SUNLIGHT IN DIGITAL TECHNOLOGY

What does the public know about transparency and safeguards in the procurement and deployment of Digital Technology Systems in Africa?









Synthesis Report for Liberia, Nigeria & Uganda, July, 2021



Our Vision

An Africa where all citizens can exercise their right of access to information.

Goals and Objectives

To advance the ATI agenda in Africa. AFIC's experience is that regional and international human rights and accountability mechanisms play an important complementary role to national frameworks.

Acknowledgement

The Africa Freedom of Information Centre (AFIC) is grateful to Omidyar Network, which helped in the conceptualization and implementation of this study We are particularly grateful to Omidyar Network's willingness to fund the research.

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Abbreviations / Acronyms

AI	Artificial Intelligence
AG	Auditor General
API	Application Program Interface
BIN	Bureau of Immigration [also known as Liberia Immigration Services (LIS)]
BVN	Bank Verification Number
CAC	Corporate Affairs Commission
ССТУ	Closed Circuit Television
COVID-19	Corona Virus Disease
CSOs	Civil Society Organizations
DTS	Digital Technology Systems
DSS	Department of Security Services
EDMS	Electronic Document Management Systems
EU	European Union
FEC	Federal Executive Council
FIRS	Federal Inland Revenue Service
FMHASD	Federal Ministry of Humanitarian Affairs and Social Development
FRSC	Federal Road Safety Corps
FY	Financial Year
GIFMIS	Government Integrated Financial Management Information Systems
GPP	Government Procurement Portal
ICT	Information and Communications Technology
IFMIS	Integrated Financial Management System
IGG	Inspector General of Government
INEC	Independent National Electoral Commission
IPPIS	Integrated Personnel and Payroll Information System
KII	Key Informant Interview
LIS	Liberia Immigration Services
MDAs	Ministries, Departments and Agencies

NBIS	National Biometric Information System		
NCC	Nigeria Communications Commission		
NIS	Nigerian Immigration Service		
NIMC	National Identification Management Commission		
NIN	National Identification Number		
NIR	National Identification Registry		
NITA	National Information Technology Authority		
NITDA	National Information Technology Development		
ΝΟϹΟΡΟ	Nigeria Open Contracting Portal		
ONSA	Office of the National Security Adviser		
PPDA	Public Procurement and Disposal of Public Assets Authority		
PPPs	Public-Private Partnerships		
PRS	Planning Research and Statistics		
UGX	Ugandan Shilling		
UBOS	Uganda Bureau of Statistics		
UPF	Uganda Police Force		
W/R	World Bank		

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Executive Summary

Introduction

This pilot study was undertaken by the Africa Freedom of Information (AFIC) with generous support from Omidyar Network. The study investigated the procurement and deployment of Digital Technology Systems in Liberia, Uganda and Nigeria. Specifically, the study aimed to understand:



Methodology and methods

An exploratory research design combining a scoping review of grey and published literature with key informant interviews and a survey in all the three countries was employed. Both qualitative and quantitative data were collected

for triangulation from varied secondary and primary sources. Each of the three countries developed their draft reports which have been synthesized in this report.

Findings from the study

Public knowledge of Government procurement of Digital Technology system (DTS)

Based on three digital technology systems, namely biometric artificial intelligence and facial recognition technologies, the survey explored people's knowledge of government procurement of these technologies. Overall, only 38% of survey participants were knowledgeable about government purchase of at least one of the three technologies. Majority of those who were knowledgeable were from Nigeria (80%). In contrast, majority of Ugandans (70%) and Liberians (88%) did not know if their governments had procured any or all of the said DTS. Over half the sample (56%) were knowledgeable about government purchase of biometric (56%) and facial recognition technologies (52%), compared to only 8% for artificial intelligence technologies. In Liberia, study participants scarcely know about government purchase of facial recognition and artificial intelligence technologies. More Nigerians were knowledgeable about their government's procurement of facial recognition (75%) and biometric technologies (73%) than Ugandans (20%) and Liberians (54%). Artificial intelligence was the least known of the three technologies perhaps because of its nature i.e., less visible than facial recognition technologies which are on the streets, in offices and banks, or biometric technologies that are used during electioneering.

• Purpose of procuring DTS

Digital technologies are procured to serve different purposes in different Government

Ministries, Departments and Agencies (MDAs) of the countries studied. The DTS are helping their respective MDAs to deliver their statutory service delivery mandates. Some procured DTS in some MDAs may be used to support other purposes, especially security related, other than the core purposes they were procured. The main DTS Uganda has invested in are biometric machines, including Biometric Voter Verification Kit, CCTV cameras. Nigeria has also invested in biometrics and facial recognition systems for use in registration for citizens' NINs as well as voter registration. In Liberia, government agencies that have acquired DTS have mainly purchased biometric readers and Facial Recognition technologies to support in the management of elections. The Liberia National Police in 2016 procured and installed CCTV cameras in 2016, which were later disconnected under the leadership of the new Inspector General of Police.

• Who is Procuring DTS?

In all the three countries, different government MDAs were procuring DTS. However, MDAs in the security sector and those whose functions depend on having accurate information about citizens (for instance, Electoral Commissions) procured DTS more than others. Fewer MDAs in Liberia procured and deployed DTS than in Nigeria and Uganda. These include the National Identification Registry, Ministry of Foreign Affairs, Liberia Immigration Service, Liberia National Police, and the National Election Commission. The Ministry of Post and Telecommunications manages 86% of the DTS procured in Liberia. In Uganda, MDAs that procured and deployed DTS in service

delivery included Ministry of Defense, Ministry of Health, Ministry of Internal Affairs, Ministry of Trade, Industry and Cooperatives, Ministry of Agriculture Animal and Fisheries, Ministry of Education and Sports, Ministry of ICT and National Guidance, NITA-U, Uganda Police Force, Electoral Commission, and Uganda Bureau of Statistics. The main institutions responsible for managing/deploying DTS include the Uganda Police Force (40%), National Identification and Registration Authority (NIRA) (38%), the Electoral Commission (EC) (33%), Ministry of Science and Technology (26%), and Ministry of Internal Affairs (25%). The above technologies are procured from different countries, mainly outside Africa. For example, government of Uganda procured CCTV surveillance systems from Huawei, a Chinese company, while FinFisher was procured from Gamma International Limited in the UK. NIRA's biometric system was procured from Mühlbauer GmbH in Germany.

• Sources of funding for DTS

The primary sources of funding for DTS procurement across the three countries are the national budgets (annual tax revenue). In some of the agencies that participated in this study in Uganda, government funding for DTS constituted over 75% of the total cost, while donors contributed only 25%. The government financed the purchase of hardware while donors raised funds for software.

Procurement Processes and methods

The procurement of digital technologies in the three countries is part of the overall architecture of procurement of all public works, services and supplies. The architecture of public procurement in the three countries is very complex, with various institutional layers, laws, policies and regulations for checks and balances, and actors. Public procurement in Uganda is governed by the Public Procurement and Disposal of Public Assets Authority. In Nigeria, every MDA follows the procurement process as stated in the Procurement Act of 2007. Whatever theMDA plans/ intends to procure must be included in the annual budget at the beginning of the year.

• Safeguards to privacy, security,

inclusion and individual control in the procurement and use of digital technologies On institutional mechanisms to protect individual data, the three countries have established, or are in the process of establishing institutions for protecting data collected through DTS. In Uganda, the government created the National Information Technology Authority-Uganda (NITA-U) to oversee government digital platforms and set IT standards. Among others things, NITA-U is expected to offer guidance to agencies develop institutional data protection to mechanisms. In Nigeria, government promotes acquisition and registration of National Identification Numbers (NIN) and is process creation of a central database linking the NIN with all data collected by government agencies and the private sector such as the sim cards, international passports, and Bank Verification Numbers (BVN). Furthermore, the National Assembly is reviewing the Data Protection Bill, which will create the Office of the Independent Data Protection Commissioner. These efforts are aimed at stemming misuse and abuse of personal data by criminals and

third parties due to proliferation of databases with information on citizens. Sanctions for data misuse were embedded in various laws and policies as reported by participants from Nigeria, Uganda and Liberia. However, participants from Nigeria and Liberia emphasized sanctions other than those from Uganda and Liberia. In Nigeria, laws have sanctions that strengthen proper use of data. Hence, although ostensibly procured to ensure efficient service delivery, promote safety, security, citizenship and democracy, evidence suggests that DTS are sometimes deployed against the grain of these ideals when they are used by security agencies to crack down on opposition politicians, especially in Uganda. Interviews with participants from civil society organizations in Uganda raised concerns on abuse or misuse of DTS, particularly CCTV cameras and the FinFisher spyware. They argue that these technology platforms were acquired primarily to enable state surveillance of opposition figures in order to silence dissenting voices.

Transparency of procurement of DTS

It is also not clear whether, and to what extent DTS are supported by prevailing legal and policy frameworks without specific laws governing DTS procurement and deployment of DTS.

• Laws that relate to procurement and use of DTS

There are no special laws to guide the procurement of DTS in all the countries.

Less than one per cent of the value of contracts for DTSs is disclosed, increasing the risk for corruption and inefficiency in the tendering and procurement of DTSs in across the three countries. With a lack of disclosure, it is difficult for data users in the public, private and voluntary sectors to meaningfully contribute to the improvement of performance and governance of DTS procurements.

Recommendations

Less than one percent of the value of contracts for DTSs is disclosed, increasing the risk for corruption and inefficiency in the tendering and procurement of DTSs in across the three countries. With lack of disclosure, it is difficult for data users in public, private and voluntary sector to meaningfully contribute to the improvement of performance and governance of DTS procurements. It is recommended that respective governments of Liberia, Nigeria and Uganda publish DTS procurement data, in open formats on procurement portals to promote transparency and accountability in the procurement of DTSs. There should also be timely feedback whenever citizens file requests for information on procurement and deployment of DTS to different government MDAs. The study reveals that direct and uncompetitive methods are commonly used in procurement of DTS, and increases the risk of inflated prices, collusion and corruption.

In line with fair business practices, respective governments Liberia, Uganda in and Nigeria should promote open bidding in the procurement of DTS to promote value for money in tendering of DTS as well as innovation Public awareness of the procurement and safeguards in the context of DTS is low particularly in Liberia and Uganda. With low awareness, there is limited public scrutiny of therocurement and deployment of DTS in spite of the high risk of corruption associated with Early-stage them. transparency and participation by stakeholders in the procurement of DTS should be emphasized to mitigate against problems associated problems with addressing procurement

when it is too late. DTSs have been used for illegal surveillance of [opposition] politicians, journalists and other civil society leaders for their legitimate civic mandates. Respective national human rights institutions of Liberia, Nigeria and Uganda should prioritise the promotion of human rights in the context of DTSs The study reveals that direct procurements may be compelled because of the lack of capacity by the technical staff of Government MDAs to understand and therefore be able to evaluate bids of suppliers of new DTS and their applications. There is a need for continuous/ constant capacity building of government procurement staff to handle the procurement of new and ever-emerging fields in DTS.

01	Data protection laws and policies in respective countries should be enacted and strictly enforced to protect citizens from unwarranted manipulation for commercial and political advertising.				
02	Data holding public and private agencies should publish annual transparency reports regarding the release to third parties data collected using DTSs.Governments should also strengthen existing laws to ensure proper usage and protection of individual data that are collected through DTS. In line with this, the public should be sanitized on such laws so that in case of abuse they are able to seek justice.				
03	Data holding public and private agencies should publish annual transparency reports regarding the release to third parties data collected using DTSs.				
04	Civil society organisations should take interest and monitor the regulation and compliance of data holders the protection of personal information and privacy.				

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1. Introduction

This report presents findings from a pilot study on Government Procurement and Deployment of Digital Technology Systems (DTS) in Africa. The study was conducted in three countries, namely Uganda, Liberia and Nigeria. It aimed to understand: (i) what digital technologies are being procured and from where; (ii) the purposes for which these technologies are procured and the circumstances that trigger their procurement; (iii) the processes which these procurements follow; (iv) the cost of acquiring digital technologies and the sources of funding for these technologies; (v) the laws that relate to procurement and use of digital technologies; (vi) the different perceptions of publicand civil society on procurement of digital technologies; (vii) the safeguards to privacy, security, inclusion and individual control in the procurement and use of digital technologies. The report entails an executive summary, an introduction, background information and review of literature, methodology and results/ findings. The study findings are presented under three rubrics: rationale, financing and legal frameworks governing procurement of digital technology systems; processes and methods for procuring DTS; and use/ deployment of digital technologies. The last section highlights key aspects of the study findings, conclusions and recommendations.

2. Background to Digital Technology Systems in Africa

Today, the world is experiencing the fourth industrial revolution known as the "digital economy". The digital economy is characterized by, among others, Blockchain Technologies, Three-Dimensional Printing, Internet of Things, 5G Mobile Broadband, Cloud Computing, Automation and Robotics, Artificial Intelligence and Data Analytics. There is a higher concentration of digital technologies in the United States and China than in other countries of the world put together. In Africa, there is general enthusiasm among African countries to procure and adopt DTS, but they face a number of challenges, including lack of enough information on DTS, lack of required skills, limited broadband coverage, and

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ethical challenges. In Nigeria, the adoption of technology in its public service started in the early 2000s when the Independent National Election Commission (INEC) started Information and Communications Technology upgrades with the introduction of Optical Mark Recognition (OMR) technology for voter registration. In 2006, INEC developed a concept of the electronic voting system,

million. An open-source voter registration (Open VR) software was built with the use of open source technologies, and the biometric image software suite developed by the National Institute of Standards and Technology was used for comparing and analyzing biometric

1. United Nations Conference on Trade and Development (UNCTAD) (2019). "Digital Economy Report. Value Creation and capture: implications for Developing countries."

data. In 2015, INEC introduced permanent voter cards (PVCs) and smart card readers (SCRs) to optimize the process of voter registration; it printed 73.5 million initial cards at a cost of USD 31.8 million.

In November 2020. the Liberia Telecommunications Authority signed an MoU with the country's two mobile phone companies requiring every person on their networks to use only the national ID card given by the NIR to register or re-register their SIM cards. The MoU seems to have changed the LTA's previous regulation, which gave the NIR the role of verifying the government issued ID documents presented for the registration of SIM cards. In Uganda, digital technologies have been considered as "beyond the reach" of the majority Ugandans. Furthermore, Uganda's legal framework is still wanting; existing laws require realigning and upgrading to allow the easy purchase and use of digital technologies. However, misuse of DTS has already been reported, especially among security personnel spying on opposition politicians, human rights defenders, journalists and activists. The government of Uganda has continued to undertake communication and open space surveillance, social media snooping, and data mining among others, which has raised several concerns regarding threats to fundamental freedoms and rights. In a nutshell, available literature covers types of DT platforms being procured, countries investing in these technologies, sectors where DTS are being used, and the political concerns about use/deployment of DTS. The literature also documents the potential benefits of using DTS. However, there is little information, if any, on how DTS are procured in Africa, and how they are generally perceived. Furthermore, public procurement in Africa is characterized by low information disclosure, lack of transparency, inflated pricing, inefficiency and lack of competition in procurement processes . Moreover, institutional preparedness seems to below, and use of these technologies, especially by security agencies, is not clear.

University of Pretoria (2018). "Artificial Intelligence for Africa: An Opportunity for Growth, Development and Democratization." Access Partnership.

The Bureau of Immigration is now called the Liberia Immigration Service (LIS). National Identification Registry Act 2011 7, s 3.1a.

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National Identification Registry Act 2011 7, s 3.1a. Collaboration on International ICT Policy for East and Southern Africa (CIPESA). (2020). "Technology and Elections in Uganda: A Digital Rights View of the January 2021 General Elections." Policy Brief, CIPESA.

World Bank Group. (2020). "Digital Solutions in a time of crisis. Economic Update on Uganda", 15th Edition. The World Bank Group, Washingtor

Portulans Institute. (2020). "Network Readiness Index 2020 Report", Uganda. Portulans Institute

3. Methodology

3.1 Study Design

This study adopted an exploratory and mixed methods research design across all three countries. Both qualitative and quantitative data on procurement and use of digital technology systems were collected from primary sources (online and physical citizens' survey, and key informant interviews) and secondary sources and triangulated. A comprehensive scoping review of published and grey literature was conducted to explore developments in the relatively novel field of procurement of DTS.

3.2 Study Areas

The study was conducted in Uganda, Nigeria and Liberia where AFIC has partners. In Uganda, data were collected from Kampala Metropolitan area which covers Kampala city, Mukono and Wakiso districts. Offline survey data were collected in Kampala (Kamwokya Parish) and Mukono Town-Council, Mukono District. In Nigeria, the study was conducted in the Federal Capital Territory, Abuja which is located in the North-Central part of the country. Four (4) most populated Area Councils in Abuja namely, Municipal Area Council (AMAC), Gwagwalada, Kubwa, and Kuje Area Councils were selected for the study. In Liberia, in-person interviews for both the survey and key informants were five cities, namely Gbarnga, Monrovia, Ganta, Buchanan and Kakata.

3.3 Target Population

The study collected data from ordinary citizens, experts, Civil Society Organizations (CSOs) and key government officials from agencies deemed to be procuring and using DTS more. Participants from CSOs, notably civil rights activists and policy experts were purposively selected because of their expertise in national budgeting, digital technologies and legal and regulatory frameworks governing procurement and use of DTS. Public officials were also purposively selected. The study targeted individuals holding technical positions in key MDAs, thus knowledgeable about digital technologies and laws relating to procurement and use. The MDAs targeted include national police forces, national statistical bureaus/organizations managing national statistics, ministries of finance and economic planning, national registration authorities/offices, ministries of communications, ministries of science and technology, and agencies in charge of national procurement.

In Uganda, the MDAs interviewed included the National Planning Authority, Uganda People's Defence Forces, Parliament of Uganda, Ministry of Finance Planning and Economic Development, National Identification and Registration Authority, Uganda Bureau of Statistics, and Uganda Police. In addition, individual experts in cybersecurity and DTS were interviewed. In Nigeria, four (4) Civil Society Organizations (CSOs) with expertise

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Dorothy Okello, Cleopatra Kanyunyuzi & Winnie Mbabazi. (2012). "Gender dynamics need to be addressed in communication surveillance in Uganda." Report. Global Information Society Watch

Portulans Institute. (2020). "Network Readiness Index 2020 Report, Uganda." Portulans Institute Ministry of Finance, Planning and Economic Development. (2020). "Harnessing digital innovations under the COVID-19 pandemic: A case of Uganda's ICT sector. BMAU Briefing Paper (7/20)." Author. Kampala- Uganda Collaboration on International ICT Policy for East and Southern Africa (CIPESA). (2020). "Technology and Elections in Uganda: A Digital Rights View of the January 2021 General Elections Policy Brief. CIPESA: Cadreen Barungi Kabahazi. (2020). "How Al could transform Uganda's Eduscape: Paving the Path for Blended Learning." Africa Policy Centre, Uganda Christian University. Uganda 13.

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Ministry of Finance, Planning and Economic Development. (2020). "Harnessing digital innovations under the COVID-19 pandemic: A case of Uganda's ICT sector. BMAU Briefing Paper (7/20)." Author. Kampala-Uganda United Nations Conference on Trade and Development (UNCTAD). (2020). "Uganda Science, Technology & Innovation Policy Review." United Nations, New York.

on national budgeting, digital technology, and digital law, a digital rights and policy expert, an investigative journalist, and directors of three (3) MDAs – Ministry of Communications and Digital Economy, Ministry of Science and Technology, and Bureau of Public Procurement were interviewed. A semistructured tool was adapted to suite the country's context. Finally, in Liberia, the Ministry of Post and Telecommunications, Liberia Telecommunication Authority and Liberia National Police were interviewed along with other key informants from civil society.

3.4 Sample Size and Characteristics of Respondents

The study had a total sample of 1368 respondents: 618 from Uganda, 350 from Nigeria and 400 from Liberia. The sample included online participants and off-line surveys. In addition, 28 key informants were interviewed: 11 Uganda, 9 from Nigeria and 8 from Liberia. The sample distribution across the three countries is illustrated in Table 1 below.

Country	Sample size	Percent	Key informants
Uganda	618	45.2	11
Nigeria	350	25.6	9
Liberia	400	29.2	8
Total	1368	100	28

Table 1: Sample Sizes by Country

The combined offline and online surveys examined the age, gender, level of education, employment status, place of residence, and marital status of respondents. The findings from the analysis of these socio-demographic attributes are presented below.

3.4.1 Respondents' Gender

More males than females participated in the survey with Liberia having the largest male sample (70%), followed by Nigeria (62%) and Uganda (56%) (see Figure 1).



Figure 1: Gender of Respondents

17. Tom Wilson & Madhumita Murgai. (2019). "Uganda confirms use of Huawei facial recognition cameras." Accessed from https://www.ft.com/content. July 26th 2020.

3.4.2 Education Levels of Respondents

The eucational attainment of respondents varied widely across levels of education, although they tended to cluster around secondary and university qualifications. Slightly more than half of respondents from Liberia (54%) possessed either a Diploma or Bachelor's degree (54%), compared to 37% from Uganda, and 51% from Nigeria. Overall, 55% of all respondents possessed a university/tertiary qualification with 6% having

attained a Certificate, 18% Diploma, and 31% Bachelor's degree. A small number possessed postgraduate qualification (8%), while 9% possessed primary education. Only 3% of the total sample lacked any formal education; the majority (5%) hailing from Uganda. This means that the responses contained in this report reflect different levels of understanding of issues pertaining to digital technologies in the three countries. Details pertaining to the educational attainment of respondents are illustrated in Table 2.

Table 2: Levels of Education of Respondents

Level of education	Uganda	Nigeria	Liberia	Total
Primary	12%	3%	10%	9%
Secondary O' level	14%	22%	0%	12%
Secondary A' level	15%	3%	0%	7%
Tertiary/University Certificate	10%	7%	0%	6%
Tertiary/University Diploma	14%	14%	27%	18%
Tertiary/University Bachelor's	23%	37%	38%	31%
Postgraduate	7%	10%	9%	8%
Others	0%	1%	0%	0%
No formal education	5%	4%	0%	3%

3.4.3 Employment Status of Respondents

Most respondents in Nigeria (38%) and Uganda (37%) either owned informal businesses or were employed in the informal sector (11% and 22%), respectively. In contrast, 33% of respondents in Liberia were self-employed. Together these accounted for 50% of the total sample. It is possible that those that are self-employed in Liberia were employed in the informal sector. Only 33% of all respondents were employed in the formal sector, with the private/NGO sectors accounting for 22%, compared to 11% of the public sector. Therefore, the informal sector was the main employer. This implies that although over half of the sample possessed university qualification and above, they were employed in the informal sector.

Table 3: Employment Status of Respondents

Employment status	Uganda	Nigeria	Liberia	Total
Own informal business	37%	38%	0%	27%
Formally employed in private/NGO sector	19%	17%	31%	22%
Not employed	14%	22%	20%	18%
Employed in the informal sector	22%	11%	0%	13%
Formally employed in public sector	7%	11%	16%	11%
Self-employed	0%	0%	33%	10%
Others	0%	0%	0%	0%

3.4.4 Residence of Respondents

Majority of the respondents were urban residents (see Figure 2). More respondents in Liberia (75%) and Nigeria (70%) resided in urban areas than Uganda (38%). Uganda had

the highest peri-urban residents, but slightly fewer rural residents than Liberia. Altogether, 57% urban residents participated in the surveys across the three countries compared to 12% of the rural residents.

Figure 2: Respondents' Residence



3.4.5 Marital Status of Respondents

Slightly half of all respondents (48%) were either single/never married, while 41% were married or living together with

partners. Nigeria had the highest number of respondents who were single/never married (58%). Few respondents were divorced (8%) or widowed (3 %) as illustrated in Figure 3.



Figure 3: Marital Status of Respondents

3.5 Methods of Data Collection

Data were collected from primary and secondary sources. Primary data were collected through physical (face to face) surveys, on-line surveys, and key informant interviews. Given the sensitivity of the topic, particularly for security agencies, data from key informant interviews were recorded as notes. The notes were reviewed immediately after every interview to avoid losing valuable information with the passage of time. However, few interviews were recorded using a digital recorder. Secondary data were obtained through scoping and analysis of published and grey literature from various databases, websites (including government procurement portals) and reports from organizations, and manuscripts. Given the novelty of the study, some reports were sourced directly from key informants and their contacts. A summary of the methods used to obtain the data is presented in Table 4.

Method	Number of Respondents/ Participants	Categories of People/ Documents
Physical & online surveys Survey uploaded on tablets, (KoBo ToolBox for Nigeria) for offline quantitative data.	Uganda- 618 Nigeria- 350 Liberia- 400	Ordinary citizens; Public Officials/Civil servants, Consultants/experts
Key Informant Interviews	Uganda – 11 Nigeria- 9 Liberia 8	Public officials, DTS Experts, Policy Experts, Journalists, and Human Rights Activists

Table 4: Methods of Data Collection and Samples Obtained

Document Review	35 (Uganda);14 (Nigeria) and 15 (Liberia)	Organizational reports, Research reports, Policy reviews/briefs, periodicals, and media reports/stories, Laws and Statutes.
Information Requests from selected Government MDAs in Uganda, Liberia and Nigeria based on preliminary findings from interviews.	20 Information requests (Uganda); 11 (Nigeria), and None (Liberia)	Uganda Police Force (4), Electoral Commission (6 requests) and Parliament (10). 11 MDAs from Nigeria - Information requests on contracts awarded, bid evaluation reports, copies of regulations governing procurement, etc.

3.6 Data Analysis

As stated above, the study collected both qualitative and quantitative data. Recorded interviews were listened to carefully and later transcribed into MS word. Transcriptions and handwritten notes were read and coded by three researchers to ensure intercoder reliability. The data were analyzed thematically using techniques prescribed by Braun and Clarke. Some vital quotations were extracted and used as evidence to back up certain claims and thematic ideas.

Quantitative data from online and physical surveys were cleaned and aggregated into one data set, which was entered into the Statistical Package for Social Sciences (SPSS) and analyzed. Descriptive statistics were generated for each country and used to write individual country reports. Data from all countries were later aggregated and analyzed descriptively to generate the statistics that are presented in tables and Figures in the findings.

3.7 Ethical Considerations

All research teams ensured that research processes adhered to the highest ethical standards possible. After explaining the purpose and nature of the study, respondents' consent and voluntary participation was sought before being interviewed. Consent was obtained verbally, and where participants were unwilling to be recorded, researchers took notes, which were destroyed after submission of the final report. All interviews were conducted in environments deemed safe by interviewees. Participants were also guaranteed anonymity and confidentiality in the use, management and reporting of findings. Therefore, researchers expunged any personal identifiers including names of work places or venues where interviews were conducted. In reporting findings, participants are referred to as experts or given other workrelated designations.

3.8 Study Limitations

Given the nature and sensitivity of the study, data collection was hampered by many limitations as described below.

- Low response rate. Whereas country teams requested to interview a number of key informants, only a few accepted to be interviewed or honored appointments. In some countries, such as Uganda, this was attributed to timing since the research was conducted during and immediately after a highly charged and violent political election, hence many people were apprehensive. Some were very suspicious about the purposes of the research. In other countries, poor response rate was attributed to busy schedules of the would-be participants, while in some cases, it was attributed to a lengthy tool.
- Sensitivity of the study. Some questions, especially those pertaining to budget allocations, cost, and processes of procurement of DTS and their use/ deployment were perceived to be sensitive. Hence, some participants were not comfortable answering them, or even continuing with interviews once the guestions were posed. Perceived sensitivity of questions also affected response rate in online surveys because respondents were skeptical about their privacy. Sensitivity of the research also affected information requests; for example, despite making several requests, only one response was obtained from Uganda.

- Scanty literature. Given their novelty few studies have been conducted on procurement of digital technologies in the three countries. Because of this, teams struggled to get enough relevant and published literature that could inform the study adequately.
- Geographical scope. The study was conducted mainly in urban and semi urban areas. This limited views on the procurement of DTS mainly to people living in urban areas than those in the countryside.
- Delay to complete online surveys. Online surveys took longer than expected to complete. The surveys required emailing the survey link to respondents and reminding them regularly to encourage them to complete it. In Liberia, a computer or tablet was taken to some respondents to facilitate them complete the survey.
- Variations in research contexts. Despite aiming at collecting comparative data, the research was conducted in three countries with varying political, legal, social, economic and technological contexts. For example, data from Ugandan study was collected in a politically charged context, which affected willingness of potential participants to take part in the research. Organizing and coordinating the work of researchers in three countries, particularly ensuring that they all understood what needed to be done and how, was difficult and caused delays.

4. 0 Study Results/Findings

The results are presented in three sections covering core themes of the study: rationale for procuring DTS, financing and legal frameworks governing procurement of DTS; processes and methods of procuring DTS; and use/deployment of DTS.

4.1 Rationale, financing and legal frameworks governing procurement of Digital Technology Systems

This section summarizes various aspects of DTS procurement and deployment in the three study countries, including knowledge about DTS, rationale for procuring DTS, MDAs procuring DTS, the types of DTS procured and their sources, financing of procurement of DTS and international, and regional and national legal frameworks governing procurement of DTS.

4.1. 1 Citizens' Knowledge of Digital

Technologies Procured by their Governments The study focused on digital three technology systems, namely biometric, artificial intelligence, and facial recognition technologies. Therefore, the survey explored people's knowledge of government procurement of these DTS. Survey participants were asked to indicate whether they knew any government agency that had ever acquired/ procured any or all of the three DTS to facilitate security, citizenship, or the delivery of public services related to their agency mandates. Overall, only 38% of survey participants were knowledgeable about government purchase

of at least one of the three technologies. Majority of those who were knowledgeable were from Nigeria (80%). In contrast, majority of Ugandans (70%) and Liberians (88%) did not know if their governments had procured any or all of the said DTS. Approximately 56% of the participants were knowledgeable about government purchase of biometric (56%) and facial recognition technologies (52%), compared to only 8% for artificial intelligence technologies. There was a near total lack of knowledge about government purchase of facial recognition and artificial intelligence technologies in Liberia. More Nigerians were knowledgeable about their government's procurement of facial recognition (75%) and biometric technologies (73%) than Ugandans and Liberians (20% and 54%, respectively). Artificial intelligence was the least known of the three technologies perhaps because of its nature, that is, less visible than facial recognition technologies, which are on the streets, in offices and banks, or biometric technologies that are used during electioneering. Table 5 summarizes the above results.

Table 5: Citizen's awareness about government procurement of DigitalTechnology system (DTS)

Digital Technology System	Response	Uganda	Nigeria	Liberia	Total
Biometric Technologies	No	50%	27%	46%	44%
	Yes	50%	73%	54%	56%
Facial Recognition	No	38%	25%	80%	48%
	Yes	62%	75%	20%	52%
Artificial	No	83%	99%	100%	92%
Intelligence		0.5 /0	5570	10070	5270
	Yes	17%	1%	0%	8%

The above results are supported by views from qualitative interviews which indicate that participants were aware of the increase in procurement of DTS in the surveyed countries. Participants were also aware about the purpose for which DTS are being procured and the Ministries, Departments and Agencies (MDAs) involved in procuring the DTS. However, many participants in Liberia and Uganda lacked knowledge of the details pertaining to procurement of DTS such as technical specifications, mode of procurement, and cost. A cyber-security expert from Uganda illustrated: 66 ... I have ever spoken with officials from Ministry of Information Communication Technologies. I have spoken with all those Commissioners at some point in time, but they will not tell you. This is information that you can only get from CSOs

Participants from Nigeria described the evolution of DTS in their country; in particular, they recalled when they first encountered/saw

the technologies, the types of DTS procured, and how they were being used. One digital technology expert observed:

There have been quite a lot of movements particularly in trying to use these technologies to battle corruption and to enhance security. So, a lot of the early payroll automation systems relied a lot on biometrics capture. The Integrated Personnel and Payroll Information System (IPPIS) that runs the government's payroll ... relies on biometrics capture as does registration for driver's license, national identity card, voters register, sim cards for mobile phones, and so on...

^{18.} Nicholas Kayser-Bril. (2019). "Identity Management and citizen Scoring in Ghana, Rwanda, Tunisia, Uganda, Zimbabwe and China." AlgorithWatch. Berlin. Germany

^{19.} Collaboration on International ICT Policy for East and Southern Africa (CIPESA) (2020). "Technology and Elections in Uganda: A Digital Rights View of the January 2021 General Elections Policy Brief, CIPESA"

^{20.} Tom Wilson & Madhumita Murgai, (2019). "Uganda confirms use of Huawei facial recognition cameras." Accessed from https://www.ft.com/content. July 26, 2020.

In Liberia, key informants were more knowledgeable about laws and policies procurement of governing DTS than survey respondents. For example, whereas 74% of respondents in the online survey lacked knowledge of policies governing procurement, generally, 84% were unaware of laws and policies governing specifically the procurement of DTS. Almost similar results were found among those who responded to the physical survey: 65% lacked awareness of laws and policies on procurement generally, while 74% lacked knowledge of laws and policies governing procurement of DTS specifically.

4.1.2 Government MDAs Procuring, Using, and Controlling DTS

Study findings from all the three countries indicate that different government MDAs were known to procure and deploy/use DTS. However, MDAs in the security sector and those whose functions depend on having accurate information about citizens, for instance, Electoral Commissions, procured DTS more than others.

Fewer MDAs in Liberia procured and deployed DTS than in Nigeria and Uganda. These include the National Identification Registry, Ministry of Foreign Affairs, Liberia Immigration Service, Liberia National Police, and the National Election Commission. The Ministry of Posts and Telecommunications manages 86% of the DTS procured in Liberia.

Nigeria had the largest number of MDAs, which had invested in DTS, including The National Identification Management Commission (NIMC), the Federal Road Safety Corps (FRSC),

Nigerian Immigration Service (NIS), the Independent National Electoral Commission (INEC), the Corporate Affairs Commission (CAC), and Nigeria Communications Commission (NCC). Others were Federal Ministry of Humanitarian Affairs and Social Development (FMHASD), National Security Adviser (NSA), Nigerian Army, National Intelligence Agency (NIA), Department of State Services (DSS), and Nigeria Police. The major institutions managing DTS are the National Army (53%), Federal Ministry of Communications and Digital Economy (50%), National Identification Authority (49%), and Ministry of Science & Technology (41%).

In Uganda, MDAs that procured and deployed DTS in service delivery included Ministry of Defense, Ministry of Health, Ministry of Internal Affairs, Ministry of Trade, Industry and Cooperatives, Ministry of Agriculture Animal and Fisheries, Ministry of Education and Sports, Ministry of ICT and National Guidance, NITA-U, Uganda Police Force, Electoral Commission, and Uganda Bureau of Statistics procured. Survey results from the citizens indicate that the main institutions procuring and deploying DTS include the Uganda Police Force (40%), National Identification and Registration Authority (NIRA) (38%), Electoral Commission (EC) (33%), Ministry of Science and Technology (26%), and Ministry of Internal Affairs (25%).

Although government MDAs in the countries studied invested more in DTS than private sector actors, some of them such as hospitals, banks and telecom companies were increasingly investing in the technologies under investigation.

Table 6: Government MDAs known to be procuring and using AI,Biometric and Facial Recognition Technologies

Institution	Response	Uganda	Nigeria	Liberia	Total
National Police	No	60%	66%	96%	73%
	Yes	40%	34%	4%	27%
National Identification Authorities					
	No	62%	51%	85%	67%
	Yes	38%	49%	15%	33%
National Election Commissions					
	No	67%	64%	95%	75%
	Yes	33%	36%	5%	25%
National Armies					
	No	83%	48%	0%	50%
	Yes	17%	53%	0%	19%
Statehouse					
	No	93%	84%	0%	62%
	Yes	7%	16%	0%	7%
Parliament					
	No	89%	89%	0%	62%
	Yes	11%	11%	0%	8%
Ministries of Science & Technology					
	No	74%	59%	0%	48%
	Yes	26%	41%	0%	21%
Ministries of Communications and Technology					
	No	0%	50%	0%	11%
	Yes	0%	50%	0%	11%
Ministries of Internal Affairs					
	No	75%	90%	0%	55%
	Yes	25%	10%	0%	14%

21. Collaboration on International ICT Policy for East and Southern Africa (CIPESA). (2020). "Technology and Elections in Uganda: A Digital Rights View of the January 2021 General Elections Policy Brief, CIPESA."

In Nigeria, data from the Nigeria Open Contracting Portal (NOCOPO) for the threeyear period (2018-2020) indicates that among the specified users of DTS, the Accidents Investigations Bureau (AIB) is the largest procurer/user of Digital Technologies. The AIB is responsible for investigating any civil aircraft accident or serious incidents arising out of or during air navigation and occurring

within Nigerian airspace, or on the Nigerian aircraft elsewhere. Between 2018 and 2020, AIB spent about 5 billion Naira on DTS, with nearly 3 billion Naira spent on monitoring technologies. The AIB is followed by the Federal Ministry of Works, Power and Housing and the Nigerian Communication Commission (see Figure 4).



Figure 4: Most Significant Users of DTS in Nigeria

4.1.3 Reasons for Procuring DTS in Public Institutions

Results from qualitative interviews suggest that DTS are procured for different purposes aimed at improving the quality of governments' service delivery and enhancing MDAs' capacity to deliver on their mandates. For example, in Liberia, DTS have been deployed in human resource management, issuance of passports and identity cards, and National Elections, specifically to remove individuals who register multiple times. Whereas DTS have also been procured and used in the management and monitoring of elections in Uganda, their deployment has been for surveillance, safety and security, information and data management, financial management, traffic management and control, management of procurement, citizen

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DTS help UPF to fulfil their motto [mandate] of keeping law and order. CCTV surveillance system that UPF is using is helpful in curbing crime and improving city security ... [which assist in] facial identification of suspected persons, monitoring of traffic and motor identification. Additionally, forensic, ICT and DNA equipment are helpful in the field of investigations.

In Nigeria, digital technologies were procured primarily for the following purposes: citizen identification management, information and data management, voter registration/ election management, financial management, human resource management, procurement management, e-governance, fraud management, surveillance, safety, and security.

The above responses are backed by survey findings, which reflect citizens' perceptions on governments' procurement of DTS: promotion of security, personal identification, promotion of safety, efficient delivery of service, and promotion of citizenship and democracy. Promotion of security, safety, personal identification, and efficient service delivery were more frequently cited in Nigeria than in Liberia and Uganda, while personal identification and promotion of security outweighed other purposes in Liberia. In Uganda, there was almost equal emphasis on promotion of security, safety, citizenship and personal identification as the main reasons for procuring DTS, followed by efficient service delivery. Figure 5 illustrates the purposes for procurement of DTS across the three countries.



Figure 5: Citizens' perceptions on the purpose(s) for which their Governments Procure DTS

However, careful analysis of the circumstances triggering procurement of DTS reveals important political considerations that influence procurement of DTS. For example, the political crisis of 2011 in Uganda labelled the "Walk to Work Campaign" led by prominent opposition politicians led to the purchase of a spy malware called FinFisher, while the assassination of high-ranking government, political, religious and military Figures in 2017 led to the purchase of CCTV cameras and other surveillance systems to improve security . A civil society expert made the following observations in line with the foregoing:

Uganda has evolved in the area of ICT. This development emanated from issues to do with crime in cyberspace. For example, registration of SIM cards arose from perceived fear after 2011 elections

... of course, one can [ask]: ... was procurement of DTS in Uganda based on evidence of crime or rather perceived fear of what was happening in the digital space? ... I believe that the government did not take interest to understand the nature of the issues that they were grappling with, but rather the fear of what was happening in the digital space.

Based on the service delivery, security, safety and political issues above, it is no surprise that three quarters of all respondents believed that governments were justified to procure DTS. With 73% of the Liberian sample agreeing that their government was justified to invest in DTS, followed by more than 70% in Nigeria and Uganda, the value attached to DTS by the population cannot be overemphasized. Only 13% of the respondents felt that there was no justification at all for governments to invest in DTS as shown in Figure 6.



Figure 6: Governments Justified to Procure Digital Technology Systems

4.1.4 Funding for Procurement of DTS

The main sources of funding for the procurement of DTS across the three countries are the national budget (annual tax revenue), and donor support (Overseas Development Assistance (ODA) or loans). The Uganda government committed more of her funds to procurement of DTS than from donor support. According to one participant, government funding for DTS constituted 75% of the total cost while donors contributed 25% in their sector. The government financed purchase of hardware while donors raised funds for software.

In Nigeria, annual tax revenue collected by the Federal Inland Revenue Service (FIRS) is matched by donor funds to procure DTS. However, donor agencies like the European Union (EU) and the World Bank fund specific projects. For example, the E-Procurement system and national identity management system were funded by the World Bank. Similarly, despite receiving donor support for procuring specific components of DTS, most procurements in Liberia are sourced from the National Budget. Donor funding for government agencies is separate from budgetary allotments; in Nigeria, donors fund some or all of the components of DTS. Currently, the European Union is funding the process of setting up a data collection center for police stations across the country.

Given that most funding for procurement of DTS is drawn from annual tax revenues, the study investigated whether procurement is part of national expenditure frameworks, that is, whether it is in the study countries' annual plans. It was found out that procurement of DTS was in line with national procurement plans. For instance, a participant in Uganda remarked:

Yes, you cannot procure something outside the budget of Uganda Bureau of Statistics (UBOS). We do not have such discrepancies. With IFMIS, you cannot misallocate money. Money is spent only on an element in the plan. Similarly in Nigeria, whatever DTS are procured must be included in annual budgets of departments in every MDA, which are prepared at the beginning of the financial year. These procurements follow Nigeria's Procurement Act of 2007.

However, there was no clear information on the expenditure frameworks associated with the procurement of DTS by the Liberian government. The budget lines representing allocations for goods and services acquired by government agencies were incomprehensible.

4.1.5 International and National Legal Frameworks on Procurement and Use of DTS in Africa

Procurement of digital technologies in Africa is governed by international, regional and national legal frameworks. In particular, the procurement of DTS in the surveyed countries is governed by the following international legal frameworks: The United Nations Commission on International Trade Law (UNCITRAL), Model Law, United Nations Conference on Trade and Development (UNCTAD), Framework for Information and communications Technology (ICT) Policy Reviews, and African Union Convention on Cyber Security and Personal Data of 2015.

The United Nations Commission on International Trade Law (UNCITRAL) Model Law on Public Procurement offers global standards for public procurement. Our findings indicate that public procurement of any commodity in the three countries tends to borrow from these standards.

At the regional level, the African Union Convention on Cyber Security and Personal Data of 2015 offers guidance on how DTS should be used in different African countries. This regional instrument has informed many DTS-related policies in several African countries as noted by a cyber-security expert in Uganda:

Definitely, I think there are many international instruments [that assess the procurement and use of DTS]. But on the African continent, there is the African Union Cyber Security convention of 2015 that obliges State parties to respect human rights in the use of these technologies. In fact, most of the cyber security policies of many African Countries draw from the African Union Cyber Security Convention of 2015. The challenge is whether the laws are followed or not ...

At the national level, procurement of DTS in Uganda follows the Public Procurement and Disposal of Assets Act (PPDA) of 2003, while in Nigeria the Procurement Act of 2001 and the National Information Technology Development Act (NITDA) whose guideline governs the registration of ICT service providers and contractors for the delivery of ICT services to MDAs is relied upon. In Liberia, the Public Procurement and Concession Act (PPCA) is followed. However, over half of the respondents from the three countries were unaware of the existence of the above laws. In fact, a significant majority (70%) in Liberia were unaware of the PPCA. It is noteworthy that in addition to over half of the sample that was completely unaware about the laws, an additional 35% was somewhat aware. This leaves about only 15% that were aware, which is significant in matters pertaining to ensuring openness and transparency in government procurement of DTS or other services and goods. The above results are illustrated in Figure 7.

 AFIC. (2016). The quest for value for money in Public Procurement in Oganda. https://air 24.

^{23.} 24.

Unwanted Witness, (2019), "State of Digital Rights in Uganda 2019. Report." Unwanted Witness, Kampala, Uganda
 AFIC, (2018), "The Quest for Value for Money in Public Procurement in Uganda," https://africafoicentre.org/reports-publications/



Figure 7: Awareness of Laws and Policies on DTS

In addition to lack of awareness of national laws among citizens, governments in the study countries lacked special laws on procurement of DTS as well as capacity to undertake procurement. One cyber-security expert illustrated:

I spoke to Commissioners in MDAs. You could see how these agencies are quite inefficient, underresourced in terms of technical capacity, etc. ... even when they wanted to do certain things, they are handicapped because of inefficiencies, bureaucracies. You find that they are grappling with so many challenges and this, in my view, the capacity of the state institutions is not very strong.

According to participants from Nigeria, the guideline from the National Information Technology Development Act (NITDA) is too generic, hence not very effective as highlighted below:

... the guideline speaks mostly to planning and tendering around DTS in MDAs. But it doesn't speak to implementation. That is the closest thing I know that we have in Nigeria. ... the NITDA guideline was adapted for Nigeria from the normal global data privacy guidelines... and is supposed to help institutions that deal with data, especially personal data, to address issues [of] rights.

Further, despite the existence of international and national instruments, some participants lamented failure by governments to comply with them. With respect to the foregoing, a cyber-security expert from Uganda remarked:

Again, my view is that we have very good policies but not in terms of implementation. International legal frameworks are there, but ... I am not sure [how they are used]. I have previously done research on cyber security and state capacity. You could see a lot of weaknesses.

Results from the survey indicate that not only international laws are ignored, national laws are equally not complied with. For instance, 51% of the respondents from Liberia averred that their government did not adhere to existing laws on procurement. Similarly, 49% of the Ugandan sample believed that government

^{25.} Do you know whether your government has procured/purchased any of the following Digital technology systems to facilitate safety, security, citizenship, effective and efficient delivery of public services: Biometric technologies, Facial Recognition, and Artificial Intelligence?

^{26.} Which of the following government institutions are responsible for procurement and deployment/management of Digital Technology Systems in your country?

violated existing laws on procurement. Finally, about 26% of respondents from Nigeria believed that their government did not comply with laws on procurement. Most importantly, a significant number of respondents (57%) were undecided on whether governments in the study countries complied with existing laws and policies on procurement of DTS. The above results are illustrated in Figure 8.



Figure 8: Compliance with Existing Laws and Policies in the Procurement of Digital Technologies

It seems, though that the above findings contradict views from interviews with government officials who believed that they complied with the law, particularly, processes pertaining to procurement. For instance, a participant from Nigeria stated:

We don't break rules in this Ministry. The procuring of DTS starts by looking at the procurement plan, which is submitted to the procurement planning committee at the beginning of the financial year. The procurement planning is headed by the Permanent Secretary and all the major directors of the user departments. They look at the procurement plan, synchronize it and align it with the approved appropriation and then submit to the Honorable Minister. The Minister looks at it and deliberates on it. When the budget is released, everything is realigned with the budget releases. After that, we go through the cycle of advertising and awards are given to the best bidders, irrespective of who they

are. At least, they are local companies and then the works are done and [when] the job is completed, payment is done.

Similar views were expressed by participants from the Uganda Bureau of Statistics, who seemed to paint a picture of a procurement law, the PPDA, that is "too hard" to break or not comply with. This view was echoed by participants from Liberia who stated that their procurement law provided very little flexibility and discretion to a spending entity in choosing a successful bid. The procurement methods used require MDAs to follow guidelines laid down in the Act and accompanying regulations. Spending entities only have little discretion to grant a Margin of Preference designation to Liberian businesses. However, one wonders why the population had limited confidence that government agencies in all three countries complied with procurement laws, while officials believed they did!
4.2 Processes and methods of procuring Digital Technology Systems

This section discusses findings on the processes and methods of procuring digital technology systems in the three countries. It describes the architecture of public procurement of DTS, adherence to core principles of procurement, planning processes and methods of procurement, and finally, private sector involvement in procurement of digital technology systems.

4.2.1 Structure of Public Procurement of Digital Technology Systems

Procurement of digital technologies in the three countries is part of the overall architecture of procurement of all public works, services and supplies. The structure of public procurement in the three countries is very complex with various institutional layers, laws, policies and regulations for checks and balance and actors. Public procurement in Uganda is governed by the Public Procurement and Disposal of Public Assets Authority, which oversees the implementation and adherence to the Public Procurement and Disposal of Public Assets Act (PPDA). Every MDA has a Standing Committee on Procurement that oversees procurement, as well as a procurement department that undertakes actual procurement. The office of the Auditor General and Inspectorate of Government were created by Acts of Parliament to audit all public expenditures, inspect and investigate any misconduct associated with procurement or delivery of services.

In Nigeria, every MDA is expected to follow the procurement process stated in the Procurement Act of 2007. Whatever any MDA plans to procure, it must be included in the annual budget at the beginning of the year. Each department in every MDA develops a procurement plan and the plans are reviewed by a Procurement Planning Committee. The committee also conducts a market survey of the prices and availability of the items and/ or services to be procured. Depending on the monetary threshold i.e. cost of the planned procurement, the items and/or services are either advertised, sent to the Ministerial Tender Boards, or to the Federal Executive Council (FEC) for further review and approval. All MDAs have a procurement department that quides the process of procurement along with the Procurement Planning Committees and Technical Evaluation Sub-Committees which are formed during the procurement planning stage. For the procurement of DTS, technical experts are invited to be part of the procurement planning committee as noted by one participant:

In the Tender Board, there is a technical evaluation sub-committee that [carries out] technical evaluation. The composition of the Tenders Board includes the chief executive/ accounting officer/ Chairman, heads of departments as members, and a subject matter expert whether within or outside the organization. Even the procurement planning committee is made up of accounting officer/chief executive, legal department, finance and account, Planning, Research, and Statistics (PRS) department, user department, procurement department, and subject matter expert. MDAs that do not have ICT departments rely on the Planning, Research, and Statistics (PRS) Department, which has some functions of ICT. In this case, technology decisions are made by non-technical persons. Sometimes when this happens, there are errors in specifications of technologies to be procured or criteria for selection of suppliers/contractors.

In Liberia, public procurement is governed by the Public Procurement and Concessions Act, 2010. The Act imposes certain requirements on government institutions involved in procurement; for instance, it requires each institution to have a Procurement Committee comprised of five people and headed by the head of the institution or his/her deputy. As part of its duties, the procurement committee is required to constitute a Bid Evaluation Committee of people with requisite expertise to evaluate tenders solicited on behalf of the institution.

Each procurement committee is also responsible for preparing and submitting the spending entity's procurement plan to the Public Procurement and Concessions Commission (PPCC), a body responsible for "oversight responsibility to regulate and monitor all forms of public procurement and concessions practices in Liberia...monitoring procuring entities to comply with the Act of 2005 for all public procurement and awarding concessions, in order to ensure economy, efficiency, transparency and to promote competition so that Government gets value for money in using public funds." Furthermore, procurement committees are responsible for ensuring that the entity's budget aligns with its procurement plan.

Procurement plans serve as guides. They include the types of contracts that will be used, the planned delivery or implementation dates for the contracted product or services, the types of metrics that will be used to evaluate the vendor's performance and an explanation of how the procurement process will be performed. However, procurement plans submitted by spending entities which were reviewed for this study did not meet some of these minimum standards. Although each spending institution is required to submit their procurement plans every fiscal year, this is hardly adhered to. The PPCC portal which ought to host procurement plans for every entity contains plans for some, but not all government institutions.

4.2.2 Adherence to Core Principles of Procurement by Governments

The survey investigated the extent to which procurement of DTs in the study countries was perceived/known to be adhering to the core principles of procurement, notably open bidding, transparency and disclosure. Table 7 below shows that overall, 60% of respondents stated that procurement of DTs is advertised, while 44% indicated that bids are opened in the presence of bidders. Slightly less than half of the respondents (48%) stated that winners are disclosed publicly. However, over 60% of respondents in Liberia refuted the statement that bids are opened in the presence of bidders, while 76% averred that bids are not disclosed publicly.

31. Public Procurement and Concessions Act, 46(3).

^{27.} Privacy International. (2015). For God and My President: State Surveillance in Uganda. Author.

Privacy International. (2020). Huawei infiltration in Uganda. https://privacyinternational.org/case-study/3969/huawei-infiltration-uganda Accessed on 08th March 2021 at 10:56Am
 Daily Monitor. (2018). CCTV cameras finally arrive. https://www.monitor.co.ug/News/National/CCTV-cameras-Police—Kampala-Huawei-Kayima/688334-4694862-x2y7tpz/index.html Accessed on10th March 2021 at 13:10

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^{30.} Daniel Mwesigwa. (2019). "Cameras, Mobiles, Radios- Action!": Old Surveillance Tools in New Robes in Uganda. Global Information Society Watch.

Table 7: Perceived government adherence to core principles of a GoodProcurement System

Core Principle	Response	Uganda	Nigeria	Liberia	Total
Advertising of bids					
	No	37%	40%	45%	40%
	Yes	63%	60%	55%	60%
Bids opened in presence of Bidders					
	No	53%	52%	64%	56%
	Yes	47%	48%	36%	44%
Disclosure of winners publicly					
	No	37%	50%	76%	52%
	Yes	63%	50%	24%	48%

4.2.2.1 Competitiveness and Openness in the Procurement of Digital Technology Systems

Competition in procurement of DTS was reported to be minimal, regardless of the existence of laws and policies that make it a requirement and key principle for transparency and value for money in public procurement. Lack of competition is partly blamed on state interference in technical processes, in particular, influence peddling by the President or other "big" people. One key participant noted:

The PPDA Act is a good law, but it is not sufficient to address challenges that come with the State's influence in procurement processes. It is just on paper. There are some instances where it is not followed. [For example], recently ... the President ordered purchasing of motorcycles from a local company. Previously, the President lambasted the PPDA Act that it requires a lot of time, time that might not be there to procure certain commodities.

The above participant added, "procurement processes in the procurement of DTS are followed to a small extent because most of these purchases are classified. Competitiveness and openness are usually minimal." Lack of competition may be promoted by corruption or be a consequence of it given the level of complexity of public procurement processes, large amounts of funds involved, financial interests of various stakeholders, and close interaction between public officials and businesses. Public procurement is also characterized by bribery of officials, embezzlement and undue influence in needs assessment, among others (see case narrative in Box 1).

Box 1: The struggle to procure a security system for a high-level institution of government in Uganda

The fight for control of security systems of a high-level institution of government dates back to November, 2012 following a police warning to the head of the institution that there were threats against her life. The police warning, contained in a letter from the then Police ICT director, indicated that she would be attacked by explosives and bombs. A meeting was called in which she approved the purchase of ... ICT Detection Kit. At least Shs450m was approved for the purchase of the bomb detection kit (bomb jammers) which were to be installed in her official vehicles.

The money was given to the police and soon accusations started that the police took the money but didn't buy the bomb jammers. This issue became a matter of investigation by the Inspector General of Government. The disagreements would re-emerge in 2014 following the approval of UGX 28 billion for the installation of an integrated security system at the institution. The contract was awarded to a Chinese tech firm, ZTE. To ensure that the police didn't lose control, the then police boss deployed a high-ranking police officer to head the directorate of the institution's Police. Krayon (as he is popularly known) is said to have been a close associate of the police boss.

The current standoff over the control of the UGX 39 billion integrated security system for the institution's new home is also between the police and the leadership of the institution. "The whistleblower's letter to PPDA mentions Stone; that is an agent of the leader of the institution. He is her middleman, he is the one who handles deals for her," a source said.

He says that most procurements by the institution have inflated costs because some senior Figures in the institution have to get kickbacks: "Someone ate \$2million from a construction company to get the contract for construction of a new office structure. A wealthy businessman also paid someone for the institution to rent his building. You remember the institution was renting Goma House and they raised some issues against it. A prominent Ministry was also complaining about Kisangani House. The institution moved out of Goma House and it was taken over by the prominent Ministry with the approval of the institution. At the same time the institution took Kisangani House that Ministry was complaining about." Both buildings are owned by the wealthy businessman.

In Uganda, the analysis of information displayed on the Government procurement portal (GPP) for the period, 2015/16-2020/21, indicates that one company called SmartMatic has been dominating the market (see Figure 9). This raises questions as to whether this SmartMatic is a super company that cannot

be beaten by any other bidder in the world, or whether it has established the best relations with Uganda. The Company was awarded two contracts to deliver voter biometric equipment for the 2016 and 2021 general elections; both contracts were worth Uganda Shillings 44 billion.

Figure 9: Top suppliers of Digital Technologies in Uganda (2015/16-2020/21)



In Nigeria, the analysis of data from the Nigeria Open Contracting Portal (NOCOPO) for the three-year period (2018-2020) indicates that of the specified DTS suppliers, ICST solutions, an American firm, has primarily been the biggest beneficiary of DTS contracts. Most of the suppliers (see Figure 10) are either unknown or international with contract values above that of ICST by more than half.

Figure 10: Biggest suppliers of DTS in Nigeria (2018-2020)



There were contradictions regarding the extent to which processes aimed at ensuring openness and competitiveness as enshrined in the law were adhered to. Some public officials claimed that procurement of DTS follows the law while others raised some concerns. For example, as noted earlier, some public entities failed to submit their procurement plans to the PPCC in Liberia contrary to the law. In contrast, two contradictory scenarios were discerned from the Nigerian case: whereas one official insisted that procurement in the country is open, another one underscored that openness depends on the service being procured and availability of service providers. An interview with one government officer is revealing:

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It is very open. It is advertised as stipulated in the
Procurement Act. Whatever is a flaw in the Procurement
Act will be the flaw in our procurement process because
that is the law that guides every government entity in
procurement.
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It depends. If there are competent companies that can do that, then there will be advertisement and the competition is very clear. So, I think it is open but not very open.

Box 2: Case Narrative on the National Backbone and E-government Infrastructure (NBI), and Regional Communications Infrastructure Program (RCIP)

In 2018, operatives working for the Internal Security Organization (ISO) exposed procurement flaws in a \$75 million World Bank-funded internet connectivity infrastructure project-Regional **Communications Infrastructure Program** (RCIP). The project was implemented by a national technology agency, and was intended to improve government's efficiencv and transparency through e-government applications as well as lower internet connectivity prices and extend the geographical reach of broadband networks.

The procurement was initiated on August 3, 2017 after a national tech agency ran an advert in the New Vision inviting bids to implement the project. The bid attracted six companies: Wanainchi Telecom, ZTE, Camsat, Banwidth & Crown services + Wuhang Fiber Home, Raubex Infra (Pty) and Huawei. While Huawei submitted the highest bid price of \$15.8 million (about UGX 57.7 billion), it has since emerged as the favored company for the project. According to a whistle-blower, Huawei had been shortlisted along with another Chinese telecommunications company, ZTE, whose bid price was \$8.6m (UGX 31.3 billion). The whistle-blower said by the close of business on January 15, 2018, ZTE had been dropped. Under normal bidding processes, the source said, Huawei would have been dropped by virtue of being the highest bidder. The lowest bidder was Camsat whose bid price was \$8.2m (UGX 29.9 billion).

This deal revealed connivance between Huawei and some government officials in

the ICT sector. Huawei's history in doing business with the government can be traced from early 2000s but according to some observers, its dealings have been tainted by corruption scandals. For instance, on June 26, 2013, the Auditor General. John Muwanga, wrote to President Yoweri Museveni following a special audit of the national backbone and e-government infrastructure (NBI) project noting that Huawei caused government a loss of \$41.9 million. "From our different consultations with other telecoms as well as our review of the bills of quantities for this project, we conclude that the project price was grossly inflated. There was a lot of unnecessary equipment that was deployed to the different transmission stations some of which is still not being used to date. We also noted that the cost of fiber per kilometer was significantly higher than that for many of the local operators in Uganda based on the review of bills of quantities of some of whom have also had Huawei implementing their optic fiber cable projects," the Auditor General wrote.

The NBI project covered 2300kms at a cost of \$106 million. In a letter dated January 5, 2018, to the Inspector General of Government (IGG), a prominent citizen listed a number of corruption scandals where Huawei was involved. Among them is the 2009 digital TV migration worth \$74 million. "UCC used its own budget (in 2015) to implement the same project which cost only \$16 million. They (Huawei) wanted to cheat Ugandans by \$59 million," the citizen claimed.

literature shows that the In Uganda, government spent colossal amounts of money to procure a security surveillance system disguised as a pornography detection system. Furthermore, procurement contracts of some digital technologies in some government agencies like the military, and intelligence services have not been put in the public domain. These systems are procured using classified expenditure budgets inaccessible to the public. Whereas these expenditures are supposed to be audited by the Auditor General and reviewed by the Parliamentary Defense and Internal Affairs Committee, no detailed report on how they have been assessed has ever been seen . In addition, procurement of the Biometric Voter Verification Kit by the Electoral Commission was also not open to the public. Lastly, details of how Huawei got a contract from Uganda Police Force to supply and install surveillance equipment remain outside the public purview. Nonetheless, some nefarious dealings by this company pertaining to other large procurements have leaked to the public according to the case narrative in Box 2.

The above issues are backed up by survey results from the three countries, which indicate that 67% of survey participants in Uganda, 63% in Liberia and 57% Nigeria believed that bidders are not given equal chances during the procurement of DTS. On average, over 64% of respondents believed that some bidders are more favored than others. Only 16% respondents across the three countries thought that bidders were given equal chances during procurement of DTS.

Figure 11: Do you agree or disagree that bidders in your country are given equal opportunities in the procurement of digital technology systems



4.2.2.2 Transparency in the **Procurement of Digital Technology** Systems

The research sought respondents' opinion on their governments disclose information regarding procurement of DTS and the findings are presented in Figure 12.

They show that few respondents (25%) agreed that governments disclose information on procurement of DTS, while 52% disagreed, and 23% were neutral. In the case of Liberia, over 40% of respondents disagreed with the statement that government discloses information on procurement of DTS.



Figure 12: Do you agree that your government often discloses all the necessary information regarding the procurement of DTS?

The survey also investigated respondent's opinions regarding whether they considered government procurement of DTS to be transparent. As Figure 13 below indicates, over half of them disagreed or strongly disagreed with the statement that there is transparency

in procurement of DTS. Only 16% thought there was transparency in procurement of DTS. Over 60% of respondents in Uganda and Liberia disagreed that there was transparency in the procurement of DTS.

lbid 45 32

- 33. Public Procurement and Concessions Act 2010 s 26. 34. ibid 30.
- 35.
- https://www.ppcc.gov.lr/2content.php?sub=104&related=1&third=104&pg=sp
- Does government procurement of digital technologies involve advertising, opening bids in the presence of bidders and disclosure of the best bidder?



Figure 13: Do you agree or disagree that procurement of DTS to be transparent?

In Uganda, where national budget and expenditure data on DTS were available, the analysis of annual government and expenditure budgets for five successive financial years (2015/16-2020/21), and the disclosure of procurement information on the GPP indicated a significant gap between the standard public procurement regulations and actual procurement information disclosure. Whereas the Uganda government spent about 60% of the national budget on public procurement, as shown in Figure 14, less than 10% of public procurement expenditure is published on the Government Procurement Portal (GPP).

Figure 14: Annual budget and expenditure on ICT for Uganda (2015/16 – 2020/21



Source: Based on data from the Uganda Government Procurement Portal (GPP)

Further analysis of the GPP data (see Figures 10 and 11) shows that Financial year 2015/16 compared to subsequent years registered the highest level of disclosure of procurement contracts involving the purchase of DTS worth over 71 billion UGX, followed by FY 2017/18,

and FY 2018/19 representing the least in expenditure on DTS. The main reason for this sharp difference between FY 2015/16 and the rest of the year indicated in Figure 15 and Figure 16 is the Electoral Commission related procurements ahead of the 2016 elections.

Figure 15: Disclosure of procurement contracts for DTS by Financial Year (based on available data on the GPP)



In addition, the analysis of the GPP data shows that UGX3.3 trillion was Budgeted for ICT and digital technologies in the financial years 2015/16-2020/21 (a period of 6 years), and only 197 billion was disclosed. In contracts relating to the procurement of ICTs, 73 billion was for surveillance and digital tracking.

The analysis further indicated that only 9 of the 254 entities existing on the GPP have in the past five years disclosed contracts involving the procurement of ICTs, including DTS. These PEs are listed in Figure 16 and include among others the Electoral Commission, Office of the prime Minister, Directorate of Citizenship and Migration control, and the Ministry of Public service. The respective contract values are also indicated, with the Electoral Commission having the highest at 71 billion and the Law development Centre having the least at 0.007 billion.

Figure 16: Entities Disclosing DTS Contracts Between FY 2015/16-2020/21.

Electral Commission		71.06828B
– Office of the prime minister	2.618538B	
– Directorate of Citizenship and Immigration Control	1.537592368B	
Ministry of Public Service	0.26345B	
Uganda Communications Commission	0.249028685B	
– National Information and Technology Authority	0.196495488B	
Directorate of Government Analytical Laboratory	0.19578088B	
UGANDA POLICE FORCE	0.14887B	
LAW DEVELOPMENT CENTRE	0.070387B	

ContractValue (Sum)

A total of 31 official information requests (20 in Uganda and 11 in Nigeria) were filed in respect to the access to information laws, which grant a right for citizens to access public information. In Uganda, the Information Requests were filed with: (i) the Uganda Electoral Commission, (ii) Parliament of Uganda, (iii) Ministry of Internal Affairs, and (iv) Uganda Police Force to examine among others their procurements (see Table 8). According to Uganda's Access to Information Act 2005, once a request for information is received by any agency/MDA, it should be responded to within a period of 20 days. Interestingly, only the Ministry of Internal Affairs gave positive feedback in

terms of actual provision of the information requested and in such a short time (4 days); the rest of the MDAs did not respond at all (see Table 8). The information received from the Ministry of Internal affairs was 100% of what was requested. It included (i) approved procurement plan for FY 2019/2020; (ii) tender notices for the supply of a CCTV Closed Circuit TV System Video Surveillance for Ministry of ICT and National Guidance Head Office, 2020; (iii) Best Evaluated Bidder notice for the supply of a CCTV Closed Circuit TV System Video Surveillance for Ministry of ICT and National Guidance Head Office, 2020; and (iv) a copy of contract for the supply of a CCTV Closed Circuit TV System Video Surveillance.

Table 8: Filed Information Requests

SN	Information requested for	Agency from which the information was requested	Date of submission	Date by which the information should have been received	Status
1.	Approved procurement plans for the financial year 2014/15, 2015/2016, 2018/19.	Electoral Commission of Uganda	30 March 2021	28 April 2021	No Response
2.	Tender notice for the procurement of biometric verification services for general elections 2016 and 2021.	Electoral Commission of Uganda	30 March 2021	28 April 2021	No Response
3.	Best Evaluated Bidder notice for the procurement of biometric verification services for general elections 2016 and 2021	Electoral Commission of Uganda	30 March 2021	28 April 2021	No Response
4.	Copies of contracts for the procurement of biometric verification services for general elections 2016 and 2021.	Electoral Commission of Uganda	30 March 2021	28 April 2021	No Response
5.	Any reports of complaints that could have risen out of these procurement processes	Electoral Commission of Uganda	30 March 2021	28 April 2021	No Response
6.	Regulations on data protection by Electoral Commission of Uganda	Electoral Commission of Uganda	30 March 2021	28 April 2021	No Response
7.	Approved procurement plans for financial year, 2019/20, 2020/21.	Parliament of Uganda	30 March 2021	28 April 2021	No Response
8.	Tender notices for the supply, delivery and installation of internet dual projector digital presentation system for the conference.	Parliament of Uganda	30 March 2021	28 April 2021	No Response

9.	Tender notices of the procurement of audio video materials between 2016 and 2019.	Parliament of Uganda	30 March 2021	28 April 2021	No Response
10.	Tender notice for the supply, delivery and installation of automatic camera tracking and conversation countdown 2018.	Parliament of Uganda	30 March 2021	28 April 2021	No Response
SN	Information requested for	Agency from which the information was requested	Date of submission	Date by which the information should have been received	Status
11.	Tender notice for the supply of camera and accessories for office for the Speaker of Parliament 2020.	Parliament of Uganda	30 March 2021	28 April 2021	No Response
12.	Best Evaluated Bidder notice for supply, delivery and installation of internet dual projector digital presentation system for the conference.	Parliament of Uganda	30 March 2021	28 April 2021	No Response
13.	Best Evaluated Bidder notice for the supply, delivery and installation of automatic camera tracking and conversation countdown.	Parliament of Uganda	30 March 2021	28 April 2021	No Response
14.	Best Evaluated Bidder notice for the supply, delivery and installation of automatic camera tracking and conversation countdown.	Parliament of Uganda	30 March 2021	28 April 2021	No Response
15.	Best Evaluated Bidder notice for the supply, of camera and accessories for office for the Speaker of Parliament.	Parliament of Uganda	30 March 2021	28 April 2021	No Response

16.	Copies of contracts for the following procurements: supply, delivery and installation of internet dual projector digital presentation system for the conference; supply, delivery and installation of automatic camera tracking and conversation countdown; - supply, delivery and installation of automatic camera tracking and conversation countdown - supply, of camera and accessories for office for the Speaker of Parliament.	Parliament of Uganda	30 March 2021	28 April 2021	No Response
SN	Information requested for	Agency from which the information was requested	Date of submission	Date by which the information should have been	Status
				received	
17.	Approved procurement plans for 2011/12, 2012/13, 2013/14,2014/1 5,2015/16,2016/17,2017/ 18, 2018/19.	Uganda Police	6 April 2021		No Response
17.	plans for 2011/12, 2012/13, 2013/14,2014/1 5,2015/16,2016/17,2017/	Uganda Police Uganda Police	6 April 2021 6 April 2021	received	-

20.	Approved procurement plan for FY 2019/2020	Ministry of Internal Affairs	26 April 2021	29 April 2021	Information Request Received
	Tender notices for the supply of Procurement of 03 Laptops 03 Audio Recorders 03 Video Recorders For NGO, 2019				
	Best Evalauted Bidder notice for supply of Procurement of 03 laptops 03 audio recorders 03 video recorders for NGO, 2019.				
	Copy of contract for the supply of a Procurement of 03 laptops, 03 audio recorders 03, video recorders for NGO, 2019				

In Nigeria, information requests were filed with eleven (11) MDAs covering among others procurement plans of the MDAs, lists of contracts awarded within 2018-2020, copies of regulations governing the procurement and use of DTS, bid evaluation and performance reports. Of the eleven MDAs to whom the requests were made, only three (3) responded to the request within the statutory timeframe. Whereas these MDAs responded to the message that was sent, the actual information requested was not received in a timely manner.

4.2.3 Planning Processes and Methods of Procuring Digital Technology Systems

1. Planning

In all the three study countries, laws and guidelines exist to inform planning and execution of any procurement. All the MDAs that intend to procure any DTS item/ service including DTS must have included such procurement in their annual budgets. According to the policies, procurement planning committees are set-up at every MDA, whose role include among others undertaking quick market surveys to establish the prices for the services and/or goods to be procured and ensuring that these are considered while budgeting for whatever is to be procured.

2. Methods of Procurement

The procurement methods vary in all the countries depending on the prices of the items or services to be procured. In Uganda, MDAs purchase DTS mainly via quotations, microbidding, open bidding, restricted domestic bidding, direct procurement and restricted tendering. Moreover, public agencies usually advertise through national newspapers or their websites. A review and analysis of the information that was submitted to AFIC by the Ministry of Internal Affairs also confirmed that request for quotations and proposals may be a common approach to procurement of DTS for the possible reason that the funds involved (about 28 million Uganda Shillings) were small. Furthermore, the analysis confirmed that delays in completion of a procurement cycle 'can be circumstantial'. The review further indicates that sittings for procurement committees tend to delay and henceforth, the cycle is delayed. Similarly, the analysis of information on the GPP indicate that of all published procurements between FY 2015/16 and 2020/21, the Request for Proposal/quotations (RFP/Q) is the most commonly used method for procuring DTS constituting 82.4% [see Figure 17]. This method allows limited competition and is prone to influence peddling and other forms of corruption in procurement





The above findings on the commonly applied methods of procurement in general and DTS in particular, point to a great risk of collusion, corruption and influence peddling. These findings are validated by opinions of key informants who also observed that in the procurement of DTS, competitive bidding is a challenge, and that market surveys might not even be applicable because big suppliers can easily collude. In Nigeria, the default method of procurement is open competition. But other methods of procurement depend on the kind of project that would include selective tendering, snow sourcing, tendering, restricted tendering open and direct procurement. This perhaps explains the difference in expenditure on similar technologies across the studied countries. For instance, as earlier indicated procurement flaws in the supply of services for the production of National Identity cards in Uganda resulted into huge losses when compared to a similar service in Nigeria; the report indicated that 401 National Identity Cards were printed at a cost of 240 billion Uganda shillings an equivalent of USD 67.2million, compared to Nigeria that printed 73.5 million permanent voter cards (PVCs) using the same technology at the cost of USD 31.8 million

In all the three countries, procurement committees may constitute a bid evaluation sub-committee of persons with requisite expertise to evaluate tenders that are solicited on behalf of the institution. This emerged to be the major strategy adopted in all the countries with regard to planning and procurement of DTS. However, if this is not done, then a subject matter expert in relation to what is being procured is engaged to become part of the committee as earlier indicated. The findigs also indicated that procurement items that do not require a lot of money are subjected to restricted domestic bidding. In fact, this method was preferred because of its swiftness in terms of time compared to others.

In Nigeria, the study noted that that MDAs that do not have ICT departments rely on the Planning, Research, and Statistics (PRS) Department in those specific MDAs which have some of the functions of ICT. In such cases, technology decisions are made by non-technical persons within the MDAs and when this happens, there can be errors in the specifications of the technology to be procured or in the criteria for contractors. Some MDAs in Uganda and Liberia were said to have procurement/framework agreements allowing them to procure from one supplier for several years without going back to the start of a procurement process so as to identify new suppliers/providers.

4.2.3.1 Attracting Bids for in the Procurement of Digital Technology Systems

Data on the number of bids attracted per DTS tender was more available in Nigeria where, on average, MDAs receive up to fifty (50) bids per tender for DTS projects as remarked in the following observation in a KII interview:

... It depends on the kind of procurement. If it is the procurement of computers, that does not need expertise, we could have up to 100 bids. When we need something with a lot of expertise like networking, databases, etc., we may be talking about 20-30 bids. So, it all depends on the kind of procurement.

Given that DTS tend to be highly specialized projects, it was found out in all the countries that the number of tenders tends to be low in such circumstances, despite whatever method of procurement is used. In respect to this finding, a KII in Nigeria observed as follows: ... if the system is highly specialized, the competition is limited. Using the E-Procurement project as an example, which is an international competition, we got only 16 bids because of the specialized nature because not everyone can have specialized equipment/services.

Data on the duration of the procurement processes of DTS was also obtained in Uganda. The timing of the procurement was reported to be relative to certain circumstances contract committee approvals or expiry of the notice of best evaluated bidder (BEB). Procurement might take just a week, while at other times it would take four months or more despite the regulations that give specific time limits. It seemed that the duration depended on the urgency and type of DTS. Small DTS took shorter time to procure than big and highly costly ones.

This study identified concerns about efficiency in the procurement of DTS in Uganda and Nigeria. In Nigeria and Uganda, it was revealed that the allocation of funds for DTS procurement did not align with the priorities and plans of MDAs due to the inadequacy of funds. The amounts released for the procurement of digital technologies were usually not sufficient partly because of difficulties in undertaking proper market research or attending to emergencies. Owing to this, delays in procurement and/or deployment of the technologies existed as remarked in the following extracts from KIIs in Nigeria:

There is a need for you to understand government budgeting. For example, government budgeting states that the Ministry of Communications has N4Billion. You will have to prioritize all the Ministry's activities for that amount; definitely, you don't expect the chunk of the money to go to DTS, especially when you are competing with other departments So, what you do is to prioritize your digital technology project based on what they have allocated you so that you can know how to spend it. With regard to that, the amount will not be enough. All you need to do is prioritize your projects.

For me, I'd say maybe it is about priorities. We might ask for something in the budget and the government decides that perhaps it is not important; then, they may not be able to [provide for it]. I think that it is also about budgeting, the Budget Office will have to look at the proposed budget and most of the time we don't necessarily get what we want, even when we get it, we don't necessarily get the releases of funds as at when due. So, I think it is about priority.

Similarly, questions surrounding value for money in the procurement of digital technologies in Uganda are discernible from the review of reports. For example, a report investigating the supply, delivery, commissioning and installation of Digital Terrestrial Television Broadcasting system found out that Digital Migration 4 Africa (Pty) Ltd (DMSA), which had been hired by the Uganda Communication Commission (UCC) to offer consultancy services in procurement was eventually not involved in the procurement process. The report further noted that DMSA did not participate in the evaluation process; some members of the evaluation committee did not sign the evaluation report and the evaluation process was not conducted in accordance with the requirements of the solicitation document by the Public Procurement and Disposal of Public Assets of 2012.

Relatedly, concerns of accountability in the procurement of CCTV cameras from Huawei were noted. A local civil society organization was quoted: "We have long been concerned with the lack of transparency and accountability in the government's Similarly, questions surrounding value for money in the procurement of digital technologies in Uganda are discernible from the review of reports. For example, a report investigating the supply, delivery, commissioning and installation of Digital Terrestrial Television Broadcasting system found out that Digital Migration 4 Africa (Pty) Ltd (DMSA), which had been hired by the Uganda Communication Commission (UCC) to offer consultancy services in procurement was eventually not involved in the procurement process. The report further noted that DMSA did not participate in the evaluation process; some members of the evaluation committee did not sign the evaluation report and the evaluation process was not conducted in accordance with the requirements of the solicitation document by the Public Procurement and Disposal of Public Assets of 2012.

Relatedly, concerns of accountability in the procurement of CCTV cameras from Huawei were noted. A local civil society organization was quoted: "We have long been concerned with the lack of transparency and accountability in the government's procurement, installation and application of surveillance gadgets and software, both with and without Huawei". Data on efficiency in procurement was not readily obtained in Liberia.

4.2.3.2 Efficiency of Bidding Processes for Procurement of Digital Technology Systems

Just as many other public procurements in Africa are not totally immune from inefficiencies, procurement of DTS were also found to suffer these inefficiencies. For example, the analysis of available information on the Uganda Government Procurement Portal (GPP) indicated that some of the procurements for DTS undertaken between Financial Year 2015/16-2020/21 8suffered cost overruns, namely the final prices of the contracts exceeded the initial prices. The findings as presented in Figure 18 show that of the 17 contracts had cost overruns, representing 53% of the contracts awarded.



Figure 18: Percentage of contracts in Uganda that suffered costoverruns compared to those that did not

37. Organization for Economic Co-operation and Development (OECD). (2016). "Preventing corruption in Public Procurement." Article. Author

Organization for Economic Co-operation and Development (OECD). (2016). "Preventing corruption in Public Procurement." Article, Author.
 Daniel Mwesiowa. (2019). "Cameras. Mobiles. Radios- Action!": Old Surveillance Tools in New Robes in Uganda. Global Information Society Watch.

Daniel Mwesigwa. (2019). "Cameras, Mobiles, Radios- Action!": Old Surveillance Tools in New Robes in Uganda. Global Ir
 Privacy International. (2015). For God and my President: State Surveillance in Uganda. Author.

Other factors that breed inefficiency in procurement of DTGS include failure to get the required digital systems in the market due limited capacity of procurement entities, delayed disbursement of funds from the government, miscommunication between IT and procurement departments, and ringfencing of suppliers by some institutions. The level of expertise of government MDAs Procurement of Digital Technology in Systems was reported to be an important factor in influencing the level of efficiency in procurement. In Uganda and Nigeria, the lack of capacity in some departments of MDAs was highlighted in interviews with Key Informants. For example, a key informant in Uganda revealed:

What I can say is that government MDAs grapple a lot with issues of capacity, especially capacity of individuals. When I was speaking with these commissioners, they reported that capacity of individuals needs to be enhanced. Problems of cyber security/threats that these MDAs were facing were occurring at the level of individuals, largely because of lack of personal IT etiquette. [Asa result] they recommended capacity building for individuals. There was a need to employ experts who would continuously enhance capacities of individuals.

Available literature pointed to the possibility non-procurement specialists could that be involved in the procurement of digital technologies in Uganda; the explanation is that procurement departments of the MDAs lack expertise in DTS. In other cases, the MDAs rely on suppliers' explanations about what quality or type of technologies could suit their specific needs. The findings point to the need for capacity building in relation to the human resource development in terms of training and capacity building for staff to handle emerging fields in DTS.

Findings also showed that risks, which include failure to get the required digital systems in the market, delayed disbursement of funds from the government, small budgets for DTS, and miscommunication between IT and procurement departments. Ring-fencing of suppliers by some institutions also affect efficiency levels in procurement. One key informant in Uganda revealed:

You may advertise and not get what you want in the market; there is also a risk of not getting the money on time-sometimes money is released in partial installments; sometimes, your specifications are not very well prepared by the IT personnel that suppliers fail to supply you with what you want. Some MDAs have ring-fenced certain suppliers.

Study findings also revealed other risks associated with e-procurement generally.

These included high cost and insecurity. Findings in some countries revealed how some agencies conducted impact assessments, and at different stages of strategic, operational and tactical, depending on the nature of the agency. For example, an interview with a key informant from security services in Uganda revealed:

For us in security, we usually conduct impact assessments. We do it at different levels, strategic, operational, and at tactical level.

Few responses to this question were obtained because study participants lacked enough information on procurement specifics of different digital technology systems.

This framework conducts national assessments of strategies and infrastructure around digital technology systems. A policy expert from Nigeria stated:

Apart from the fact that when systems are to be put in place, they are advertised openly like every other government procurement. They are assessed on how effective they have been; people do end-user assessment. For instance, organizations like the World Bank do assessments and evaluations of the technologies that they funded and I think as an example, they found out that the majority of the projects that they funded did not meet the expected outcomes and deliverables and they tended to overrun in cost and time. So, people do evaluations of what they procure all the time. Just like when they evaluate when they do any sort of procurements: Did it arrive on time? Did it meet the objectives for which it was procured? Are customers happy with it? That's what happens as far as I know.

4.2.4 Local Private Sector Involvement in Supply of Digital Technology Systems to Government

The private sector has been involved in Uganda and Liberia; however, it must be noted that this is not the local private sector. For instance, DTS in Uganda have been procured from foreign countries. The reasons behind little local private sector involvement in the supply of DTS to the government included lack of technical expertise and small financial muscle to supply DTS. For example, a key informant interview in Uganda revealed,

"The local private sector is less involved because it lacks technical expertise in digital technologies and lacks the financial muscle required to supply DTS"

Relatedly, another key informant noted, "Local players supply hardware but not the central system requirements; apart from capacity issues, the system cannot be trusted in terms of being secure."

This study observes that the potential for PPPs in the procurement and supply of DTS in Africa has not been tapped. The findings reveal inadequate participation of local companies in the procurement and supply of DTS in Africa not only in number but also in terms of total contract values of local firms compared to those of international suppliers. For instance, available data from the Government Procurement Portal in Uganda indicates that consultancy services and supply of goods and services constituted the main types of procurements associated with DTS. However, as shown in Figure 19, out of the 17 DTS contracts awarded in the period between Financial 2015/16-2020/21, only 2 (12%) were for consultancy services, while the majority were awarded for the supply/delivery of goods and services but these differed in contract value and supplier.



Figure 19: Published contracts by procurement type

Whereas up to 71% of the contracts were awarded to local firms, these contracts mainly involved delivery of goods, with a contract value of about UGX 2.8 billion compared to 29% of the contracts which went to foreign companies but whose contract value was UGX 72.6 billion as depicted in Figure 20 and Figure 21. Part of the reasons behind limited local private sector involvement in the supply of DTS to the government included lack of technical expertise and small financial muscle to supply DTS as per the excerpts from key informant interviews:

The local private sector is less involved because it lacks technical expertise in digital technologies and lacks the financial muscle required to supply DTS. They can supply hardware but not the central system requirements and the system cannot be trusted in terms of being secure .



Figure 20: Percentage of Local vs Foreign firms winning contracts by number

Figure 21 : Percentage of Local vs Foreign firms wining contracts by Value



Percentage of Local vs Foreign firms winning contracts by value

Similarly in Liberia and Nigeria, most government procurements of goods and services were reported to be done through local private companies, although it was not possible to obtain data on the contract values involved compared to those of the international suppliers.

4.3 Use and deployment of digital technology systems

Procuring or acquiring DTS and the way they are used or deployed are two different things, yet both matter to service delivery and democracy. This section explores two themes, namely safeguards to privacy, security, inclusion and individual control, and use/ deployment of DTS. Under the first theme, results on various sub-themes, namely laws, policies and regulations governing DTS, institutional mechanisms that protect data collected through DTS, and sanctions for misuse of DTS are discussed. In contrast, the second theme explores relationships between purposes of procuring DTS and their use, underscoring findings about use of DTS and citizens' privacy and respect for human rights.

4.3.1 Safeguards to Privacy, Security, Inclusion and Individual Control in the Procurement and Use of Digital **Technology Systems**

4.3.1.1 Laws, Policies and Regulations

Governing Use of Digital Technology Systems Many laws in Uganda provide for the protection of data collected using DTS, as well as digital rights. They include the Constitution (Article 29); the Data Protection and Privacy Act (2019); the Interception of Communications Act 2010; the Computer Misuse Act 2011; the Electronic Signatures' Act 2011; the Electronic Transaction Act 2011; the Anti-Pornography Act, 2014; the NITA Act 2009; and the Uganda Communication Act 2012.

With regard to use of DTS, some countries like Uganda have enacted laws and amended others to ostensibly facilitate proper use of digital technologies. For instance, the Electoral Commissions Act, 2020 Cap 140 was amended to allow use of digital technology in Uganda's electoral processes in 2021. Currently, it reads, in part, "the commission may in the exercise of its powers adopt technology in the management of elections" (Section 12, as amended). Other laws have been amended to curb crime and corruption.

According to UNCTAD, in 2019, Uganda Free Zones Authority (UFZA) allowed establishment of a free zone to focus on block chain and emerging technologies. Uganda was the first African country to issue such type of a license. As part of this development, the Ministry of Finance, Planning and Economic Development was working on introducing regulations to govern crypto currencies. It was also reported that drones could be used in Uganda, although a law meant to regulate their use was still underway. To pave way for their use, the Civil Aviation Authority (CAA) earmarked no fly zones for them.

In response to the Covid-19 pandemic, government of Uganda approved 10,000 licenses for zoom services and received ICT gadgets from the UNDP to enable virtual government continuity during the pandemic. Similar laws and policies exist in Nigeria; for example, the 1999 Constitution of the Federal Republic of Nigeria (as amended), the Digital

^{41.} Unwanted Witness. (2021). Legalizing digital technology in Uganda's electoral process, but are privacy rights and freedoms protected? https://www.unwantedwitness.org/legalizing-digital-technology-in-ugandas-

electoral-process-but-tere-privacy-rights-and-freedoms-protected/ Accessed on 11th Feb 2021 at 15:36 hrs EAT Privacy International. (2020). Huawei infiltration in Uganda. https://privacyinternational.org/case-study/3969/huawei-infiltration-uganda Accessed on 08th March 2021 at 10:56Am

⁴³ Public Procurement and Disposal of Public Assets Authority. (2012). Investigation Report into the Supply, Delivery, Installation and Commission of Digital Terrestrial Television Broadcasting system. Investigation Report.

Rights and Freedom Act (2017), the National Information Technology Development (NITDA) Act (2007), the NITDA Data Protection Policy (2019), and the Cybercrimes Act (2015). Other laws such as the Electoral Act and the Nigerian Copyright Act provide protection against the misuse or abuse of individuals' data. The government even formed the NITDA to ensure that personal/individual data is protected as confirmed by a policy expert: NITDA is an agency under the Ministry of Communications and Digital Economy... [it] has a set of protocols which have been put in place to ensure data protection.

In contrast, there is no law or policy currently in Liberia that ensures or safeguards protection of personal data. Notwithstanding, an agency, the NIR, whose effectiveness is yet to be ascertained, has been formed and mandated to establish rules and procedures for gathering biometric data of Liberians and people living in the country. However, according to participants, there are a few laws that could be interpreted to extend to privacy and data collection involving DTS.

4.3.1.2 Institutional Mechanisms Protecting Data Collected Using Digital Technology Systems

Results indicate that the three countries have established, or are in the process of establishing institutions for protecting data collected through DTS. In Uganda, the government created the National Information Technology Authority, NITA-U, to oversee government digital platforms and set IT standards. Among others things, NITA-U is expected to offer guidance to agencies to develop institutional data protection mechanisms. A participant from NITA-U hinted that there were efforts by the agency to create a one-stop-data center, guidelines and circulars for MDAs pertaining to privacy of clients and data protection.

On the other hand, in Nigeria, government is promoting acquisition and registration of National Identification Numbers (NIN) and is in the process of creating a central database linking the NIN with all data collected by government agencies and the private sector such as the sim cards, international passports, and Bank Verification Numbers (BVN). In addition, the National Assembly is reviewing the Data Protection Bill, which, once passed, will create the Office of the Independent Data Protection Commissioner. These efforts are aimed at stemming misuse and abuse of personal data by criminals and third parties due to proliferation of databases with information on citizens.

4.3.1.3 Sanctions for Data Misuse

Sanctions for data misuse were embedded in various laws and policies as reported by participants from Nigeria, Uganda and Liberia. However, participants from Nigeria emphasized sanctions than those from Uganda and Liberia. In Nigeria, laws have sanctions that strengthen proper use of data. For instance, a participant observed that the NITDA Data Protection Policy (2019) contains civil sanctions while the Cybercrimes Act (2015) has criminal sanctions:

Under NITDA's Data Protection Policy/Guideline 2019, there are sanctions. I will call it civil sanctions not criminal sanctions because it is more [of]civil[nature]. The offender is subjected to pay 2% of the annual gross revenue of the preceding year or N10 million where the data controller is dealing with more than 10 million data subjects and perhaps leads to the data breach or infringement of privacy. If the person is dealing with less than 10 million data subjects, he will just pay 1% of the annual gross revenue of the previous year or pay N2 million. These things like I said are just civil sanctions and are not comprehensive enough; there is need for criminal sanctions against this.

When you look at the Cybercrimes Act of 2015, almost

every sanction there is criminal in nature. It actually provides a range of sanctions around malicious breach and transmission of data. But like I said, it mostly speaks to service providers like the telecommunications companies, it does not speak to the generality of companies. But one thing is to have these sanctions and another thing is to implement [them].

Another participant from a civil society organization in Nigeria noted that MDAs such as NIMC and INEC have sanctions embedded in their policies as well as the Copyright Law:

For example, I know that for the NIMC, if anyone uses the system to falsify records of individuals or use the system in a way that is not authorized by the government, this attracts, I think, 7-year imprisonment.

The Copyright Law talks about the abuse of intellectual property by individuals and it spells out sanctions and penalties of 5-15 years of sentencing. The Electoral Law punishes individuals who use the smartcard reader to distort the votes of persons and leads to the abuse of the voting process. There are penalties and sanctions that INEC laid down for their ad hoc staff and employees. The sanctions are in place but we need to do more. It is not just having the laws, people need to be aware of them and know the consequences of the laws. People also need to know that there are sanctions [against] their crimes.

In Uganda, some institutions like the Uganda Police Force (UPF), which is charged with maintaining law and order, encourages and enforces proper use of citizens' data. The UPF warns its officers against data misuse and specifies disciplinary and criminal proceedings that anyone caught in the act of data misuse is likely to face. But, according a participant from a CSO, having sanctions is not enough; there is need to have stakeholder dialogue or engagements, research and capacity building to reduce abuse of citizens' data/information:

I think we need to strengthen stakeholder conversations especially as CSOs and advocacy groups so as to engage the government as much as possible and other stakeholders. If we continuously engage with the government, there is a possibility of reaching certain compromises. From my experience, you may not win all, but you can achieve certain compromises. I think the culture of dialogue, engagement with the government is very important. We should engage in research and build our capacities to engage government as we provide evidence-based data to inform policy making processes.

In Liberia, there are limited laws or policies sanctioning abuse of citizens' privacy, which poses a serious risk to the public. For example, in 2016 there was a massive cyber-attack in Liberia which led to the collapse of internet services of one of the two mobile telephone networks. It was later revealed that it had been paid for and orchestrated by the rival phone company and staged from the United Kingdom. Although the culprit was arrested and tried in the UK, no one in Liberia was held accountable because there were no criminal laws to interdict cybercrimes in the country. Data protection policies involving the use of technology are also non-existent in Liberia.

Despite the existence of laws and sanctions against abuse of citizens' data, it seems that their rights continue being violated, with the biggest culprit being the government. Cases of misuse of existing laws to enable state surveillance were reported in Uganda. The state uses the constitutional provision of ensuring security of persons and property to survey, monitor and intercept communication. Government has been monitoring accounts and movements of some Ugandans suspected to be dangerous to the state, in fragrant violation of their rights to freedom and privacy. These concerns were raised by a participant from a CSO in an anecdote involving a friend:

... unfortunately, the law that we have is not sufficient to safeguard Ugandans against privacy abuse. The law has given a lot of power to security agencies to tap and use this data without people's consent. I know of a friend who was followed by state agents up to Casablanca, Morocco, just because she is a daughter of a prominent politician. She was thought of as a threat [therefore] they tapped into her phone. She got to know of it later when an anonymous character she had travelled with up to Morocco started sharing with her details she thought were personal to her.

According to a policy expert from Nigeria, there have been reports of abuse of people's privacy by some government agencies. People have complained that their data has turned up in places they least expected, particularly information provided to financial exchange organizations. Commenting about this, the expert observed, "we believe that the Data Protection Bill, when passed into law, and the Office of the Independent Data Protection Commissioner, will start to address this...."

4.3.2 Use/Deployment of Digital Technology Systems

In the above section, it is evident that despite existence of laws and policies prohibiting abuse of data/information collected using DTS, abuses still occur. Hence, there is a mismatch between purposes for which particular DTS are acquired, and their uses. This section explores this theme further by examining deployment of DTS vis-à-vis citizen's privacy, human rights, and monitoring/surveillance of opposition parties, CSOs and individuals.

4.3.2.1 Privacy, Human Rights, and Surveillance/Monitoring of Citizens

This section explores in-depth the mismatch between purposes for which DTS are procured and their uses. Although ostensibly procured to ensure efficient service delivery, promote safety, security, citizenship and democracy, evidence suggests that DTS are sometimes deployed against the grain of these ideals. The Uganda government has over the years invested heavily in digitizing service delivery. Among others, digitization of the Land Registry, development of an electronic Crime Records Management System to keep criminal records, development of a system that connects Prisons and Courts of Law in dispensing justice, and digitalization of the Uganda Revenue Authority have been undertaken. There was a sore need to keep proper records of crimes and criminals, and to dispense justice; hence, the need for investments in digitization of the Justice, Law and Order sector. To improve the management and authenticity of elections and reduce voter fraud, a new voter registration system was launched in 2010. This system was later used to capture and store voter's fingerprints and images. The 2021 general elections relied heavily on biometric voter registration than in previous elections.

Artificial intelligence (AI) has been used in Uganda for the last two decades to offer education services including search engines, IT solutions like Education Management Information Systems, and EdTech programs. In policing, UPF has used CCTV cameras and other electronic software in policing work including surveillance, crime investigation, and traffic monitoring for some time. With the help of the above DTS, UPF has arrested some individuals suspected of committing electronic crimes. The force has also relied on information from DTS to temporarily close the Red Pepper and Monitor Publications; it has also temporarily shut down internet on detection of threat to government. In general, increasing reliance on DTS is anticipated by the UPF to curb crime and reduce on its human resources.

In view of the above, save for a few incidences that may be politically-driven, DTS are being used primary for the technical purposes for which they were acquired like ensuring security and safety and curbing crime. According to a key informant from the public sector: "I would think that procured digital technologies are used for the primary reasons of their procurement. However, at other times, this may not be the case due to political influences and interests." A cyber-security expert from Uganda observed that use of DTS which partly emerged from threats of crime in cyber space and "perceived fear" of political unrest after the 2011 elections, has been effective in these areas. Finally, another security-sector expert concurred:

DTS are used for security. ... security is wide, covering a range of areas. Security of citizens is misunderstood to mean only armed forces and weapons. It encompasses other security areas like personal security, food, environment and health. Thus, a number of MDAs and CSOs find themselves part of the security sector.

However, interviews with participants from civil society organizations raised concerns about abuse or misuse of other DTS, particularly CCTV cameras and the FinFisher spyware. According to them, these technology platforms were acquired primarily to enable state surveillance of opposition figures in order to silence dissenting voices. For example, a participant working with a CSO observed: "Procurement of digital technologies in Uganda has not been based on evidence of crime but rather perceived fear...the purpose of procuring these technologies has been to silence dissenting voices." These observations were confirmed by reviews of literature from authentic sources. The reviews underscored the use of electronic and video surveillance to intercept digital communications of suspected enemies of the state, notably opposition figures. Spyware and facial recognition technologies have also been deployed to intercept communication of human rights defenders, journalists, activists and political opposition leaders, , especially during elections. For instance, it has been noted that government of Uganda uses a spyware called FinFisher to control mass protests and monitor opposition politicians. These acts have previously been associated with authoritarian-leaning regimes that use facial recognition cameras and media monitoring tools to undermine human rights.

The study investigated whether or not use of DTS by governments in the three countries upholds human rights of citizens. Results indicate that over 70% respondents from Nigeria compared to 44% in Liberia, and 42% in Uganda think that procurement of DTS by their governments is intended to protect human rights. A significant number of respondents in Uganda were skeptical about government's use of DTS and its human rights record, compared to 40% in Liberia who were undecided (see Figure 22).

Author. Kampala-Uganda.

- kampala-1.3993297 Accessed on 10 March 2021 at 11:38 EAT
 Privacy International. (2020). Huawei infiltration in Uganda. https://orivacyinternational.org/case-study/3969/huawei-infiltration-uganda Accessed on 08th March 2021 at 10:56Am.
- Arthur Ahimbisibwe, Wilson Tuslime & Ronald Tumuhairwe. (2016). "Adoption of E-Procurement in Uganda: Migration from The Manual Public Procurement Systems to The Internet." Journal of Supply Chain Management, 3 (1): 1-23.
- 48. Unwanted Witness. (2021). 'The State of Digital Rights in Uganda; Repression on the Internet Sprouted in 2018.'' Author. Kampala-Uganda.
- 49. United Nations Conference on Trade and Development (UNCTAD). (2020). Uganda Science, Technology & Innovation Policy Review. United Nations, New York.
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 Briton Who Knocked Liberia Offline with Cyber Attack Jailed' BBC News (11 January 2019).

^{44.} The Irish Times. (2019). Chinese surveillance systems appear across Ugandan capital Kampala. https://www.irishtimes.com/news/world/africa/chinese-surveillance-systems-appear-across-ugandan-capital-



Figure 22: Promotion of Human Rights in Use of Digital Technology Systems

The survey also investigated respondents' perceptions regarding whether governments' use of DTS ensured privacy of citizens. The results indicate variations across countries with Nigeria having twice as many (53%) respondents as Uganda agreeing that government protects privacy of citizens. The least number of respondents (27%) that agreed that their government ensures privacy of citizens were from Liberia. Therefore, results point to concerns about privacy and use of DTS in Uganda and Liberia as was with human rights (see Figure 23).

have previously been associated with authoritarian-leaning regimes that use facial

recognition cameras and media monitoring tools to undermine human rights.

The study investigated whether or not use of DTS by governments in the three countries upholds human rights of citizens. Results indicate that over 70% respondents from Nigeria compared to 44% in Liberia, and 42% in Uganda think that procurement of DTS by their governments is intended to protect human rights. A significant number of respondents in Uganda were skeptical about government's use of DTS and its human rights record, compared to 40% in Liberia who were undecided (see Figure 22).

^{52.} Daniel Mwesigwa. (2019). "Cameras, Mobiles, Radios- Action!": Old Surveillance Tools in New Robes in Uganda." Global Information Society Watch.

Unwanted Witness, (Undated). Uganda's Digital ID System: A cocktail of discrimination. Preliminary Report. Unwanted Witness, Kampala-Uganda
 Collaboration on International ICT Policy for East and Southern Africa (CIPESA). (2020). Technology and Elections in Uganda: A Digital Rights View of the January 2021 General Elections Policy Brief. CIPESA

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 Cadreen Barungi Kabahazi. (2020). How Al could transform Uganda's Eduscape: Paving the Path for Blended Learning. Africa Policy Centre, Uganda Christian University. Uganda

Gaureen barungi Kadanazi, 2020). How Ar could transform Ugandas Eduscape: Paving the Path for Biended Learning. Africa Policy Centre, U
 Unwanted Witness. (2018). "The state of Digital Rights in Uganda; Repression on the Internet Sprouted in 2018." Author. Kampala Uganda.

^{5.} Uganda Police Force. (2018). "The Electronic Counter Measure Unit: What is it & What does it do? Seeking Clarity of its Mandate and role in Uganda?" Author. Kampala-Uganda.



Figure 23: Protection of Citizen's Privacy by Government in the Use of Digital Technology Systems

Furthermore, the survey investigated whether DTS are used to monitor or conduct surveillance on opposition parties, civil society groups and individuals. Slightly over half of the respondents from Uganda believed that DTS are used to monitor activities of the opposition compared to 31% who did not. Similarly 66%

of respondents from Nigeria believed that procurement of DTS is intended to monitor activities of the opposition. In contrast, over half of the respondents from Liberia did not think that DTS were intended to monitor activities of opposition (see Figure 24).

Figure 24: Use of Digital Technology Systems to Monitor Activities of Civil Society, Opposition Parties and/or Individuals



Daily Monitor. (2018). Accessed on https://www.monitor.co.ug/News/National/CCTV-cameras-Police—Kampala-Huawei-Kayima/688334-4694862-x2y7tpz/index.html on 19th March 2021 at 15:19 EAT
 Collaboration on International ICT Policy for East and Southern Africa (CIPESA). (2020). Technology and Elections in Uganda: A Digital Rights View of the January 2021 General Elections Policy Brief. CIPESA

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In view of the above, respondents had varying assessments of the costs and benefits of investing in DTS. As seen in Figure 15, whereas 65% of respondents from Uganda disagreed with the statement that benefits of procuring

DTS match the costs, in Nigeria, 48% believed that benefits of procuring of DTS was worth the cost. In Liberia, many respondents felt that benefits of DTS was not worth their cost.



Figure 25: Value for Money of Government Procurement of Digital **Technologies**

62. Joe Parkinson, Nicholas Bariyo & Josh Chin. (2019). Huawei Technicians Helped African Government Spy on Political Opponents. The Wall Street. (https://www.wsj.com/articles/huawei-technicians-helped-africangovernments-spy-on-political-opponents-11565793017) Accessed on 10th Feb. 2021. 09: 55 AM, EAT.

Privacy International. (2015). For God and My President: State Surveillance in Uganda. Author. Unwanted Witness. (2019). "State of Digital Rights in Uganda 2019 Report." Unwanted Witness, Kampala, Uganda 63.

64.

6. Key findings, conclusions and recommendations

This study sought to explore government procurement and deployment of Digital Technology systems in Africa, including citizens' knowledge of procurement of the technologies under focus (biometric, facial recognition and artificial intelligence). In this section, key findings, conclusions and recommendations discussed.

6.1 Key Findings and Conclusions

The study findings show that Digital Technology Systems are increasingly being embraced by governments in Africa as elsewhere given their potential and ability to impact on efficient delivery of public services. They have become part and parcel of governmet expenditure priorities. However, there is limited participation of the public in their procurement and deployment, as information pertaining to this is very scanty for the ordinary citizens. In addition, citizens in Africa inadequately understand why governments are investing in technologies that collect basic data on them, and why governments insufficiently sensitize them on the urgency/indispensability of these DTS.

Digital Technology Systems are procured to support capture and storage of data for purposes of security, national registration and identification of citizens, voter registration, immigration services. But they can also be required/used needed for other purposes such as the management of fraud, election and procurement management among others.

There is low trust among citizens regarding purposes and processes of government procurement of DTS, especially in relation to value for money and openness to competition which are crucial to building trust among citizens, in addition to promoting fair business practices and ethics among suppliers.

Citizens, especially those in the informal sectors are inadequately aware of the procumbent of DTS and/or the processes involved. Procurement of some of the DTS, especially those intended to support intelligence functions of security agencies, as was the case in Uganda, are classified as highly confidential. Documentation related to processes and outcomes of procurement of DTS is also not easy to come by.

Media and other Civil Society Advocacy Agencies and activism have become major players in information dissemination about procurement, although these are also not always able to obtain information in the way they would want it to inform the public. For instance, the DTS budget and procurement plans of government in Nigeria are not always available to the public. Whereas CSOs are expected to be present during the opening of bids, it is not always the case that they would be invited to such events by Government MDAs.

There is inadequate/weak legal framework in the three countries that relates to the use/ deployment of DTS. The national constitutions remain the major sources of the needed guidance on data privacy and protection. In Uganda, there are a number of media reports on the misuse of DTS, with security agencies/ personnel being the major culprits of abuse and misuse, mainly targeting opposition politicians, journalists, activists and human rights defenders.

There are initiatives in all the three countries aimed at linking National Identification Numbers with all other Citizens' identity databases. These efforts are largely welcomed for their ability to unify all identification information into central database. However, civil society activists have highlighted the risk of abuse/misuse of such centralized identification information. In Nigeria, digital and policy experts are pushing for a new law that will create an identification management authority who will be responsible for the collection and regulation of personal data, given that the proliferation of databases for citizens information increases the opportunity for illegal access to citizens' information and personal data. In Uganda, the National Registration and Identification Authority (NIRA) is already in place, headed by a highranking army officer. Furthermore, in Uganda, MDAs do not have any known safeguards to privacy, security, inclusion and individual control in regard to the protection of data collected from the citizenry. Owing to these factors, there is a general perception among the populace that DTS are helping to serve government rather than popular interests of the public.

6.2 Recommendations

- 1. Less than 1% of the value of contracts for DTSs is disclosed, increasing the risk for corruption and inefficiency in the tendering and procurement of DTSs in across the three countries. With lack of disclosure, it is difficult for data users in public, private and voluntary sector to meaningfully improvement contribute to the of performance and governance of DTS procurements. It is recommended that respective governments of Liberia, Nigeria and Uganda publish DTS procurement data, in open formats on procurement portals to promote transparency and accountability in the procurement of DTSs.There should also be timely feedback whenever citizens file requests for information on procurement and deployment of DTS to different government MDAs.
- 2. The study reveals that direct and uncompetitive methods are commonly used in procurement of DTS, and increases the risk of inflated prices, collusion and corruption. In line with fair business practices, respective governments in Liberia, Uganda and Nigeria should promote open bidding in procurement of DTS in order to promote value for money in tendering of DTS as well as innovation
- 3. Public awareness of the procurement and safeguards in the context of DTS is low particularly in Liberia and Uganda. With low

awareness, there is limited public scrutiny of therocurement and deployment of DTS inspite of high risk of corruption associated with them. Civil society organisations in respective countries should prioritize creation of public awareness of the importance of DTSs as well as associated risks and mitigation measures. Earlystage transparency and participation by stakeholders in the procurement of DTS should be emphasized to mitigate against problems associated with addressing procurement problems when it is too late.

- 4. DTSs have been used for illegal surveillance of [opposition] politicians, journalists and other civil society leaders for their legitimate civic mandates. Respective national human rights institutions of Liberia, Nigeria and Uganda should prioritise promotion of human rights in the context of DTSs starting with documenting and publishing reports on the state of surveillance in respective countries.
- 5. The study reveals that while there has been growth in the procurement and deployment of DTSs, the regulation of data collected using these technologies is inadequate and lacks transparency, posing a high risk for abuse of personal data and privacy of data subjects for commercial or political advertising. It is recommended that:

01	Data protection laws and policies in respective countries should be enacted and strictly enforced to protect citizens from unwarranted manipulation for commercial and political advertising.
02	Data holding public and private agencies should publish annual transparency reports regarding the release to third parties data collected using DTSs.Governments should also strengthen existing laws to ensure proper usage and protection of individual data that are collected through DTS. In line with this, the public should be sanitized on such laws so that in case of abuse they are able to seek justice.
03	Data holding public and private agencies should publish annual transparency reports regarding the release to third parties data collected using DTSs.
04	Civil society organisations should take interest and monitor the regulation and compliance of data holders the protection of personal information and privacy.

6. The study reveals that direct procurements may be compelled because of the lack of capacity by technical staff of Government MDAs to understand and therefore be able to evaluate bids of suppliers of new DTS and their applications. There is need for continuous/constant capacity building of government procurement staff to handle procurement of new and ever emerging fields in DTS. Creating strategic collaborations between local private sector, civil society and government could go a long way in enhancing the needed procurement capacity.



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