear, structured collaborative mechanism with other government agencies that have a role to play in the implementation of the e-GP. Sustainable public accountability reforms require building an overarching coalition of winners from the changes who can overcome the vested interests that will seek to block them. This points to working out the

incentives and political economy outcomes from reforms so that enough winners accrue from the new system that 'escape velocity' be achieved. It also then involves relentlessly engagement of the many civic actors, service beneficiaries and the businesses stakeholders to build a strong coalition and to design and build a program of change 'with them' and not 'for them', for example, this could involve mobilising a coalition of smaller business and aspirant government contractors who are locked out of the current system to help improve market opportunities with a system that responds to real needs

During any project implementation of this scale, a **Project Governance framework**[5] should be defined, meetings should be held, reporting should be undertaken, risk and issue management should be discussed, and project management control processes should be deployed. It also provides oversight and approval of change requests, risk management actions and key deliverables reviews to confirm project viability, adopt strategies to minimise and address risk (especially political risk) and confirm organisational capacity and readiness for the project activities.

All countries surveyed had a similar governance structure, comprising steering committees at the high level/cabinet level, governance committees or technical working groups at the middle level and a Project/e-GP Team. The differences we found were most significant at the e-GP team level.

The most logical structure is the creation of a dedicated e-GP unit composed of technical and functional specialists.

[5] Project Governance framework: www.otago.ac.nz/coo/otago737466.pdf

Recommended e-GP project team structure

Roles	Responsibility	Specification	Number
Project Manager/ Coordinator	Project management Project coordination	**MANDATORY** To be recruited at the very start	**1 minimum**
User Research/ Business Analyst	Requirements definition Ensure the system complies with the defined requirements	**RECOMMENDED** To be recruited at the very start	**1 minimum**
System and Network Administrator	System administration including operating system infrastructure and network management	**MANDATORY** To be recruited before the system deployment at the latest, ideally at the requirements phase	**1 minimum**
Database Administrator	Database development and management	**MANDATORY** Should be one of the early staff recruited after the Project Manager	**1 minimum**
Procurement specialists	Ensure the system complies with laws and regulations, end-user training and support	**MANDATORY** Should be one of the early staff recruited after the Project Manager	**2 minimum**
Change Management and Public Relations Specialist	Ensure a successful change management Outreach and public relations Awareness and sensitisation Brand management of the system and project implementation	**MANDATORY** It should be one of the early staff recruited after the Project Manager	**1 minimum**
Application management/ Software developer	Deployment, testing, source code management	**OPTIONAL** Only be mandatory if the exit strategy includes owning the source code by an in-house team, otherwise, the role can be taken up by the Database Administrator or System Administrator and trained accordingly. With an exit strategy involving in-house software development, a software development team that includes a Software Architect, business analyst, technical testing and quality assurance specialist must be part of the team as mandatory. Other optional skills might include DevOps, etc.	**1 or more optionally**
Helpdesk and Support Officers	Take calls from end-users Handle support requests Support training	**MANDATORY** This role should be recruited before the system launch and trained accordingly	**3 minimum depending on users' base size**

Roles	Responsibility	Specification	Number
Security Specialist	Ensure the system is secure from attacks	**MANDATORY** This resource should be part of the implementation	**1 minimum**
Administrative Officer	Meeting management including scheduling of meetings and documentation of minutes Project Management Unit logistics management Project Management Unit fleet management	**OPTIONAL** Should be part of the implementation	**1 minimum**

Pay matters too, of course. In Rwanda, the e-GP team's key staff were recruited as consultants with higher salaries than government staff. This allowed them to attract and retain relatively high caliber project staff both in IT, procurement, and change management. Like Rwanda, Ethiopia also set up the e-GP team under a separate project unit within the implementation agency, while in Zambia for example, the unit is homogeneously integrated into the procurement oversight body.

Other than the Nigerian States which are newer in their e-GP journeys, all countries expressed a common challenge retaining experienced staff after two or three years since they acquire substantial, valuable change management experience under the e-GP implementation and are sought after by other institutions. It is important that a clear career roadmap for the project staff is defined, documented and approved from inception in order to motivate them and reduce staff turnover. Some functions of the Project Management Unit need to be mainstreamed into the implementing agency to ensure sustainability.

Of course, the lead authority implementing e-GP can also have an impact on how the reforms are perceived. Often, e-GP reforms are led by the Public Procurement Authority, as in Ethiopia, the Nigerian states, Zambia, and Uganda. In Rwanda, the system was championed by the Ministry of Finance and the Rwanda Public Procurement Authority was brought on board progressively to take over after four years of the system implementation. In Uganda the reform was led by the Public Procurement Authority which brought on the Ministry of Finance in the second year of implementation in order for the Authority to retain its independence as a regulator and avoid any conflict of interest that could arise. It certainly makes sense, even if they are not leading, that Ministries of Finance be strongly engaged in the project due to their relative institutional strength and influence in every country. For example, in Ethiopia, the Ministry of Finance chaired the Taskforce for the reforms and was actively involved in the e-GP implementation.

Our research found that in some places, team members were working in different institutions and not reporting to the e-GP Project Manager. This created an organisational dysfunction when it comes to setting priorities, decision making, making and implementing action plans, and reporting.

To ensure success, the e-GP project team must be empowered to lead the technical aspect of the implementation on behalf of the government, supported on the policy level by the steering committees and management committees.

3

Plan for sustainability (and system maintenance) from the start

A long-term roadmap and sustainability plan must be in place before the adoption of an e-GP system. Ideally this should include a sustainability strategy, future system enhancement and a sound staff retention strategy, as well as ongoing change management to ensure adoption. The strategy should also include longer-term maintenance and support as one of the most key considerations for implementers.

Our research looked at various information in the implementing countries such as rollout plans, operation and support strategy, plans and **roadmap**, the **funding model for sustainability**, etc. From this consultation and from interviews with key e-GP Managers in the five countries surveyed, the researchers observed the following:

• Only Ethiopia, Rwanda and Zambia were found to have a written rollout plans, probably due to their mature implementation in comparison to other countries. Other countries surveyed had no clear roll-out plan beyond the pilot phase. Somehow, the countries planned to see how the pilot goes and then plan for the country's rollout and since the majority are still running a pilot, the roll-out plan has not been developed.

• The **financial model** of all countries is quite the same, except for a few paid services that were already in place even before the adoption of the e-GP system — the government is the sponsor of e-GP operation. Uganda was an exception where a business case is being

prepared to transform the e-GP system into commercial software so that it can be sold elsewhere.

It was surprising to see that there was no sustainability and maintenance planning for e-GP reforms beyond the pilot phase in most countries. These were all being put off for later, if and when needed. In terms of the financial model, most e-GP systems in Africa have been funded by the World Bank. Key questions were unanswered: *will the system stay dependent on external donors? Will it be sustained by the government budget for paying staff, buying hardware and software licenses, etc.? Who will support the upgrades, maintain the data center, etc*.?

Long-term budget planning needs to be done early on so that sufficient resources can be ensured to support the e-GP system in the long term.

To help fill this gap, we have proposed a sustainability checklist as part of our Getting Started tool below.

Guide for getting started on an e-GP system implementation

Based on what we learned learnt above, we have prepared a list of some of the key variables and issues to consider to help reformers plan for e-GP system implementation. It should be adjusted accordingly to suit the country's context.

Conception Stage

Recommended checks	Remarks
Ensure there is a memo/concept note explaining the rationale of how the implementation of the e-GP system can address identified public procurement challenges. A business case should also be documented which will act as a driving force and direction of the e-procurement agenda.	Objectives for e-GP implementation must be clear in the conception note
Conduct a mandatory feasibility/e-readiness assessment study. The study must at least analyse the following aspects: • IT infrastructure framework • Legal/policy framework • Institutional framework and human capacity • Regional and international legal and business framework • Conditions to enable the interoperability with other systems in the country • Business Environment in the country The study must also provide recommendations: • Strategies to mitigate the identified gaps in the above aspects • Appropriate financial model for the implementation • Define implementation phases • Required governance framework	1. Example references for e-readiness assessment can be • **"E-Business Capacity Development for the CARICOM"** • **E-procurement toolkit accelerating e-procurement solutions e-procurement preparation** (World Bank) 2. The Feasibility Study must propose the preferred type of implementation and the rationale for the selection
Seek and obtain political support/will for the project	An example of support could be: 1. The e-GP system is approved by the Cabinet of Ministers 2. **A procurement Act/Law** is enacted.

Recommended checks	Remarks
Establish the lead implementation government agency	The preferred agency should be the Public Procurement Regulatory Body or the Ministry of Finance. We recommend that the regulator be separate from the implementer to avoid conflict of interest.

Preparation phase

Recommended checks	Remarks
Set up a dedicated Project Management Unit (PMU) and recruit as soon as possible before signing a contract with a vendor.	The **ideal e-GP Government team structure** is proposed in this guide in section 2.
Build a strong and influential governance structure to support the project team (PMU): At least two structures must be set up: • The steering committee that will decide on a policy, financial aspects of the e-GP implementation • A technical working group that reviews the technical inputs and progress of the e-GP implementation	To increase the committee's participation, we recommend incentivizing them. Give thorough consideration to the composition of the technical working group.
Revise the legal framework accordingly and make e-GP usage mandatory for all government procuring entities	To ensure the quick adoption of e-GP systems, government agencies should be cautioned to not run parallel systems such as Enterprise Resource Planning (ERP) systems.
Ensure detailed stakeholder analysis which will guide stakeholder management and engagement throughout the implementation.	This plays a big role in defining the change management strategy.
Discuss in detail with intergovernmental agencies what the integration requirements are before starting the tendering process to ensure that you are on the same page. These should be shared with the vendor at tendering to align the understanding of both parties on the requirements.	This helps to remove any future arguments amongst the intergovernmental agencies and the vendor on the understanding of the requirements.

Recommended checks	Remarks
Preparation of Request for Bids or Proposals (RFB/RFP): there must be at least the following mandatory checks: • The RFB must be clear on the type of implementation bidding for. • In the case of COTS and SaaS, RFB should be used. In case of Custom development, RFP should be used • Detailed functional and technical requirements or plans catering for the following: ✔ Number of modules and their functionalities ✔ A Mandatory Business Process Reengineering phase in the implementation plan. ✔ The vendor must have a local presence if an international firm is selected ✔ Set requirements allowing domestic firms to participate where possible ✔ Define the type of required data analysis/report, (**ideally OCDS**) should be well thought out and intentionally defined ✔ The tentative project implementation plan ✔ Define well the testing and acceptance phases ✔ Define key staff required during implementation ✔ Define vendor's obligations during operations, pilot phase, maintenance, support and change management. ✔ Define the ownership of source code upon completion of the e-GP implementation ✔ Clearly define the system hosting modalities ✔ Provide pricing forms allowing to submit prices for acquisition, maintenance, support, hardware component, etc. • Need for system demonstration and quality due diligence during the tendering process to enable the technical teams assess it's suitability to the defined technical requirements. In addition, it is important to have quality due diligence visits with countries where the vendors have implemented systems. This is done by having a clear roadmap of the questions to ask and what to look out for at the sites visited and is however enhanced by candid and honest discussions. • Need for a third-party quality assurance firm to provide guidance on the areas that are falling short of best practice or government's expectations from the contracting stage through to contract execution. Develop adequate national infrastructure by promoting a coordinated development of data centre, national backbone and last mile broadband access infrastructure via a number of strategies.	1. The template for an implementation plan has been provided below. 2. The vendor must provide technical and functional/ business experts. 3. Define well onsite and home time inputs for the team experts 4. The requirements list must be easy to evaluate and verify through evaluation or due diligence mechanisms 5. See the **Guide for including OCDS in e-GP** projects for suggestions and templates Refer to a recent **e-GP system RFB from Malawi** Quality assurance services of the third-party firm need to start from project inception and not in the middle of the implementation for effective output.

Implementation

Recommended checks	Remarks
DESIGN PHASE: Recommended checks	
The Vendor's team mobilisation is effective. Experts must be on-site or back office as provided in the contract.	
Vendor to conduct a mandatory Business Process Re-engineering	The output of this process must be the As-is and As-to-be of the business process description
The design solution for integration with selected systems	
The design complies with Multilateral Development Bank's (MDB) e-Tendering Guidelines	
Continuity in the project staff structure	This is to ensure preservation of institutional/project memory so that the project is not halted when key resources leave.
Support and maintenance plan/contract	
Data migration plan in the interim	
Go live readiness checklist	This helps to guide the governance structure(s) on readiness of taking the system into production.
Post implementation review framework	This helps to assess the implementation's compliance with the requirements defined, and the possibility of achieving the business objectives.

Recommended checks	Remarks
DEVELOPMENT PHASE: Recommended checks	
Follow up well on the involvement of the e-GP team at each level of development (the review of designs, the testing, provisional and final acceptance of each module etc.)	
Conduct regular reviews to check if provided feedback is incorporated by the vendor	
Check if approvals from the e-GP team are provided before the vendor moves to the next step	
RUN PHASE: Recommended checks	
The run phase normally follows the implementation plan. Check the following elements of the plan: • Phasing of the system rollout from piloting up to adoption by all procuring entities • Check if schedules are complied with and document any deviations and amendments • Report on user support requests and how are responded • Regular bug reporting and fixing report	

System adoption

Recommended checks	Remarks
CHANGE MANAGEMENT: Recommended checks	
Stakeholders' engagement and communication: • Mapping of stakeholders • Communication strategy • Communication and engagement start before the launch of the system • Benefits of the e-GP system are being well communicated and channeled • How the feedback from stakeholders had been addressed. • Conduct workshops, use media ads, conferences, radio and TV talk shows,	

Recommended checks	Remarks
and social media campaigns to have the buy-in from the stakeholders and mitigate potential resistance. • Is there constant communication on the progress of the system development? • Check if any incentives are in place to boost adoption (financial incentives, recognition incentives, etc) • Conduct regular user satisfaction surveys	
Training and skills transfer • Mapping trainees by type and training content • A comprehensive training plan for users in place • All the types of users have been trained. Not only government staff but all users • Training continuously, especially when there are system enhancements • Training sessions are consistent and regular • Training could be face to face or online/self-learning by consulting training modules • The e-GP team is trained to take over the training of other users	The British Columbia Natural Resource Permitting **Project training plan template** is a good guide to establishing a training plan

Post-implementation

Recommended checks	Remarks
SUSTAINABILITY: Recommended checks	
• Arrangements of source code ownership allowing access to necessary customisations • Vendor/Developer exit strategy (is there enough local capacity to handle the system enhancements, bug fixing, technical and business support, etc once the vendor is no longer involved.) • The financial model that will assure the system continuity • A strategic plan/roadmap for system maintenance and improvements improvement will	

Sample e-GP system implementation plan and project schedule

Key tasks of an e-GP project implementation have been listed in the project schedule below with a tentative timeline of over five years until the system is rolled out. A work plan with an elaborate timeline is proposed here.

Year 1 **Conception**	• Concept paper on the e-GP system rationale • Feasibility/e-readiness assessment study • Study tours • Implementation strategy/model • Establish the lead implementation government agency • Seek and obtain political will
Year 2 **Preparation**	• Set up a dedicated PMU office • Recruitment of the project manager and early staff (3 minimum) • Governance structure set up • Legal framework revision • Functional and technical requirements • Mobilisation of the stakeholders (Govt, CSOs, Private Sector, intergration partners, etc) • Procurement process management • Recruitment of staff batch 2 • Workable rollout plan for MDAs • Training and end users' support mechanisms • Change management strategy • Contract signing with the e-GP vendor & kick off
Year 3 **Implementation**	• Change management activities launch • User and stakeholders design workshops • Recruitment of staff batch 3 • Study to establish a country procurement baseline • Agreements with 3rd parties for payment collection, integration etc. • Installation of infrastructure • Start of security audit • System customisations iterations • System testing iterations • Set up the helpdesk infrastructure • End users registration and training • User acceptance testing and pilot kick off
Year 4 & 5 **Maintenance & Operations**	• Pilot phase • Post implementation review • General roll out

Typical risks management matrix in the e-GP system

Every project has associated risks. It is important to plan ahead for the risks that your e-GP project is likely to encounter. In this table, we describe the main reported risks together with guidance on how to mitigate them.

Risk	Level priority	Description	Mitigation
Lack of innate desire to solve tangible challenges.	HIGH	In some countries, the e-GP system is conceived to follow automation trends rather than a natural need to solve real public procurement challenges.	Establish at the start why you need to implement an e-GP system and draft necessary justification documents to be referred to throughout the journey.
Lack of supporting relevant IT infrastructure availability, digital literacy, power supply	HIGH	Generally, good connectivity coverage throughout the country is required for easy adoption of the e-GP system. Also, the availability of a national data center, the availability of adequate IT equipment for government users, as well as adequate users' digital literacy, is a good foundation.	Through a feasibility study, establish the readiness for an e-GP system in the country.
Lack of legal framework to support e-GP	HIGH	A legal framework that supports and makes the e-GP system usage as a mandatory is recommended	Ensure that e-GP is mandatory by law from the start.
Lack of a dedicated PMU	HIGH	A project management unit is at the center of an e-GP implementation. If dual roles are assigned to the members, there is a lack of ownership in specific tasks and speed of execution	Allocate enough and strong calibre staff for the PMU
Ambiguous system requirements	HIGH	Generic requirements are prone to ambiguous interpretation by vendors and complicated contract management process	With the legal framework as the blueprint, draft detailed and clear requirements
Lack of political will	HIGH	The procurement of any country is almost always political because it involves public funds spending.	Seek and obtain political will early on and sustain this throughout the project
Lack or inadequate cyber security policies and infrastructure in the country	HIGH	The lack of a national cyber security body or institutional unit to protect the system could undermine e-GP success due to trust and integrity issues.	Cybersecurity mechanisms for the e-GP system protection should be established.
Inadequate e-GP software technology	HIGH	Some e-GP systems were built a long time ago and upgrades are expensive.	The procurement of the e-GP system should also be product centered to buy a modern architecture system.

Risk	Level priority	Description	Mitigation
Low level of procurement professionalism and IT skills in the government staff	HIGH	Procurement and IT skills are at the center of e-GP usage, especially in the government.	Retrain and professionalise your procurement staff. Recruit adequate IT staff to lead and manage the implementation
Inadequate training and support arrangements for end-users	HIGH	Training needs to be adequate for the e-GP system due to its novelty and complexity in features.	Establish an adequate and long-term training plan for both procurement staff and bidders.
Ambiguity and overlap in IFMIS/ERPs and e-GP system	MEDIUM	IFMIS and other ERPs usually have a procure to pay module that is generally confused with the e-GP system (source to pay). In addition, inventory management, and disposal of obsolete items are also subject to scope issues between the two sets of systems.	PFM responsible institutions should agree early on what belongs where in terms of the scope of the two systems.
Lack of readiness for integration of stakeholders	MEDIUM	Integrations partners such as Revenue authorities, Registrar of Companies, banks and others have their action plans without e-GP. Also, they have to work with their vendors to make any changes to their systems for integration purposes.	It is important that e-GP integration is discussed as early as possible and partners are mobilised and ready.
Lack of change management and stakeholders' buy-in	MEDIUM	Change management is sometimes ignored or taken lightly	Change management should be planned and integrated throughout the project phases.
Inadequate governance structure	MEDIUM	Lack of steering committees	Establish a strong and influential set of governance committees (see section 2 above).
Lack of a long-term roadmap and sustainable plan	MEDIUM	e-GP systems are usually funded at the outset by Development Partners. A sustainable plan is to ensure that funding is available beyond the initial projects. Also, the system should evolve as the business requirements evolve.	A sustainability plan should be established to support future enhancements and upgrades.
Lack of integrity of administration staff	MEDIUM	Any lack of integrity in e-GP staff in charge of its administration will undermine its trust.	Integrity issues among e-GP administrative staff should be addressed. For ex. Implement strong processes with controls. Use events logs and alerts tools.
Unplanned work/requirements	MEDIUM	The unplanned scope can sometimes raise.	Include contingency funds for change requests

Align the policy and legal framework to enable digital transformation

A clear legal and policy framework that explicitly allows for e-procurement and supports digital record keeping is a crucial part of the enabling environment for e-GP system deployment and use. It was clear from our interviews that in countries where policies and laws related to the use of the e-GP systems were in place, the adoption was quicker than in countries where such policies and laws did not exist. An enabling legal and policy framework removes an ambiguity that can be used by those resistant to change. It also provides a clear standard that can be adopted by users.

It may seem like a good idea to give users a choice whether or not to use the system, thinking they can be easily persuaded when they see how efficient it is. However in reality, our interviews found this created confusion, inefficiency, and gaps in tracking government expenditures. It also gave vested interests cover to avoid any scrutiny, and made the new system look bad by being idle and underutilised. So it is important to mandate use of the system and to make sure the legal framework supports e-GP system adoption. Legal requirements are not sufficient in themselves of course, and e-GP adoption also needs training, a helpdesk, change management, a functional system and other elements which we will discuss elsewhere in this report.

The countries we researched had regulations related to the use of technology in procurement before e-GP system implementation but their approach and the enforcement powers were different:

Procurement Acts

Ethiopia and the two Nigerian states had procurement laws/acts which were explicit on the use and adoption of e-GP systems. Some procuring entities such as Kaduna State in Nigeria or the Birhadir University and the Ministry of Technology in Ethiopia even attempted to develop their own generic (not end-to-end) procurement systems based on the existence of a supporting legal framework. In Uganda, the procurement law was amended to cater for e-procurement, but the implementing regulations are not yet concluded, though some guidelines for e-GP have been issued.

Regulations and orders

In Rwanda and Zambia, procurement laws/acts were not specific to the adoption of e-GP systems, but rather accepted the general use of technology such as emails, website publication, etc. At the time of implementation,

both governments issued ministerial instructions specific to e-GP to support the pilot phase implementation.

The ad-hoc instructions in Rwanda and Zambia did not go into details on the specific provisions on the use of the e-GP system, which can cause some challenges later because the level of details and enforceability power is not the same. In Rwanda, the treasury department initially refused to pay based on electronically signed contracts because the circulars supporting e-GP system contracts had no legal power to change the laws/acts governing public expenditures. Therefore, the legal framework governing public procurement, budget and public expenditures and electronic information should be harmonised to avoid similar cases. This can also be a case for change management to address, to ensure that the new and existing legal framework is understood by major stakeholders, especially in the Public Finance Management sector.

Laws must be clear in terms of the mandatory use of the e-GP system. Consideration should be made for the duration of the rollout period to avoid some procuring entities being at fault unnecessarily due to the delays of the rollout to their entities. It should be the single portal used by government entities: we heard that if use was made optional, the adoption is weakened, and countries fail to achieve the objectives and benefits of the e-GP system. For instance, in Zambia, the procurement act of 2020 is clear on the mandatory use of the electronic system but gives room to the use of many systems, which has sown confusion and parallel reporting.

"A procuring entity shall use the electronic government procurement system or any other electronic procurement system that the Minister may, by statutory instrument, prescribe" article 16. (1) of the PUBLIC PROCUREMENT ACT No. 8 of 2020 121.

However, procurement legislation supporting e-GP implementation is not enough, and other laws should also be enacted to support other aspects like electronic

signature, financial transactions, etc. For instance, in Rwanda, at the beginning of the pilot phase, banks were refusing contracts signed electronically because, in the laws on financial transactions, digital signatures were not catered for. The change management component must also be applied to the legal side to ensure stakeholders are aware of and comply with the new laws.

The legislative process is also an opportunity to mandate the publication of standardised machine readable data from the e-GP and mandate adoption of open data standards to power analytical tools providing insights to government, business, civic monitors and academics to monitor the health of the whole contracting ecosystem, help find new opportunities for business, or to identify savings.

Country/Organisation	Article
Rwanda **Law No 62 2018 of 25 08 2018 Governing Public Procurement** All articles implementation modalities are detailed within the **Ministerial Order establishing regulations on public procurement N° 002/20/10/TC of 19/05/2020**	Article 4 **Use of the electronic system for public procurement** Article 17 **Communication in public Procurement** Article 3: Definitions of terms **14° e-procurement:** **31° e-procurement portal:** **Other articles** Article 39 **Modifications to bid** Article 36 **Time for preparation of bids** Article 10 **Public tender committee**
Uganda **PPDA (AMENDMENT) ACT, 2021**	**The Act covers among others, the use of electronic means in public procurement as an amendment to the Act 2003**
Open Contracting Partnership **Legislative Guide 2021**	**Focuses on publication of data and stakeholder engagement in public procurement**

5

Design the system and define requirements (including data!) with your stakeholders

Clear and detailed specifications make it easier for the development of a system that is fit for purpose and also limits the disruption that comes from change requests that arise during and after development.

Our research shows that some countries have received systems that do not respond to their needs, mainly because they failed to distill their needs in a detailed and accurate manner in the design stage (and often, to provision for detailed discovery in their contract with a vendor). As a pillar of a successful implementation, the definition of system requirements must be accurate, detailed and prepared in clear terms with stakeholders to avoid confusion or mismatched expectations. This calls for wide and careful consultation across different stakeholders to reflect the different user needs in the course of developing the system requirements. The stakeholders should reflect all those that may have unique needs for example, the Local Governments, Ministries, Parastatals, State Owned Enterprises, etc. that may sometimes have different process requirements. The different development partners such as the World Bank, African Development Bank, European Union, etc. that use different systems need to be consulted at this stage so that their peculiar needs are reflected in the requirements.

So, how can you identify stakeholders and involve them in a process to identify their needs? This **guide** from OCP offers a step-by-step guidance to identifying challenges, mapping stakeholders and developing a theory of change that can be used as part of your process to define your e-GP requirements. This **template** can be used in workshops or focus group discussions to examine the procurement process and identify opportunities to improve it through digitisation.

Once you have identified a "wish list" of how your stakeholders imagine an ideal e-GP experience, you can start to document them as technical requirements.

e-GP planning also presents an opportunity to reimagine procurement. Reformers should not just take their existing paper based, analogue transactional process online. e-GP is a compelling opportunity to rethink the business logic behind procurement for the digital environment to simplify and improve decision making and to automate routine

tasks. Governments need to think differently about how to do e-GP reforms and design systems around users and use cases to simplify, automate and improve transactions: for example, so that vendor can register one time to get a digital ID that it can then use to bid on multiple contracts as opposed to having to fill out a new paperwork for each bid. Similarly, complaints resolution can also be digitised to flag problems that can be fixed during the procurement as opposed to relying on later redress in the courts. The information and data needs of different stakeholders such as government oversight agencies, the public, civil society, etc. can be acquired through detailed data and analytics capabilities incorporated in the technical requirements. This will call for consultations with the different stakeholders and users of procurement information on their data needs that should then be put in the requirements.

TOOL

Guides to defining data requirements for your e-GP

OCP has developed this helpful guide to use cases for open contracting data and even a list of prioritised data fields for e-GP implementation according to frequently expressed use cases.

Here is an example of e-GP technical requirements and here is a template for including publication of OCDS data as part of e-GP technical requirements.

6

Tailor your choice of implementation type to your context and needs

There are three commonly accepted types of e-GP systems implementation:[6]

1

Custom software

Which designates solutions that have been developed specifically for the needs of a given organisation and that are not packaged for resale.

2

Commercial-Off-The-Shelf (COTS)

Which refers to software acquired from a software developer or open-source that is used as-is or with configuration, or that can be tailored with a layer of specific code on top of it.

3

Software-as-a-Service (SaaS)

Which refers to software that is provided as a shared service made available over the web and that can be used as-is or with the addition of configuration without any specific coding.

All five countries researched implemented one of the above types and had different results. Findings indicate the same type of implementation faced almost the same challenges, regardless of the country.

All implementation types have advantages and limitations. Choosing the appropriate one should take into consideration key factors such as the intended objectives, available funds, local context, technical expertise of the country in implementing systems of the same nature, political support, data integrity/sovereignty, and user support that will be required, etc. Our interviews uncovered situations where countries chose a type of implementation based on

factors such as availability of funds and donor deadlines, with less regard for the broader local context and needs, negatively affecting implementation. In some circumstances, implementation was started without any study to assess the best solution, but based on external suggestions.

There is no one-size-fits-all solution as success depends to a great extent on a variety of factors, but our research suggests some indicative guidance on when one implementation type should be used over another. A recent report by the World Bank on **e-GP system implementation types in Africa** points to similar risks and benefits for each implementation type.

[6] World Bank study on e-GP Implementation Types in Africa: https://openknowledge.worldbank.org/handle/10986/36891

Custom development

In countries that adopt custom development, a readiness assessment should be conducted to evaluate if the country's environment allows the implementation of an e-GP system. This includes common aspects such as:

- Existing legal framework on procurement
- Existing systems that shall require integration with the e-GP system
- Existing financial controls mechanisms
- Management information and analytics
- Existing procurement practices
- Document and records management system
- Local capacity in terms of IT expertise, infrastructure, and e-transaction experience

Upon conclusion of the readiness assessment, countries evaluated their capacity to implement a custom e-GP system and set up a project team that will carry out the e-GP system implementation team recruitment. Countries then engaged their stakeholders and develop system requirements before launching the acquisition process.

Our research uncovered some common findings related to this type of implementation:

- Development was based on previous or existing systems. In the case of Ethiopia, the custom development was based on the system developed by the Ministry of Technology of Ethiopia while in Rwanda the development was based on the South Korean e-GP system (KONEPS) logical model.
- The system development was flexible enough to cater for local procurement practices. In the case of Ethiopia, the developer is an Ethiopian firm that fully implemented the government requirements gathered by a consultant through a Business Process Review. According to interviews with e-GP managers, acceptance testing of modules has been conducted by the e-GP team and the developer would correct the module based on feedback received. It has been observed that this flexibility was crucial in achieving the desired results at least in system functionalities.

- In the case of Rwanda, a business process re-engineering was conducted first and the two scenarios of an 'As-Is' system and 'To-Be' system were established. Upon approval of the To-Be system, the development started. User Acceptance testing of modules was conducted by the e-GP team and the developer would correct the module based on feedback received.

- In both cases, the developer had a presence on site. In the case of Ethiopia, as the developer is a local firm, the entire team was present in the country. In the case of Rwanda, the developer had a base in the country and was present on site. The Developer's Project Management Team comprised Project Managers, Solution Architects, Quality Assurance, Senior Developers, Change Management, Inspection and Administrative Support.

- There was a high level of skills transfer of the developer to the e-GP team as the participation of the team in the development process is intense and detailed. This also increased the level of ownership and paved the way for system handover of the system. While in Ethiopia the developer still has a contract with the government, in Rwanda the Government e-GP team took over the management of the system when the developer's one year support and maintenance contract ended, funded by the National Budget. Maintenance, technical and business support, and system enhancement have been handled by the e-GP project team right after.

- The implementation period is a bit longer than other types of implementations. The development took 16 months in Rwanda while in Ethiopia it took slightly over 12 months; in other types of implementations, development can take between 6 to 12 months.

- The cost of acquisition and maintenance is higher than the cost of other implementation types. However, in the long run, return on investment can be higher in the case of custom development than in other types. The World Bank's Study suggests that custom development option could be upto 60% more expensive than COTS and SaaS options but local ownership, knowledge transfer and boosting the local tech ecosystem may compensate for this and ongoing

maintenance and change costs can be much lower than either of the other two approaches.

- In Rwanda and Ethiopia, there were pre-bid engagements with providers of different systems. After learning about different systems, the final requirements were adjusted to reflect the system that was suitable for their circumstances, and they went ahead to acquire a developer. They also ensured the developer is either local or formed a joint venture between a local firm with the developer.

Registration of intellectual property rights is critical for custom projects to guarantee Government's ownership of the source code and the e-GP system at large. In Uganda, the local innovator that worked with the e-GP team in developing the system has handed over the e-GP source code and the source code documentation which has enabled the government commence the process of intellectual property rights registration.

Commercial-Off-The-Shelf (COTS)

The research uncovered some common findings related to this type of implementation:

- The system implementation was based on the customisation of the vendor's existing software. This can be a hit and miss as naturally, the vendor would like to minimise customisation but the government's requirements may necessitate a high level of customisation — up to 75% in the case of Uganda's original COTS implementation.

- The system customisation was not flexible enough to cater for local procurement practices. In both cases of Uganda and Zambia, the developer followed exactly what was written in System Requirements Specifications (SRS) from the tender documentation.

- The system requirements were defined in a form of rigid SRS, meaning that any feedback from the e-GP team slightly deviating from what is written became a change request requiring additional payment. No business process re-engineering or initial system assessment has been conducted by the vendor to propose a system catering for the local content.

- The developer had no functional experts or business leads who help to prioritise or interpret the client's business and legal requirements, and to match them to the solution. The entire load of this is on the customer. In the case of Uganda, the developer was supposed to have a procurement expert who will be helping in this area, but they were not provided during development.

- Deeper analysis could have been done by the teams evaluating tenders and selecting a vendor to seek clarifications on the bidders' response to the requirements, and to look for best value versus focussing on the lowest price. For example, some bidders' response to requirements was that their solution would be compliant without additional information. Technical due diligence was not conducted to establish the credibility of these claims and once the contract is awarded, the client has accepted the proposal and anything contained in it at face value. Vendors then have a basis to refuse to implement a certain feature citing a different interpretation. These issues should be ironed out before the contract is awarded and signed between the technical evaluation and the contract negotiations (as discussed in Recommendation 7 below).

- In both COTS cases in our research, we were told that the developer had no presence on-site, and that all technical and administrative activities were conducted remotely, from the developer's country. This delayed communication and decision making, exacerbated misinterpretation of each party's needs and complicated their relationships. According to our interviews with government users, the vendors did not understand the working environment of the clients because they were not on-site to experience it.

- Interviewers also told us that the skills transfer of the developer to the e-GP team were minimal. This negatively affected the level of ownership and the ability of the e-GP team to manage the system after it was handed over. Zambia still depends on the

developer for system enhancement and maintenance, while Uganda has completely decommissioned the developer's solution and acquired a new one developed by a local firm.

- The implementation period is shorter than the custom implementation. The development can take on average between 6 to 12 months.

- The cost of acquisition and maintenance is less than the cost of custom implementations but can increase dramatically through change requests, and system enhancements. In the end, the initial bids were low but the final price of implementation ends up being higher due to required changes and separately-costed change orders.

Software-as-a-Service (SaaS)

SaaS refers to software that is provided to the consumer as a shared service made available over the web, with no hosting or installation required. The developer is responsible for managing the software, hosting, maintenance, and other services. So far in Africa, this approach is being implemented in the two Nigerian States.

In this type of implementation:

- No feasibility study or readiness assessment was conducted, only a few tours to Zambia and Asia. It was impossible to know what the states' environments were, the strengths, the weaknesses, mitigation measures, etc.

- There is also no development or customisation of the software. In the case of Nigerian states, there was no customisation of the code, the developer changed only visual aspects of the portal like colours, some nomenclature, the logo and the flag.

- The client takes the system requirements as they are and so has to align his needs and procurement laws to the configuration of the software.

- Furthermore, the software developer remains the ultimate decision-maker on the functionalities available and the schedule for releases. Other customisation (writing new code programs, class files, scripts) is excluded on SaaS projects and SaaS software developers do not provide easy access to their source code. Consequently, the customer has little or no influence on the above issues as they affect the application. The ability to influence the software developer's roadmap depends, among other things, on the weight that the customer represents on

the software developer's activity and the number of customers. In the case of Nigeria, for instance, while SaaS is good for a quick, no fuss implementation, it is difficult to have a one size fits all e-GP solution for all the states, unless the SaaS was developed or customised in advance for the individual institutions. As a result, one of the Nigerian states mentioned that its future roadmap is to build its own system.

- Less technical expertise is needed to mobilise and coordinate this type of implementation. Project management is therefore more focused on how to understand and master the functions of the solution. Far fewer resources (personnel, know-how and machines) are needed compared to a custom project.

- The skills transfer from the developer to the e-GP system team is non-existent, as the participation and contribution of a specific e-GP design team are not required. This negatively affected the level of ownership and the ability of the e-GP system team to manage the system, creating a full dependency on the developer.

- The implementation period is shorter than in other types of implementations, taking around seven months in Nigeria.

- While the initial cost of acquisition and maintenance is less than the cost in other types of implementations, in the case of the Nigerian states, subscription costs were based on the number of users.

Key lessons learnt

1. A successful implementation depends on many aspects, but one of the aspects that have stood out from others: the e-GP system must cater for local context and procurement practices. Whatever implementation type is adopted, it should accommodate the local procurement business practice.

2. The choice of SaaS implementation type is mostly guided by elements that will enable the system to run sustainably. However, e-GP is fairly new in Africa and its implementation can impact the local tech ecosystem. This means that the engagement and development of the local market should be included among the objectives of e-GP system implementation, and should be considered in the readiness assessments conducted, especially in terms of how an e-GP implementation creates new skills, empower local firms, etc.

3. It is very important to weigh up the balance of costs and benefits for each approach and should not just be driven by available funding or donor deadlines. On one hand, SaaS seems to provide advantages of easy and quick implementation, less initial investment, and low expertise is required. On the other hand, it presents major loopholes because it does not cater for the local context, the developer is in charge of everything which means the client's team will not benefit from the developer's expertise, and the customer has little or no influence on the modules content and their deployment.

4. The SAAS pricing model based on subscribers is advantageous at the start but is incremental depending on the increase of users. Cost per user in a government setup can rather mean a lot of money over a long period. SaaS may also present a sustainability and local ownership challenge, as the customer is dependent on the developer because the developer will never transfer the code to the client, although they may transfer data in case the customer wishes to host them locally.

[7] Custom software: https://openknowledge.worldbank.org/bitstream/handle/10986/36891/Electronic-Government-Procurement-Implementation-Types-Options-for-Africa.pdf

In general, the process below can be concluded in adopting an implementation type:

1. Writing system requirement specifications is still a challenge. In some implementations, this becomes a problem because the developers tend to stick to what is written and what is already available in the system, and any change calls for additional funds. Before starting system implementation, there must be a bridging phase in contract implementation of the review of requirements compared to the laws and procurement practice.

2. The procurement process for the acquisition of an e-GP system must be clear on which type of implementation the client intends to acquire, as it is hard to compare bids otherwise. For instance, in one of the country's cases, the Request for Bids supported both custom development and Commercial-Off-The-Shelf. It would be hard to achieve fairness in comparing bids offering custom development and others offering COTS, which creates a problem of expectations about what the client really wants or expects.

3. Regardless of the implementation type chosen for a country, it would be important to build user-testing and training sessions into any plan.

4. Custom development refers to bespoke solutions that are developed to the needs of a given organisation[7]. This type of e-GP implementation involves requirements gathering, analysis, design, build, test, launch and operate using the outsourced or in-house teams. For this reason, it requires more time and effort. As per the World Bank study, this option is the most expensive with higher project management risks, requires huge internal resources and takes a long time to implement, but if well prepared, it presents a huge potential to provide for local context and long term returns on investment.

To help navigate this difficult decision we've put together a matrix on page 32.

Indicative guide to selecting an e-GP implementation type

Status	Custom	COTS	SAAS
Local expertise in place to develop/implement relatively large systems	√	√	
Limitations on the implementation time i.e. less than 1 year from acquisation to deployment of the system		√	√
Limitations on an initial budget of acquisition		√	√
If COTS will require more than 50% of customisation of the requirements	√		
Unique or unclear business requirements/processes	√		
Long term funding constraints for sustainability purposes		√	√
Need to have full ownership of system, code, and data for ongoing maintenance and improvements	√		

Ensure flexibility and collaboration with your vendor through careful contract and relationship management

Systems implementation comprises three typical key phases in general: design, development, and run. The development or customisation phase is the phase in which the designs, inputs, and needs, are translated into actual output, i.e. the desired system. The phase is critical, mainly when some aspects have been forgotten in defining the system requirements specifications, the development must be agile and not rigid to achieve success.

In countries where the implementation methodology and contracts were rigid and inflexible, systems failed or clients received systems not responding to their actual needs. We make no judgement on who is to blame and what happened. It is clear though that contractual arrangements have to provide flexibility to take into consideration that the local context should be in place.

Interviewees told us that it is almost impossible to get accurate requirements the first time and they recommended that a Business Reengineering Process phase should be incorporated in any implementation plan as a key component.

Also, not having a strong implementation team in place near the start of a contract with a new vendor can cause challenges, especially as there are a lot of decisions on

user-testing and the system requirements to be signed-off early on.

Ethiopia and Rwanda all had vendors with a local presence, while all the remaining countries had vendors operating remotely. Interviewees told us that remote developers weakened the relationships and caused a lot of misunderstanding and misinterpretation of the requirements.

The e-GP developer in Rwanda and Ethiopia was a local firm and that strengthened collaboration further, whereas the developer in Zambia hired a local support team. As noted in the three countries where the vendor had a local presence, this can be through working with a local vendor/developer company as in Rwanda, or the vendor having a local office as is the case in Ethiopia where the vendor is Ethiopian.

8

Develop and execute a robust change management and capacity building strategy

Change management is crucial for large-scale digital transformation projects to achieve their intended outcomes. The most common reasons for e-GP failures that we heard were a lack of engagement and resistance to change. Public procurement is where the money, power and discretion are in government, so that resistance can be intentional due to the benefits that individuals or groups of people were getting from the absence of the e-GP system.

There is an important 'political economy' dimension to e-GP reforms and it will be important to build a coalition of change, comprising stakeholders from various parts of government as well as non-government champions, to overpower blockers so that enough winners accrue from the new system that 'escape velocity' be achieved, and the system is actually appreciated and used.

In cases like this, political support from the country's higher ranks, extensive communications and buy-in from stakeholders, and incentives to flip those resisting the change are needed. A change management program should accompany the rollout of a new e-GP system.

e-GP reform teams need to engage civic actors, service beneficiaries and business stakeholders to build that coalition and to design and build a program of change 'with them' and not 'for them' so, for example, you could mobilise a coalition of smaller business and aspirant government contractors who are locked out of the current system to

support e-GP reforms, and customise the system to increase accessibility, competition and fairness to that end.

Getting change management wrong can undermine the whole reform. As one interviewee said: 'in our case, change management was more an accessory than a critical component of a successful implementation, training was short and conducted once. Engaging key stakeholders like civil society was not adequate'.

It is clear that change management is still misunderstood and was mostly implemented in the form of public announcements as opposed to engaging stakeholders, collecting their views and considering them to fully bring allies and beneficiaries on board.

On the next page is a five-step checklist formulated based on one of the most recognised change management models- **ADKAR** (Awareness - Desire - Knowledge - Ability - Reinforcement).

ADKAR change model

A	**D**	**K**	**A**	**R**

Awarness

- Announce the change to employees well ahead of time.
- Explain your reasoning behind the change, including pain points and potential ROI of the new solution.
- Give employees an opportunity to ask questions and make suggestions.

Desire

- Gauge employees' reactions to the change.
- Identify champions.
- If employees are resistant or indifferent, address their concerns or show them how the change benefits them personally.

Knowledge

- Provide traning or coaching to show what employees need to do after the change takes place.
- Address any skill gaps.
- Offer resources, such as process flowcharts, that employees can reference later on.

Ability

- Schedule practice runs before the change is fully implemented.
- Monitor performance immediately following the change and provide constructive feedback.
- Set reasonable goals and metrics at the start.
- Adjust processes as necessary.

Reinforcement

- Monitor the change over time to ensure it fulfills your desired outcome.
- Use positive feedback, rewards, and recognition to encourage employees to keep following the new process.

← Enablement Zone | **Engagement Zone →**

Take the following steps to implement the five-step change management checklist.

Identify the change:

this step identifies what you want to change. In the e-GP implementation case, a new online system replacing the manual will be established. It is important to try and identify what that change entails for the beneficiaries. For example, it means users will have to be conversant with using a computer, they need internet connectivity. To some, this might be daunting.

Identify and map the stakeholders:

Who is affected or concerned by this change. For the e-GP implementation, stakeholders shall be identified by looking at anyone or any organization in connection with public procurement. Starting with procuring entities, suppliers and contractors, oversight bodies, CSOs, development partners and more. Once identified, **map** them based on their interest and influence to later tailor the communication to them.

Communicate the change:

an awareness and communication plan must be elaborated to include campaigns in the media outlets with a focus on one or more segments of the stakeholders.

Train and equip and empower stakeholders:

Training is important for successful and sustainable e-GP system usage and adoption.

Monitor and manage resistance:

Following the communication of the change to stakeholders, expect some resistance and ensure an adequate resistance management plan. Include incentives in your plan to minimize resistance from some stakeholders affected by the change. Recognise the root cause of resistance: fear for job security, need for training, lack of awareness or nefarious reasons, etc.

It is equally important to track and measure results to adjust either awareness, training, incentives or other tools.

A training plan should also be established to define how end-users will be trained and re-trained over a long period. This should include newly recruited members of staff but also new suppliers.

A detailed budget estimate should be produced for each activity within the plan. Procurement of external resources such as training logistics, printing, media buy and more should be catered for and planned to avoid delays during the implementation time.

When data migration is envisaged, a clear data migration plan needs to be in place. This helps to ensure data consistency from any legacy systems that could have been in use.

A well articulated support and maintenance plan needs to be in place to ensure that the users are able to get quality support which has a direct implication on the system adoption.

When not to implement e-GP

As part of the readiness assessment process, you may discover that your context and stakeholders are not yet ready for e-GP. Some indicators include:

- Absence of a proper strategy at the country level for the e-GP implementation and sustainability

- Absence of the legal framework allowing electronic transactions

- Lack of an enabling ecosystem such as internet coverage across government agencies and in rural towns and cities for the suppliers' community

- Absence of linkage systems such as the budgeting and financial systems (IFMIS for example), National Registrar, Revenue Authority systems, etc.

- Absence of a lead institution/agency which has overall responsibility for procurement reforms to enforce the e-GP system implementation and adoption

Conclusion and recommendations

We found the interviews fascinating as they revealed a wealth of insights into how we can all support e-GP implementation better from our various perspectives based on the eight key factors we identified. We summarise our recommendations to project teams, funders and e-GP vendors in each area below:

1 . . . . Articulate clear, outcome-oriented goals

Start the implementation of the e-GP system from an innate requirement to solve tangible challenges within the public procurement system. Set clear objectives against the specific challenges and establish their evaluation mechanisms.

Conduct an **e-readiness and feasibility study** as a mandatory step before the decision to implement an e-GP system. Establish if the ecosystem required by the e-GP system to succeed is available.

Have an e-GP strategy in place to guide the system implementation.

2 . . . . Set yourself up for success with an effective governance structure and a strong project team

Set up appropriate e-GP project governance to include at least:

- Nominating a sole or primary government body in charge of the e-GP implementation. In case more than one organisation is involved, decide which one is the lead institution to spearhead the project and coordinate all the efforts. The roles of the other implementing entities in this case need to be clearly documented and agreed on amongst the entities.

- Setting up a dedicated unit in charge of e-GP implementation to ensure the full focus and ownership required by this endeavour. Recruit or nominate the team without dual roles and ahead of the contract signature with the vendor ready to handle development/customisations, testing, rollout, etc.

- Ensuring the e-GP team comprise specific adequate e-GP systems implementation experience but also IT and procurement among others.
- Incorporating a sound and sustainable staff retention strategy to ensure the success of the long-term e-GP roadmap.

Assess integration partners' (IFMIS, Authority systems, Registry of Companies and banking systems) willingness, capacity and readiness before the e-GP implementation phase starts. Sign MoUs/agreements with them to ensure the longevity of the relationship at the institution level.

Establish the scope of the IFMIS and e-GP system to avoid any challenges during the implementation phase especially the integration of the two systems.

3 . . . . Plan for sustainability (and system maintenance) from the start

e-GP systems thrive in environments that include

- A strong supporting legal framework,
- Robust digital infrastructure (internet connectivity, national data centre, availability of other systems such as IFMIS, revenue collection, business registration and e-payment), and
- Procurement and IT professionals.

Develop a long-term strategy and **roadmap** to cover between 5-10 years covering the e-GP system design, development and run phase as well as a sustainability model.

Incorporate an exit strategy supported by a sustainability model into the long-term e-GP roadmap to avoid vendor lock-in and reduce full dependency on the vendor, lack of ownership and lack of funding for the e-GP system.

A decision should be taken on whether vendor support is required beyond the initial system implementation for support and maintenance of the system. The decision should be based on the below factors:

- Readiness and commitment of the e-GP implementing agency to take on the task
- Availability of personnel to handle that task (refer to the e-GP team structure in section 2 for roles and responsibilities)
- An analysis of the required budget of inhouse vs vendor services
- Risk analysis of both solutions including staff motivation and retention measures

Plan and allocate an adequate implementation period for the project. e-GP system implementation demands a lot of effort, time and cooperation. The **World Bank study** on the e-GP system implementation types in Africa has identified up to nine months for the procurement cycle for an e-GP vendor. For the implementation phase, design and build phase for COTS — with a high weight of customisations — and custom projects are about 25 months while SaaS and COTS projects with a low weight of customisations are faster taking between 9-13 months.[8]

Ensure a clearly documented and signed off source code management methodology especially in cases of SaaS and COTS projects to avoid being held at ransom by the vendor.

[8] Implementation time: https://openknowledge.worldbank.org/bitstream/handle/10986/36891/Electronic-Government-Procurement-Implementation-Types-Options-for-Africa.pdf?sequence=1&isAllowed=y

4 . . . . Align the policy and legal framework to enable digital transformation

Enact a strong e-GP legal framework ideally before the implementation to support adoption. The public procurement sector is a huge chunk of and vehicle for public funds spending. e-GP systems can serve as a deterrent tool to malpractices in procurement and the authors of those malpractices will not welcome such systems with open arms. If the legal framework is weak, the system adoption will be easily challenged.

5 . . . . Intentionally design the system and define requirements (including data!) with your stakeholders

Engage and consult public procurement stakeholders early enough to ensure the local context is captured during the requirement phase and key stakeholders are brought on board early enough. **The Association for Project Management (APM) proposes ten principles for achieving this** with an **example** of stakeholder engagement in a globally distributed software project such as an e-GP system. This should be embedded in your change management.

Draft the requirements taking into account the market survey of e-GP vendors and ensuring they are allowing for a competitive process for new entrants into e-GP systems implementation as well as local vendors.

Make your requirements accurate, detailed and in clear terms to avoid confusion and misinterpretation by the vendor. In absence of clear requirements, incorporate a Business Process Reengineering (BPR) phase during implementation to allow for detailed requirements gathering and the to-be system process design. In addition, the requirements drafting should involve as many stakeholders as possible.

Include a component of the Multilateral Development Banks (MDBs) procurement to ensure the e-GP system is compliant with their funded projects and procurement guidelines. Provisions should also be made on the systems integration to cater for the MDBs systems such as the World Bank STEP system to ensure that necessary no-objections by these organisations can be provided seamlessly.

Detailed data and analytics requirements should be part mandatorily of any e-GP system functional requirements. e-GP and information systems purpose among others is to **collect data** and provide data that can be **analysed for decision making**. Moreover, one of the key objectives of e-GP is to increase transparency in public procurement. The **Open Contracting Data Standard** can be used by e-GP systems to capture and publish data in a structured and standard manner. It is important to ensure that there is a relevant policy and political will to publish data and analytics.

6 . . . . Tailor your choice of implementation type to your context and your design

Select an implementation type primarily taking into account the local context in terms of technical expertise of the country in systems implementation, available funds and time, political support, data integrity/sovereignty, and user support that will be required.

7 ·········· Ensure flexibility and collaboration with your vendor through contract and relationship management

Require and enforce the vendor's local presence during the implementation phase. Local presence could be achieved through a joint venture/subcontracting with a local vendor (if a foreign vendor was hired) or the international vendor could open a local office for the duration of the contract execution.

Adopt an agile and flexible methodology for the implementation. e-GP system implementation is complex and a software implementation methodology such as Agile methodology[9] that allows flexibility in requirements collection and analysis is favoured as opposed to the traditional Software Development Life Cycle (SDLC) models[10] which are rigid and structured in nature. As per Project Management Institute, requirements management should be an ongoing process[11]. e-GP vendors and buyers should agree and adopt a flexible methodology as early as possible to arrive at the best system possible.

8 ·········· Develop and execute a robust change management and capacity building strategy

Integrate change management into all facets of the system implementation. The change should be aligned to individual values so that stakeholders see themselves in the proposed change. Start change management within the implementation agency and spread out to other government MDAs.

Incorporate an ongoing training strategy for the long term. End users' training is a prerequisite to the adoption of the e-GP. Training should not just be for the initial phase but should be sustained to refresh and train existing procurement staff and bidders as well as those newly joining.

Establish early on how end-users will be supported. Consider them as your clients and establish the required service level agreement (SLA) to maximise their satisfaction and therefore their adoption. This can be achieved through the establishment of a helpdesk.

Ensure the procurement staff's proficiency level in procurement procedures is high. They are at the center of the e-GP system usage and their level of competence is very influential on how well the system benefits are maximised.

Conduct a quality assurance as part of the final acceptance process and regularly thereafter (bi-annual for example) to ensure the system is in a good shape to serve its mandate. Ensure existence of a knowledge transfer plan which stipulates how the vendor will pass on system support and maintenance knowledge to the government's internal technical teams as a means of driving system sustainability.

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[9] Agile Methodology for e-GP example – case of Malawi: **https://bit.ly/Africa-eGP-Malawi** (page 144)

[10] www.techtarget.com/searchsoftwarequality/definition/systems-development-life-cycle

[11] Agile project management with formal requirements: www.pmi.org/learning/library/agile-pm-requirements-test-case-6306

We adopted the following methodology to develop this research:

Establishing the final list of countries:

The team discussed and co-designed the countries of interest. The final countries were selected based on the adopted implementation particularities as below:

Rwanda, Ethiopia

These countries were chosen due to their different approaches to building their custom e-GP systems. Rwanda built their e-GP via the custom route based on the KONEPS (Korean e-GP system) logical model while the Ethiopian e-GP was built by a local vendor in Ethiopia based on an existing procurement system.

Zambia, Uganda

These countries initially went for a customised COTS system. While Zambia is still with the same vendor, Uganda has opted to re-build a new custom system with a different local vendor.

Nigerian states

The two states have adopted a new and interesting approach to acquiring an e-GP system through the Software as a Service (SaaS) model. The World Bank also used a Programme for Result (P4R) type of approach where funds disbursement is done based on the rate of usage of the e-GP system.

Desk review:

The researchers also lead a desk review focusing on mainly the implementing countries' set of available documents including country-specific procurement legal framework, e-GP tender documents, e-GP portals and a recent report by the World Bank titled: Electronic Government Procurement Implementation Types Options for Africa. The e-GP systems portals were perused to identify some key information such as public statistics on specific e-GP system usage, the general usability of the portal and end users' guides. The team also attempted to request the implementing countries for some documents such as readiness assessment, feasibility studies, staffing, technical and procurement documents, projects roadmaps, implementations documents, system documentation, and any assessments previously done on the system at hand. However, we found that often these documents did not exist.

Key indicators for success:

The team also identified a set of indicators to guide the assessment of a country's e-GP success level. It is based on this that the questionnaire and interviews were drafted. Both the indicators and questionnaire are part of annex 6.2.

Establishing key people of interest

In collaboration with the client team, a list of people of interest was established and an introduction letter for Evolve was drafted and signed by the OCP. The people of interest were mainly heads of the e-GP system implementing agency and the e-GP champion of each country.

Questionnaires and interviews:

Contrary to what was envisaged at the start that countries will first provide key documents and a questionnaire and interview will be used to gather extra information or clarify any ambiguity, most countries preferred interviews over responding to a questionnaire. In this regard, slots were booked with the respective focal points. Interviews lasted between 1 hour and 2 hours depending on the approach chosen by countries. Most countries prepared slides to cover their journey and progress to date apart from the Nigerian States. The questionnaire was derived from the set of indicators previously discussed. Following the analysis, some extra questions were asked for clarifying any ambiguity.

Data analysis:

The data gathered was analysed qualitatively to arrive at the findings and recommendations in this report. The interview transcripts were reviewed and analysed trying to find similar patterns and differences. The findings were then categorized in terms of success levels and the underlying cause.

ANNEX 2

e-GP system implementation success indicators and interview guide

Two key tools to guide the research on why the implementation of the e-GP system in Africa fails or succeeds will utilise a set of indicators to assess why implementation has failed or succeeded as well as an interview guide which extends the indicators to delve deeper into the data collection process.

e-GP system implementation success evaluation indicators

The below indicators will be the cornerstone of the research into the e-GP system implementation within the selected countries: Uganda, Rwanda, Ethiopia, Ghana and Nigerian states.

	Indicator	Description
1.	Genesis/background of the e-GP system	• Origin of the e-GP project idea • Pain points and objectives • Business case for e-GP
2.	Adequate IT infrastructure availability, digital literacy	• Connectivity, data center, IT equipment, • Users' digital literacy
3.	Governance and regulations	• e-GP system regulations • Dedicated e-GP team • Steering committees

Indicator	Description
4. **System implementation**	• Implementation model (COTS, etc.) • The methodology used (Fixed requirements or Agile methodology) • Intention about data and reporting • System modules
5. **System adaptation to local context and involvement of users**	Customisation for local context and local practices
6. **Change management and stakeholders' buy-in**	• Change management and stakeholders' engagements efforts put in • Participants in the process (CSOs, private sector, etc.) • Comprehensiveness of the training plan and activities
7. **System adoption and usage level**	Actual usage of the system proven by statistics
8. **System support**	Mechanisms in place to support the roll-out and system operations arrangements in place
9. **Future and sustainability of the system**	• System maintenance arrangements • Business model to sustain the system operations and enhancements • Knowledge transfer plan

The second tool to use is the interview guide containing key questions that will be used during the engagements with the focal points in the implementing country.

Interview guide

From the indicators on page 43-44, the below interview guide was formulated and administered.

Legal/Governance level

1. To what extent is the e-GP regulated? By an act, Ministerial order, etc.?

2. Is e-GP mandatory for all government procurement? What are the exceptions?

3. What is the e-GP team structure? Is it a separate project or staff of the regulatory body?

4. Who is the project sponsor? Is there commitment from the sponsor to fund the system implementation activities in a timely manner?

Planning, design, development

1. Which objectives are the e-GP system supposed to achieve?

2. Which implementation type have you opted for (COTS, custom, SaaS)? Who is the vendor? Was the choice based on a feasibility study? If not custom, what is the level of customisation (in %)

3. To what extent does the system reflect the functional and technical requirements/expectations? Were there features/functionalities you realized that you forgot during the design/implementation phase? Did the supplier consider what you have omitted during the system requirement analysis?

4. In the design phase, to what extent did the e-GP team/practitioners participate? Did the e-GP team participate in providing inputs during the requirement analysis of the system? How were the inputs considered? Was it done module by module/batch by batch/progressive or it was done at once for the whole system? (Agile methodology vs Fixed Requirements SRS)?

5. How satisfied are you with the quality of reports that you get from the system and how intentional were you at the design phase about data and reports out of the system? Was OCDS included in the system and to which extent?

6. The composition of review and testing teams: was the team composed of only the e-GP team or does it include other user types like the private sector, procurement specialists from some institutions, legal teams, etc?

7. There are business and administrative practices not necessarily defined in-laws but that are used for efficiency, how were they captured in the design and development phase? Was the vendor flexible enough to accommodate such practices? For example, Was the vendor flexible to accommodate all structures in procuring entities?

8. During testing, was the testing conducted module by module? How did the vendor consider relevant change requests?

9. During integration with other systems (IFMIS, banks, business registration, tax authority, etc), was the vendor flexible to accommodate their settings/configurations?

Implementation of the e-GP system & adoption

1. To which extent were the objectives of the system achieved? (%)

2. Did you have clear phases of implementation of the e-GP system? like design, develop, and implement a few modules, and continue to design/develop other modules?

3. At the time of the pilot, were all development objectives in terms of modules in place?

4. How do you rate the readiness (system, infrastructure such as internet, etc.) at the time of launching the pilot? Were suppliers ready? How are bug fixing and change requests handled? Was the vendor flexible and responsive?

5. Did the vendor have a local presence during the pilot phase?

6. Did you have an implementation/roll-out plan? Was it followed or faced significant deviations? What could be the justification for the variations?

Change management

1. **STAKEHOLDERS' ENGAGEMENT:**

   Have you defined the e-GP ecosystem/stakeholders mapping before its initiation?

Was there communication and engagement with stakeholders before the launch of the system?

Were the benefits of the e-GP system well communicated and channelled? What was the feedback?

Was there an intentional introduction of the e-GP system to the public before implementation?

Did you conduct workshops, use media ads, conferences, radio and TV talk shows, and social media campaigns to have the buy-in from the stakeholders and mitigate potential resistance?

Have you kept constant communication on the progress of the system development?

2. TRAINING AND SKILLS TRANSFER

Was there a comprehensive training plan for users?

How did you select users to be trained?

What were the types of users trained? Only government staff or training included suppliers?

Was the training schedule consistent with the e-GP system implementation phases?

Was the content appropriately designed by user type?

Our training sessions are consistent regular or they have been conducted once.

What are the types of training used? Face to face, online, self-learning by consulting training modules? Is the training free of charge or do users pay a fee?

Was the e-GP team trained to take over the training of other users?

3. INCENTIVES

What are the incentives provided to users to increase the adoption?

- Financial incentives (financial rewards against a certain level of performance, exemption from some paid services like training, free bidding documents, IT equipment, etc.)
- Recognition incentives (like certificates, plaques)

Adoption and usage of the system

1. How many users are currently registered in the e-GP? What percentage are they representing in comparison to the objectives?

   a. Suppliers
   b. Government

2. What is the number of awarded contracts awarded by e-GP compared with the total number of awarded contracts?

3. Have you collected views from users? How do they rate the following aspects of the system?

   - Easy user registration in the system

   - Easy access to the procurement information on the e-GP System (tender notice, user guides, etc.)

   - Easy navigation on the web, responsiveness of the system while navigating (stable internet).

   - Easy support request (which type of call center do you have? Do you have a support ticket tracking system?). What is the response time? is the support accessible online and physically?

4. Can you say that there are suppliers who were not registered for public tenders that have now registered because of the introduction of e-GP?

Sustainability

1. Which type of hosting are you using? Is the e-GP hosted locally, on the cloud or co-shared with the vendor? How does the choice of hosting affect data sovereignty and data integrity?

2. The source code: to what extent do you own the source code? How does this affect change requests?

3. What is the contribution of the local market to the maintenance of the system? Is your team or any local firm capable of handling the maintenance of the system? (Bug fixing, change request, managing the database, security and network, etc.?

4. What's your plan to financially sustain the system? Through government/donor funds, do you plan to make your e-GP commercial, are there services paid by users that could help raise funds?

5. Do you have in place a long/medium-term strategic plan for improving the system?

About the Open Contracting Partnership

The Open Contracting Partnership is a silo-busting collaboration across governments, businesses, civil society, and technologists to open up and transform government contracting worldwide. We bring open data and open government together to ensure public money is spent openly, fairly and effectively. We focus on public contracts as they are the single biggest item of spending by most governments. They are a government's number one corruption risk and they are vital to ensuring citizens get the services that they deserve. Spun out of the World Bank in 2015, the Open Contracting Partnership is now an independent not-for-profit working in over 50 countries. We drive massively improved value for money, public integrity and service delivery by shifting public contracting from closed processes and masses of paperwork to digital services that are fair, efficient and 'open-by-design'.

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