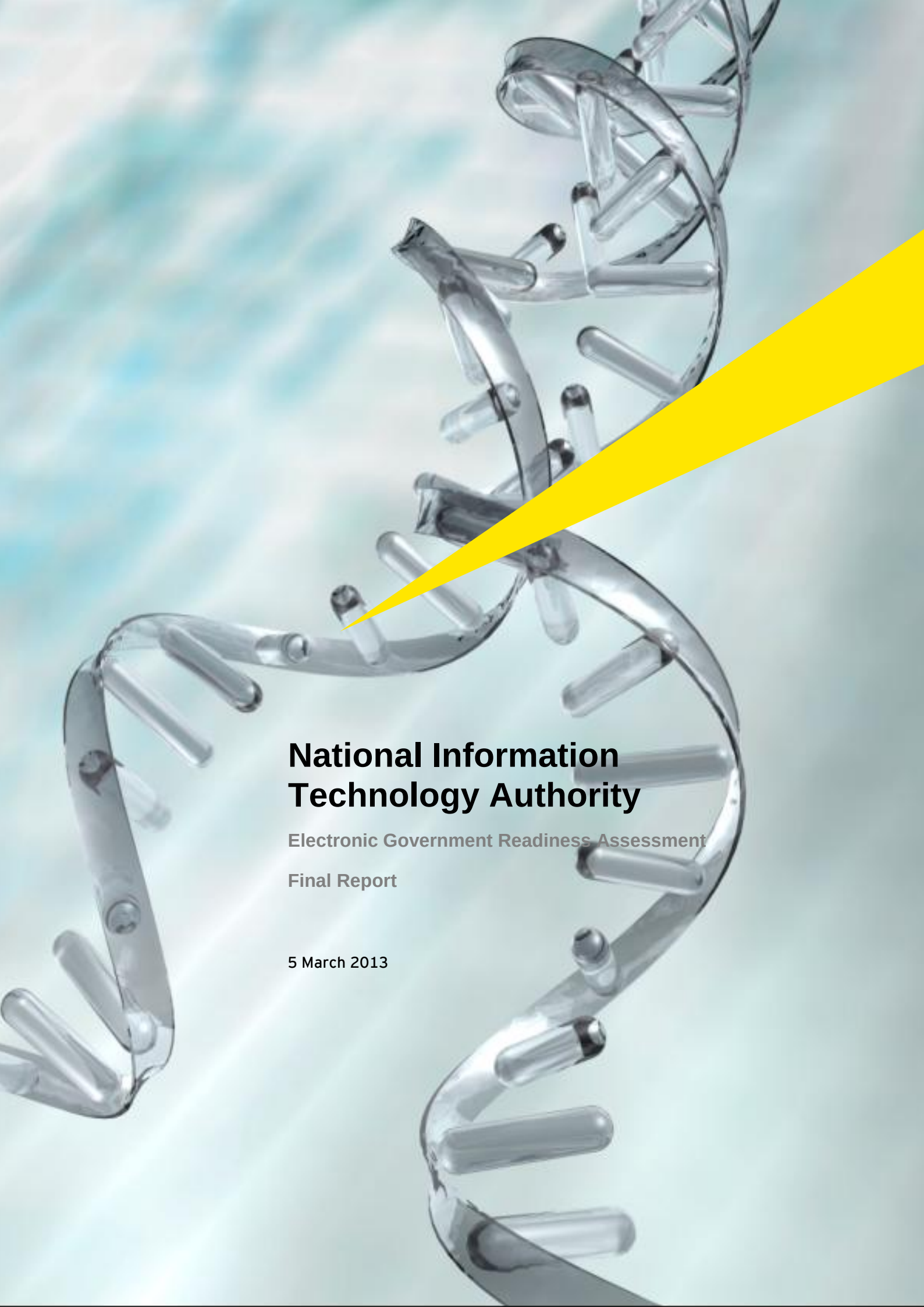

National Information Technology Authority

Electronic Government Readiness Assessment

Final Report

5 March 2013

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Document Control

Change Record

Date	Prepared by	Version	Change Reference
13 July 2012	Ernst & Young	V1.0	Newly established
20 November 2012	Ernst & Young	V1.1	Incorporated Revised Analysis Data
12 December 2012	Ernst & Young	V2	Finalized the report

Reviewers

Name	Position

Distribution and Storage

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Certificate of completion for the Uganda E-Government Readiness Assessment Consultancy Services.

Dear Sir,

Ernst & Young have completed their engagement for the E -Government Readiness Assessment for National Information Technology Authority- Uganda (NITA-U).

The engagement was performed in accordance with the engagement letter signed between Ernst & Young and the National Information Technology Authority- Uganda dated 29th September 2012.

The final report was submitted on 13th December 2012 to Mr. James Saaka, Executive Director

The scope of work performed by Ernst & Young covered the following:

1. Developing a component based e-government model from concrete assessment instruments;
2. Develop an e-government readiness assessment framework and indicators appropriate for the Ugandan situation using regionally and internationally recognized frameworks;
3. Carried out a diagnostic assessment of the overall country e-government readiness;
4. Created a database of existing core stakeholder demographics (human resource and ICT training) and ICT infrastructure, as well as an information technology system that can be updated online;
5. Identified the critical issues that confront stakeholders and impede the adoption of ICT in service delivery and operations;
6. Prepared recommendations on further possible use of existing ICT systems related to e-government implementation;
7. Designed and developed and e-government readiness assessment monitoring and evaluation framework;
8. Facilitated key stakeholders' workshops, at the start (validation) and the end of the study, to discuss the findings of the diagnostic e-government readiness assessment
9. Presented the findings of the e-Government readiness survey to a wider group of stakeholders;
10. Prepared a final e-government readiness assessment report to be distributed to all stakeholders

Amaha Bekele

Partner
Ernst & Young, Uganda

Acknowledgement of receipt

We/I acknowledge receipt and final delivery of the above mentioned work products from Ernst & Young

For National Information Technology Authority

Name	Title	Signature	Date

Project Executive Summary

Executive Summary

1.1 Background

E-Government is the use of ICTs to promote a more efficient and effective government, facilitates accessibility to government services, allows greater public access to information, and makes government more accountable. It demystifies the role of government by simplifying procedures, bringing transparency, accountability and making credible information available to all citizens in time. E-Governance enables Governments to deliver services to its population in an efficient and cost effective manner using of Information and communication technologies (ICTs).

In Uganda, efforts towards implementing e-Government date back to 2004, when the 1st e-readiness assessment was conducted. The then assessment concluded that despite the government will and mandate, the growth of ICT in the country is hampered by funding, investments, and affordability. The study recommended that an adequate ICT infrastructure is needed within the government and in the country in general to accelerate the growth of ICT that in turn, would contribute towards economic development. Subsequently, GOU conducted a National ICT Master Plan and e-Government Network feasibility study to chart a technically feasible, coordinated and financially responsible course of ICT development within the country through the master ICT plan and then focus more narrowly on the government sector as a subset within the overall ICT development plan.

A study of the information Infrastructure Agenda for Uganda was also undertaken in 2000. Among the many findings of this Infodev funded study was that Uganda's infrastructure was very poor and there was need for an agency to coordinate growth of use of ICTs in the country.

An e-Government framework was developed in 2006 as an engine to kick start a harmonised implementation of e-Government initiatives as one of the facets to transform Uganda into knowledge based economy. Additionally a National Information Technology Authority-Uganda (NITA-U) was established under an Act of Parliament (NITA-U Act 2009) to coordinate and regulate Information Technology services in Uganda. The Authority operates under the general supervision of the Minister of Information and Communications Technology (ICT).

The overall mandate of the NITA-U is to coordinate, promote and monitor Information Technology development within the context of National Social and Economic development. In furtherance of its mandate, the Authority decided to carry out an E-Government Needs Assessment in 2011, aimed at effectively measuring e-government landscape in Uganda with a view to developing appropriate strategies for initiating E-Government programmes and applications in the country. Ms Ernst and Young was contracted to undertake the 2011 e-Government readiness assessment. The consultancy focused on the review of the current e-Government initiatives.

1.2 Objectives of the Assessment

The main objective of the Consultancy was to conduct an e-Government Readiness Assessment for the Government of Uganda. The Specific Objectives were to;

I. raise awareness as to the bottom line motivations and capacities those have to be in place in order
II. to assure a reasonable basis for success in the e-government development process;
III. establish and assess the current practice on public management and service delivery and capacity
IV. to use ICT in public sector;
V. usefully describe the environment in which e-government development will occur and confirming
VI. the viability of application of e-government approaches;
VII. pinpoint the "weak links" in this environment - for remedial action and, in this way, enhancing
VIII. the chances for eventual success of e-government development;
IX. In extreme cases, advise against application of e-government approaches in a given public
X. administration, as its given level or in a given organizational part of it;
XI. Inform broad or sectoral e-government strategy and action plan development;
XII. Providing an e-Government monitoring and evaluation tool.

This report provides details of the study findings with recommendations to guide a functional E-Government in Uganda. The report discusses the methodology that was used for the assessment, study findings, possible challenges that need to be addressed and presents way forward in form of conclusions and recommendations.

1.3 Methodology

1.3.1 Planning

An inception report was written, reviewed and shared with the NITA_U during this planning phase. The planning process provided a meeting of minds on agreed methodology, proposed work plan and deliverables. The report detailed the scope, approach, methodology, profile of respondents, expected results, coverage and the other pertinent information, in undertaking the needs assessment. The inception report also presented proposed designs and a variety of tools (Survey Design, e-Government readiness assessment framework & tool and indicators) and instruments (checklist, questionnaire, interviews, official Request, knowledgebase, etc.) for use in the e-Government Readiness Assessment; The report was approved by a steering committee of NITA-U. An agreement was also reached on background documentation that can be reviewed to inform the design of the survey tools.

1.3.2 Landscape analysis.

Ernst & Young, in consultation with the NITA-U Management, reviewed relevant background documentation, made consultations with key stakeholders (at National and Local Government Levels), as an informed basis for delivering on the assignment tasks. In particular E&Y reviewed international practices in E-Governance, e-government initiatives undertaken by GoU and ICT trends in delivery of public services. The output of the landscape analysis was a set of benchmarks that were to be targeted

during the E-government assessment surveys. Primary indicators of e-government were developed from sources that had tried out and tested such indicators and had therefore been adopted as benchmark indicators for measuring and monitoring e-governance indicators. The sources of best practice E-Government benchmarks on indicators which were consulted during the study included the United Nations, Governments of Uganda, NITA-U and Business and Citizens stakeholders. Therefore the e-government survey was designed and developed using best practice approaches and indicators that had been tested and adopted for global use.

1.3.3 Framework and Model design

From the planning and landscaping processes, E&Y designed a component based e-Government Assessment model, an e-government readiness assessment framework and an e-government readiness assessment monitoring and evaluation framework. A database of existing core stakeholders was established.

From the component based e-Government Assessment Model concrete assessment instruments have been developed and handed over to NITA-U for their continuous use. The e-Government Assessment model included the following specific attributes:

I. demand - needs on public services and access to information, and preferences on delivery
II. Capability - current practice, on-going initiatives and recourses available for ICT
III. Enabling Environment - political, legal, regulatory, coordination, cooperation, and partnership
IV. frameworks
V. Stakeholders -requirements, capacity and expectations of major stakeholders o Technology-
VI. ICT penetration, hardware, software platform and network infrastructure National Context - country features
VII. International Context - relationships with the international partners o Perceptions and
VIII. Challenges - with respect to e-Government.

An e-Government readiness assessment framework highlighting indicators appropriate for the Ugandan situation was also developed. The framework was a best of breed of regional and international recognized frameworks; The E-Government readiness assessment framework was used to;

I. Carry out a diagnostic assessment of the overall country e-Government Readiness;
II. Create a database of existing core stakeholder demographics (including Human Resource and ICT
III. Training) and ICT infrastructure, including the information technology based System that can be updated online;
IV. Identify critical issues that confront stakeholders and impede the adoption of ICT in service
V. delivery and operations which issues have been highlighted in the final e-Government readiness assessment report;

VI. Prepare recommendations on further possible use of existing ICT systems related to e-Government
VII. implementation
VIII. Design and developed an e-Government Readiness Assessment Monitoring and Evaluation
IX. Framework;
X. Facilitate at least two key stakeholders' workshops, at the start (validation) and end of the study, to
XI. discuss the findings of the diagnostic e-government readiness assessment;
XII. Present the findings of the e-Government readiness survey to a wider group of stakeholders; and
XIII. Prepare a final e-Government readiness assessment report which was distributed to all stakeholders.

1.3.4 Feedback and Sustain

This consisted of stakeholder consultations and quality assurance. In particular two consultative workshops were held with core stakeholders taken from institutions, organizations and individuals agreed with NITA_U and registered in the stakeholder database. The 1st workshop reviewed and improved the list of indicators to be used for the surveys. The second workshop reviewed our findings from the surveys. The two workshops also served to sensitize the selected stakeholders on E-government. The list of stakeholders is attached to the main report.

1.4 E-Governance Readiness Surveys.

Two approaches were used; a paper based questionnaire which was reviewed and approved by NITA_U and an on-line survey tool. The paper based questionnaire was administered directly by the consultants. Most of the respondents preferred to use paper questionnaires. Only 7 out of 1425 respondents that returned the questionnaires used the online survey tool. However both tools have been developed and handed over to NITA-U for future use.

1.5 Report writing & Meetings

An inception report, a survey analysis, a draft final and final reports were produced and discussed with NITA_U and stakeholders where necessary. Comments were received and incorporated in final reports that were approved and owned by NITA-U

1.6 Findings & Conclusions

The survey targeted a total of 1582 respondents of whom 1425 (90%) completed and returned the questionnaire. The survey response was very good by global standards and the findings are considered very reliable. The structure of the recommendations in the report is based on the agreed indicators using the following outline;

I. ICT Equipment and staff access to ICT equipment
II. Access to the internet
III. Information and communication infrastructure
IV. Software applications
V. ICT Human Resources
VI. Service Delivery – Information, communication and infrastructure
VII. Information Security, disaster recovery and business continuity
VIII. E-records management
IX. ICT Spend
X. IT Governance, strategy, policies and linkages to business objectives
XI. Organization network and leased lines
XII. ICT indicators on ICT Infrastructure and access
XIII. Government to Business –G2B
XIV. Government to Citizen – G2C
XV. User priority of current and planned e-Government services.

Using the above outline we have further grouped the outline of recommendations based on four key groups that are key for implementation of e-government in the context of NITA-U and the government of Uganda.

1. **Governance**
2. **Infrastructure**
3. **Legal and regulatory framework**
4. **Human Resources**

1.6.1 Governance

97% of respondent government institutions have websites implying that access to information regarding the mandate and services provided by each of these institutions is therefore readily available. It can safely be stated that from an e-Government development perspective Uganda is at the connected stage, which is the first of the four "online service development" stages. The finding shows a readiness for the creation of a single government information portal allowing for links to all government institutions to be hosted on the portal, so that businesses and citizens can access all government sites via one web
Approximately 50% of websites are updated every week; with the remaining 50% of websites having static data with time lags from one month to one year of non-maintenance / updating of such data.

1.6.2 Infrastructure

36% of staff in central government institutions who need computers to do their work have a computer assigned to them; while 27% have no access to computers whatsoever. 56 % of central government institutions staff have no computer assigned to them. However 52% have access to a computer though not assigned to them. Access means that they may not be assigned a computer, but are able to use a shared computer or a computer specifically assigned to someone else to perform work related tasks on an as-need basis This percentage needs to be significantly increased. Introduction of shared computer lab facilities would help enhance e-Government readiness

The majority of computer hardware used in central Government institutions are desktops (84%) followed by laptops (15%) and tablets (1%) . Thus GoU is still inclined towards fixed line as opposed to wireless technologies which are increasingly becoming popular in the computing industry. 36 staff out of every 100 staff in a central government institution have a computer assigned to them; which is very low and not supportive of the government's agenda to enhance e-Government services. Six (6) out of every 10 staff who have computers are male. This compares favourably to the statistic provided by the human resource managers that shows that 66% of all government employees are male.

There is heavy use of fixed telephone lines as opposed to mobile phones despite a growing penetration rate of mobile telephony. An average of 40% of staff in central government institutions have access to the internet at the office but this is too low to meet the ambition of delivering all major service through e-government initiatives 82% of central government institutions have corporate networks. A corporate network consists of distinct networks, possibly using different technologies / media interconnected by a fast link. It can be made up of departmental networks spread over a geographic area or on different flows of buildings interconnected by different types of technologies; leased lines, dial up, or a backbone. Only 14.5% of Government Institutions are connected to the National Backbone Network (NBN). This is very low. In order for the government to achieve the envisioned benefits from setting up the National Backbone Infrastructure, 100% of government institutions should be connected to the NBN.

A National Data Center is in place. On average however, every central government institution would need to double the number of their computers to ensure effective e-Government service delivery

Online Survey Tool: A functional online survey tool has been developed and handed over to NITA-U for use in future surveys. However the tool is set to generate only standard reports that were identified by NITA-U. There is no provision for generation of adhoc reports although this can be done using a report writer/generator of NITA-U's choice. In addition specific user manuals have been developed for front end and back-end operation of the tool.

1.6.3 Human resources- having the right competences

1.6% of staff in the respondent institutions are ICT personnel. 69% of ICT personnel are male while 31% are female, which is in agreement with the overall staff distribution percentages in government institutions of 66% male and 34% female.

Most ICT personnel (49.9%) were holders of Bachelors degree. 17.8% had master degree, 8.5% had professional certifications, 10.2% had ordinary diplomas, 6.7% have post graduate diplomas, 4.4% had higher diplomas and 1.8% had certificates. However Most staff had been equipped with basic computer skills, especially office automation applications

The average number of IT security personnel per Government Ministry, Department or Agency is 1.6 Persons implying that most systems in institutions surveyed are potentially insecure.

1.6.4 Legal and regulatory framework

The assessment established that there is a conducive and competitive legal and regulatory framework for delivering government services and doing other business using electronic means in Uganda. A suitable enabling environment has been created to fast track implementation of e-government. There are favourable policies in support of ICT use in Uganda and most MALGs have adopted use of ICTs in their service delivery. However E-governance is yet to progress beyond websites. The following specific legal framework is in place to promote ICT use in Uganda: the Electronic Transactions Act 2011; the Electronic Signatures Act 2010; the Computer Misuse Act 2011 which is aimed at ensuring the security of and prevention of unlawful access to computers and information systems; National ICT Policy Framework (2003); National Electronic Government Framework 2010; Communications Act, 1998; Draft Postal Policy, July 2008; Revised Telecommunications Policy, 2006; National Information Technology Policy, 2009; Electronic Waste Management Policy for Uganda (June 2010) MoICT

1.7 Recommendations

1.7.1 Governance

The survey finding shows a readiness for the creation of a single government information portal allowing for links to all government institutions to be hosted on the portal, so that businesses and citizens can access all government sites via one web. NITA_U should exploit this opportunity to set up a more inclusive GoU portal. The sensitization of Ministries, Agencies and Local Governments on E-Governance that started with this assessment should be continued with a view to ensure buy in by more stakeholders.

1.7.2 Infrastructure

I. A deliberate effort should be made to acquire and avail computers to employees in central Government if GoU is to meet the objectives of e-government. A progressive but consistent procurement plan for computers and relevant applications should be developed and implemented to increase the current number of computers in central government by 126% to meet the current demand. The provision of computers is a basic towards enabling service delivery through e-Government initiatives.

II. NITA-U should set and publish minimum specifications for computers to be procured by all Government Institutions. This will ensure that all new government computers are E-Government ready; In doing this, NITA-U should assist Government to dispose old computers in accordance with e-waste policies and procedures.

III. NITA-U needs to assist government to formulate policies that will promote portable computing devices in work places.

IV. NITA_U should lobby GoU to promote e-government initiatives that can be implemented through mobile phone technology accessible platforms. Increase adoption and usage of IP telephony to save on the cost of supporting direct telephone lines.

V. just as the government needs to increase the assigned computers by 126% across central government institutions, the number of staff with access to the internet needs to be increased by 250%.

VI. NITA_U should lobby Government to have all (100%) Government Institutions connected to the National Backbone Infrastructure, in order for the government realise full benefits of setting up backbone to promote establishment and / or improve efficient use of corporate networks

VII. NITA-U should strive to adopt cloud based shared services for government institutions in order to enhance adoption of shared software applications and hard drive space. This will improve the performance of computers within government and enable a common environment for implementing e-Government initiatives

VIII. NITA-U should continue to sensitize GoU, private sector and NGOs about the existence and benefits of the National Backbone Infrastructure. This way NITA-U will be able to build sufficient clientele to enable it maintain the backbone from resources generated through sale of bandwidth on the backbone.

IX. NITA-U could consider procurement of a report generator to use it to interrogate the online survey tool to generate adhoc reports.

1.7.3 Human resources- having the right competences

NITA_U should work with ICT training institutions to introduce deliberate modules on IT Security (protection, recovery, and litigation). This will raise the number of IT security personnel in Government Institutions. The target should be a minimum of three (3) IT personnel specialising in IT security.

NITA-U should work with MoPs to adequately define qualifications suitable for each job requiring IT Skills.

1.7.4 Legal and regulatory framework

I. Maintenance of websites needs to be regularised. NITA_U should lobby for increased budget for ICTs in MALGs to facilitate the maintenance of websites. NITA-U could consider having an oversight role over all MALGs websites by making periodic monitoring to identify those sites that have remained static for periods exceeding two months. When these have been identified, NITA-U would either send a reminder or make a physical visit and where necessary provide maintenance / update support.

II. There is need to harmonise all existing laws in Uganda to ensure that they are harmonised with NITA-U Act, 2004, to eliminate possible conflict of roles. The aim should be to make NITA-U a reference authority on all matters of IT in Uganda.

1.7.5 Conduct E-government readiness Survey periodically

The e-readiness survey has managed to provide a lot of detailed insight in as far as the current situation of e-government in Uganda. This is a fundamental step towards the creation of relevant strategic and operational plans for government that are geared towards the provision of e-services as well as promotion of e-government. The survey results also reflect the progress that has been made in Uganda in e-government.

It's prudent to say that national plans and priorities therein are constrained by national and international changes. Consequently the impact of these trickles down to the e-government landscape and thus the need to have a more relevant framework that sufficiently assesses the e-government landscape. In this regard we recommend that surveys similar to the E-government readiness assessment survey be carried out periodically to;

- Confirm the changes in the E-government landscape,
- Review and indentify indicators that are aligned to prevailing National priorities and plans and thereafter use such indicators in the subsequent surveys,
- Help in devising strategies and plans that holistically address these changes in the e-government landscape
- Assess the impact of executing of the respective implementation strategies and plans,
- And keep the landscape aligned to E-government best practices.
- Provide a national mechanism of periodically providing feedback to the Businesses, Citizens and Government at large on the progress, challenges and opportunities of e-government in Uganda and this information will ensure that all stakeholders are developing consistent plans geared toward promotion of e-government in line with national priorities and stakeholders needs.

1.8 The E-government Landscape

The assessment revealed that Government institutions allocate a very small percentage of their institutional budgets to ICT, and that few institutions had an IT strategic plan in place. Even then for those organisations that had IT strategic plans there was a view from respondents that the plans were not responsive to the overall strategic plans of their respective organisations. This was a clear indication that ICT governance is a key area where government institutions should focus on and get right.

From the survey it was established that slightly more than half of the staff within the institutions have access to computers to use for their work. This justifies the need to have computers for use to not only increase productivity but also increase equipment to be used to access and support e-government. It was also established that most institutions made major purchase of computer in 2010 and that 71 institutions

of those who responded have Voice over Internet protocol (VoIP) phone. This was a good sign that there is some existing hardware with the capacity to support e-government initiatives.

Although 85 institutions have websites, less than half of staff in the institutions had access to the internet and most staff have never had ICT training. This underpins the need to embark on training staff on how to harness the power of ICTs as well as increase internet access so as to be able to use e-government services.

Despite having more than half of staff with mobile phones and e-banking being ranked as the highest priority e-government service, the assessment revealed that very few Businesses and citizens were satisfied with the current e-government services. Most citizens seem not to be aware of the e-government services on offer. This clearly points to the need to provide awareness programs as well as strengthen infrastructure aimed at providing e-government services in a reliable and consumer-friendly manner.

Figure 1: The Current E-Government Landscape

1.9 Overview of the report

This report discusses in detail the different aspects that were involved in the e-government assessment in the various sections. It lays ground for, and includes the justification for e-government assessment. This

includes the e-government readiness assessment model, the e-government assessment framework as well the e-government monitoring and evaluation framework.

A phased approach was used comprising of: planning; landscape analysis; frameworks and model design, and feedback and sustain. The various stake holders within government institutions were also consulted through interactions. We also carried out literature review in regard to e-government readiness assessment.

An E-government readiness framework and e-government readiness indicators, including those stated by the United Nations' as core indicators, were developed. Later a survey design and an e-government readiness assessment tool were developed.

The survey data was then gathered from the respondents by trained enumerators and captured into a web-based tool. Similarly, some respondents managed to complete the survey online. The gathered data was validated for quality purposes and later analyzed to come up with findings as detailed in the report section named findings and recommendations below.

The report discusses in depth the process of survey design including the statistical analysis techniques as well the development of different tools that were used in the e-government readiness assessment. Basing on the findings, the report discusses the observations and recommendations made by Ernst and Young as well as the stakeholders as highlighted during the stake holders workshop held to present the findings.

1.10 Restrictions on the use of our report

This report is intended solely for the information and use of management of National Information Technology Authority and is not intended to be and should not be used by any other parties without prior permission from the Authority. Ernst & Young therefore assumes no responsibility to any user of the report other than National Information Technology Authority. Any other persons who choose to rely on our report do so entirely at their own risk.

We appreciate the cooperation and assistance provided to us during the course of our work. If you have any questions, please call Mr. Herculs Bizure or at 0414343520.

Very truly yours

Amaha Bekele

Introduction

2. Introduction

2.1 Background

The government of Uganda (GOU) recognizes the role that Information and communication technology (ICT) can play in fostering economic development and is taking steps to adopt the emerging new technologies in order to modernize service delivery to its citizens. It is also the belief of the GOU that ICTs should be utilized to move into the era of electronic government (e-government) that is aimed at demystifying the role of the government, simplifying procedures, bringing transparency, accountability and making credible timely information available to all citizens and at the same time providing all services in an efficient and cost effective manner.

Broadly defined, e-government is the use of ICTs to promote a more efficient and effective government. It facilitates accessibility to government services, allows greater public access to information, and makes government more accountable.

The efforts towards implementing e-government in Uganda runs as far back as 2004, when the 1st e-readiness assessment was conducted. The study concluded that despite the government's will and mandate, the growth of ICTs in the country is hampered by funding, investments, and affordability. The study recommended that an adequate ICT infrastructure is needed within the country in general and the government in particular to accelerate the growth of ICT that in turn, would contribute towards economic development. The GOU conducted a National ICT Master Plan and e-government Network feasibility study to chart a technically feasible, coordinated and financially responsible course of ICT development within the country. through The implementation of the master ICT plan would focus more narrowly on the government sector.

An e-government framework was developed in 2006 as an engine to kick start a harmonised implementation of e-government initiatives as one of the facets to transform Uganda into knowledge based economy.

The government of Uganda therefore commissioned a consultancy for the e-government readiness assessment as a tool to initiate e-government programmes and applications in a sound manner. Overall the consultancy was focused on the review of the current e-government initiatives through consultation with stakeholders and desk research. This resulted in the development of an E-government assessment model and E-government readiness framework that was used to conduct a readiness assessment. For sustainability a monitoring and evaluation framework was developed in order to assess progress in e-government.

Ernst & Young conducted the e-government readiness assessment as a tool to initiate e-government programmes and applications in a sound manner. Overall the review was focused on current e-government

initiatives; in the form through consultation with stakeholders and desk research which resulted in the development of an E-government assessment model and E-government readiness framework

Currently, the GOU is in the final stages of developing a National e-Government Policy Framework to ensure that a proper enabling policy environment is in place to facilitate rapid implementation of Government-wide e-government services. The GOU recognizes that while the benefits of e-government are in theory numerous, global experience to date indicates that they remain much more elusive in reality. Indeed, the failure rate of e-government projects has been estimated somewhere between 60-80%.

This very telling statistic points to the need for more sound approaches to e-government development that take advantage of lessons learned globally, but very much reflect local realities and priorities. To these ends, a number of factors - objectives, infrastructure, legislation and regulatory environment, organizational and back-office reengineering, human resources, among others should be considered and together form an approach to e-government development that is at once as comprehensive as possible but also organic, sustainable and most important, meaningful. An important tool to initiate e-government programmes and applications in a sound manner is the e-government readiness assessment which is the subject of this report

Below is a reflection of our understanding of the key blocks of the e-government readiness assessment.

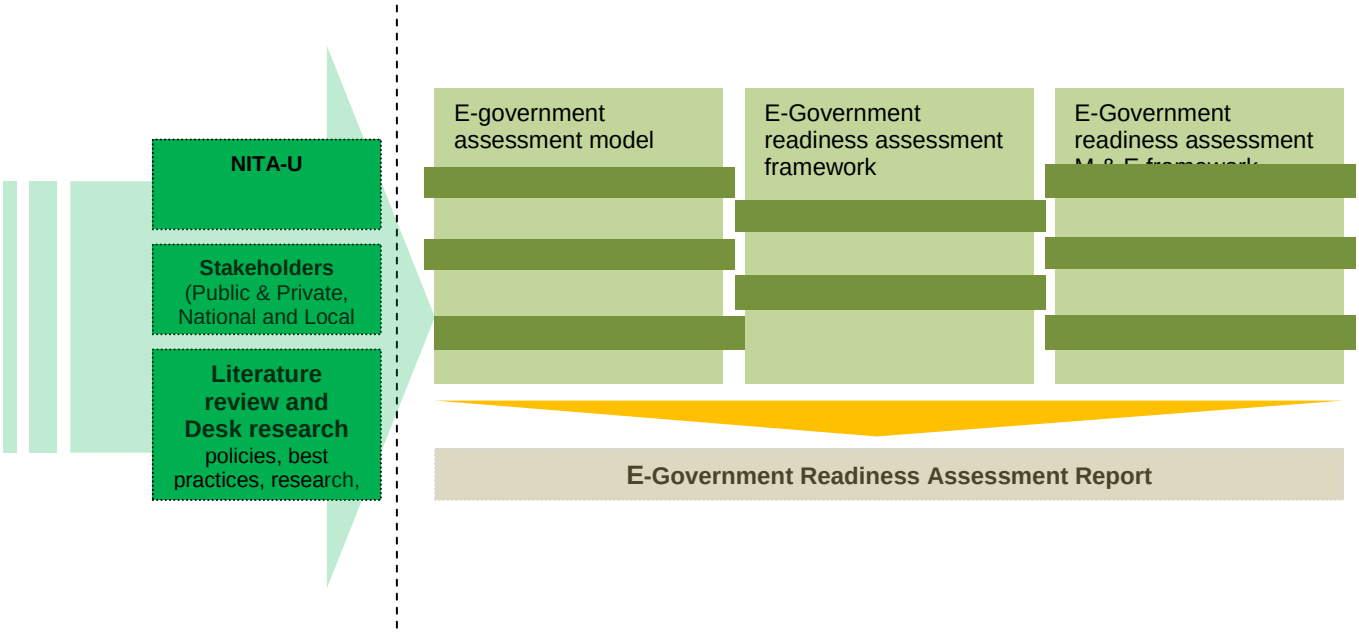


Figure 2: Blocks of e-government Assessment

2.2 About the National Information Technology Authority

Background

The National Information Technology Authority-Uganda (NITA-U) is a semi autonomous corporate body established under the NITA-U Act 2009, to coordinate and regulate Information Technology services in both Government and the Nation at large. NITA-U is under the general supervision of the Minister of Information and Communications Technology (ICT).

The Mandate

To coordinate, promote and monitor Information Technology development within the context of National Social and Economic development.

The Vision

A facilitator of a knowledge-based, globally competitive Uganda where social transformation and economic development is supported through Information Technology enabled service.

The Mission Statement

To integrate Information Technology (IT) into National programs by focusing on establishment of coordinated and harmonized National IT systems. The expected benefits of NITA-U will include the harmonized and coordinated government use of IT to improve the quality and efficiency of public services to strengthen internal information flows whilst promoting accountability and transparency. In addition, the benefits include the optimized utilization of the scarce technical skills capacity and infrastructure through shared resources in government such as centralized datacenters leading to ultimate overall financial savings in government IT adoption due to rationalization in IT funding.

2.3 Service delivery approach

The e-Government Readiness Assessment was conducted to provide a foundation for developing e-government strategies that provide important knowledge for policy and decision makers. The following methods (but not limited to) were used:

- SWOT Analysis
- Focus Group Discussions
- Empirical Research Methods (data collection, document analysis, interviews and case studies)
- Application of Designed Analysis and Assessment Tools

Using consultative and participatory approaches and methods agreed on with NITA-U E& Y

- Carried out a desk review (to identify Policies, Strategies, Government Portals/Websites,Reports, Publications and Agencies) on e-Government initiatives to provide a basis for the accomplishing the assignment;
- Identified and documented all the stakeholders/stakeholder groups;
- Produced a SMART (Specific, Measurable, Achievable, Realistic and Time-bound) inception plan/report which details the scope, approach, methodology, profile of respondents, expected results, coverage and the other pertinent information, in undertaking the task;

- Designed and developed a variety of tools (Survey Design, e-Government readiness assessment framework & tool and indicators) and instruments (checklist, questionnaire, Interviews, Official Request, Knowledgebase, etc.) for use in the e-Government Readiness Assessment;
- Using the designed tools, collected Data. The data collected was consolidated, processed and analyzed. The analyzed data was used for the production of all the various outputs expected from the assignment;

Ernst & Young conducted the survey using a paper-based approach using the following questionnaires.

- E-Government Survey Questionnaire 2012 - (1) NITA U
- E-Government Survey Questionnaire 2012 - (2) Head of GI
- E-Government Survey Questionnaire 2012 - (3) Head of HR
- E-Government Survey Questionnaire 2012 - (4) Head of IT
- E-Government Survey Questionnaire 2012 - (5) Head of Records
- E-Government Survey Questionnaire 2012 - (6) Businesses & Citizens
- E-Government Survey Questionnaire 2012 - (7) UCC
- E-Government Survey Questionnaire 2012 - (8) UBOS

In addition, an online survey data collection tool was developed and respondents were granted access to the survey tool

As part of the project, a number of activities e.g. training of enumerators, sensitization, data collection and data entry were conducted during the pilot and main survey. The activities have been listed below;

- Training of Pilot Survey Enumerators: Thursday 19 April 2012
- Pilot Survey in Kampala: Friday 20 April to Thursday 3 May 2012
- Training of Main Survey Enumerators: Wednesday 9 May 2012
- Sensitization; NITA – U held a press conference on 11th May 2012 as part of the sensitization of the E-government project
- Main Survey: Kampala-based Businesses & Citizens: Thursday 10 to Friday 11 May 2012
- Main Survey: Upcountry-based Businesses & Citizens: Monday 14 to Friday 18 May 2012
- Main Survey: Kampala-based Government Institutions: Thursday 17 May to Friday 22nd June 2012 (Official Closing Date - Enumerators were removed from the field) . However Ernst & Young continued receiving questionnaires from survey respondents
- Data Entry Exercise: (Pilot Survey and Main Survey Data entry) Monday 21 May to 29th June 2012
- Data cleaning and Quality Assurance: Monday 25 June to Friday 6 July 2012
- Reporting Period and Presentations: Monday 9th July to Friday 20th July 2012

2.4 Project objectives and scope

2.4.1 Objectives

The objective of the Consultancy was to conduct an e-Government Readiness Assessment for the Government of Uganda. The Specific Objectives were;

- To raise awareness as to the bottom line motivations and capacities that have to be in place in order to assure a reasonable basis for success in the e-government development process;
- To establish and assess the current practice on public management and service delivery and capacity to use ICT in public sector;
- To usefully describe the environment in which e-government development will occur and confirming the viability of application of e-government approaches;
- To pinpoint the "weak links" in this environment - for remedial action and, in this way, enhancing the chances for eventual success of e-government development;
- In extreme cases, to advise against application of e-government approaches in a given public administration, as its given level or in a given part of the organizational;
- To inform broad or sectoral e-government strategy and action plan development;
- To Provide an e-Government monitoring and evaluation tool.

2.4.2 Scope of Work

Ernst & Young, in consultation with the NITA-U Management, reviewed relevant background documentation, made consultations with key stakeholders (at National and Local Government Levels), as an informed basis for delivering on the following tasks using consultative and participatory approach:

- Formulation of a component based e-Government Assessment Model from which concrete assessment instruments can be developed. The Model amongst others included:
    - Demand - needs on public services and access to information, and preferences on delivery
    - Capability - current practice, on-going initiatives and recourses available for ICT
    - Enabling Environment - political, legal, regulatory, coordination, cooperation, and partnership frameworks
    - Stakeholders -requirements, capacity and expectations of major stakeholders of Technology-ICT penetration, hardware, software platform and network infrastructure
    - National Context - country features
    - International Context - relationships with the international partners o Perceptions and Challenges - with respect to e-Government

- Development of an e-Government readiness assessment framework and indicators appropriate for the Ugandan situation. The framework is a best of breed of regional and international recognized frameworks;
- Carrying out a diagnostic assessment of the overall country e-Government Readiness;
- Creating a database of existing core stakeholder demographics (including Human Resource and ICT Training) and ICT infrastructure, including the information technology System that can be updated on-line;
- Identifying the critical issues that confront stakeholders and impede the adoption of ICT in service delivery and operations (to be incorporated into the final e-Government readiness assessment report);
- Preparing recommendations on further possible use of existing ICT systems related to e-Government implementation (to be incorporated into the final e-Government readiness assessment report);
- Designing and development of an e-Government Readiness Assessment Monitoring and Evaluation Framework;
- Facilitating at least two key stakeholders' workshops, at the start (validation) and end of the study, to discuss the findings of the diagnostic e-government readiness assessment;
- Presenting the findings of the e-Government readiness survey to a wider group of stakeholders;
- Preparing a final e-Government readiness assessment report which was distributed to all stakeholders.

2.5 Project Inception Outcomes

The project commenced with a presentation from the Ernst & Young team where the project methodology, team, and timelines of the project were presented to the NITA-U team. The project methodology was presented by Ernst & Young and accepted by the project team from NITA-U. According to the terms of reference, the e-government readiness assessment was expected to take place over a period not exceeding One Hundred and Eighty (180) days starting from the date of contract engagement and would include holding at least two days stakeholders workshops.

2.5.1 Project timelines

From the inception meeting and subsequent meetings NITA-U emphasized the need to have the project concluded within half the maximum proposed time from the terms of reference as there were a number of activities and project that were dependent on the outcome of the project. As a result the following was discussed and agreed between NITA-U and Ernst & Young.

a) The project scope was to remain unchanged. However the resources on the project were to be changed to ensure that the project is delivered on time. NITA-U proposed to provide additional resources to the project survey process to ensure that the survey process is concluded in a

shorter period. This had an impact on the project team structure and a new project team structure was developed to cater for the new conditions of the project. *See project team structure section*

b) The project plan timelines were revised taking into account changes in resources to the project and clarification of some of the activities in the project, the final baseline project plan was finalized in Microsoft project and is in the *Project Plan section* of the inception report.

2.5.2 Survey Process

NITA-U proposed the usage of online survey tools for the project to ensure that the data is captured online thereby reducing the need for manual survey process. Ernst & Young had already identified an online survey tool (*Ernst & Young Advisory Survey tool)* that could be customised for purposes of the survey. We had also identified a potential risk of low response associated with the online survey techniques given the nature of the survey. As mitigation to the risk a two tier strategy was developed and this has been addressed through the project team structure where there is a provision for cluster teams that has the ability to capture project data in the field and update the central e-government database online thereby speeding up the analysis process of the project . The second strategy would be to use the paper survey tool. The two may be used in combination or mutually exclusive.

2.5.3 Project Workshops

The project terms of reference proposed at least two workshops with the stakeholders throughout the project. In the course of the inception meetings and interviews it was agreed that two workshops shall be held; the initial one in the landscape analysis aimed at sensitizing the project team and stakeholders and the second would be held once the readiness assessment survey was concluded to discuss the outcome of the project. The project team members supported by selected stakeholders would hold meetings and mini-workshops at NITA-U to discuss aspects of the project.

2.5.4 Survey indicators

A number of potential survey indicators were discussed during the planning process with some highlighted through the project expectations section and some are highlighted in the appendix section under survey indicators. A comprehensive desk review was conducted to determine the indicators from e-government assessment s done locally, regionally and globally and these were discussed during the sensitization workshop to ensure that all possible indicators have been identified. The Key indicators list considered to be relevant to the study is presented in the current state assessment report

Approach and Methodology

3. E-government Readiness Assessment Approach and Methodology

3.1 Methodology Overview

Ernst & Young carefully considered the e-government readiness assessment requirements and developed a customised methodology and approach that addressed the requirements of NITAU . The following is an outline of our methodology which primarily consisted of 4 distinct phases namely;

I. *Planning*
II. *Landscape Analysis*
III. *Frameworks and Model design*
IV. *Feedback and Sustain*

Throughout the assignment, Ernst & Young employed the highest performance standards to ensure that the project met the intended objectives. As part of the methodology all phases were subjected to sound ***Project management, Risk Management and Quality Assurance.*** All these efforts were designed to ensure that NITA-U receives a quality e-government readiness assessment survey report

Following is an outline diagrammatic summary of our methodology.

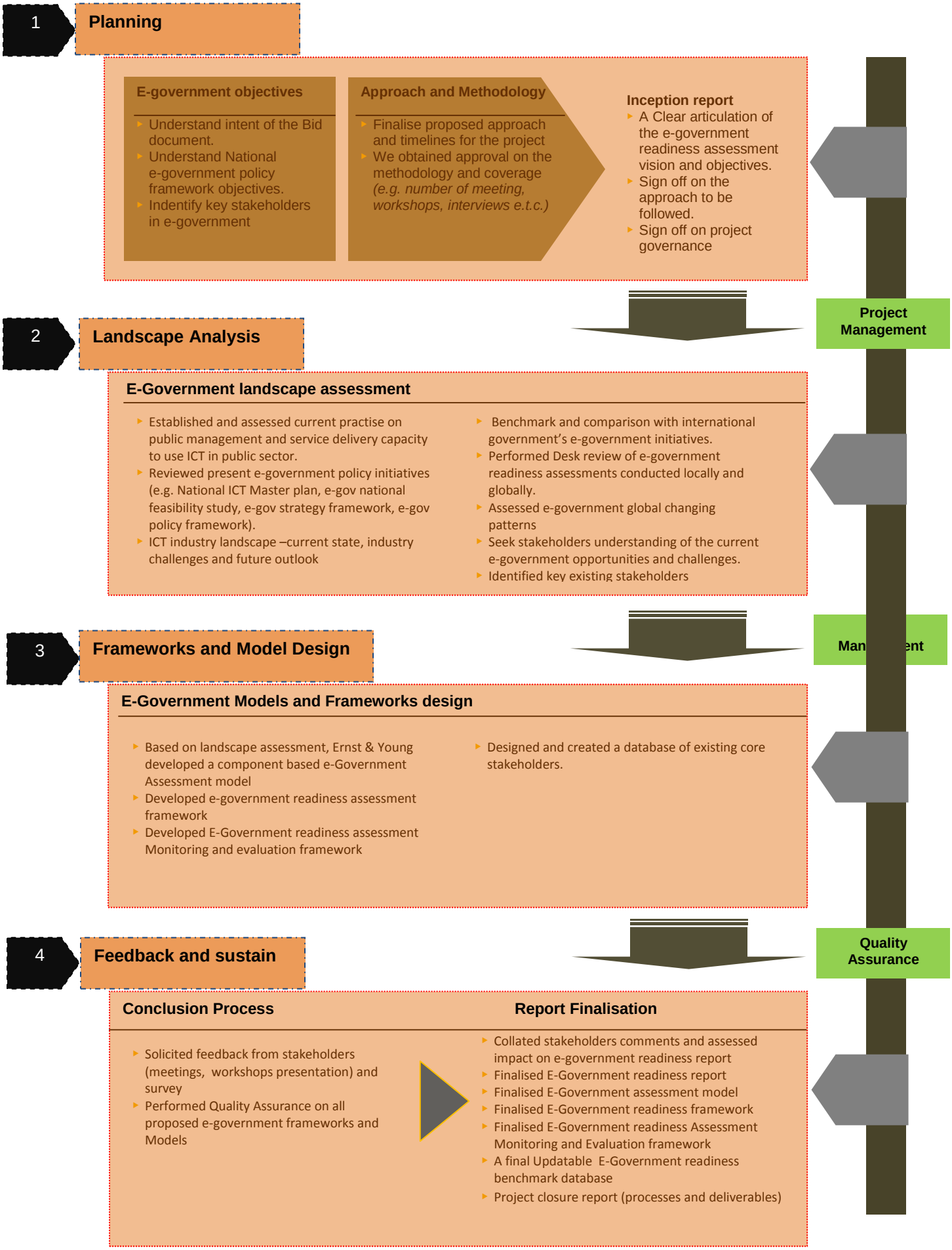


Figure 3: Our Methodology

1 Planning

The planning phase is a critical phase within the project. It is at this stage where the Ernst & Young and NITA-U set the tone of the project. This phase was marked by the presentations of the Ernst & Young team and the counterpart team from NITA-U.

In this Phase, the Ernst & Young (EY) project team highlighted, and sought inputs on the following:

- **Articulation of the objectives for the E-Government:.**
  - In-depth explanation and verification of e-government policies and frameworks in Uganda
  - Approval on our understanding of the short-term and long-term objectives set by NITA-Uganda.
  - Clarifications over and above the content of the original Terms of Reference, if any

- **Outline of the methodology to be followed in undertaking the assignment:**
  - A detailed step-by-step articulation of the activities to be undertaken, in order to cover all the national and international issues mentioned in the terms of reference
  - Research tools to be employed i.e. secondary research (journals, international benchmarks, expert comments, research) or primary research (discussions with government (local and national) stakeholders, regulators) or both
  - Timelines associated with each step, as well as division of work into various phases such that at the end of each phase, the various teams (NITA-U, EY Uganda) shared findings and observations.
  - An outline of deliverables at the end of each phase

At the end of the planning phase (phase I), EY had a clear understanding of specific objectives of the NITA-U and clarifications on the terms of reference. In addition, EY discussed its detailed approach and methodology for the proposed e-government readiness assessment, and requested the inputs and approval of the NITA-U for the same. An inception report was prepared based on our understanding of the scope of the assignment, approval of our methodology, work plans and project governance structure.

Below is a summary of the activities tools and techniques and deliverables under this phase

Activities

- Team introductions
- Outline of the proposed methodology and approach
- A detailed step-by-step articulation of the activities to be conducted, in order to cover all the national and international issues mentioned in the terms of reference
- Agreement on Timelines associated with each step, as well as division of work into various phases such that at the end of each phase, the various teams (Ministry of ICT, EY Uganda) share findings and observations.
- Discussion of Research tools to be employed i.e. secondary research (journals, international benchmarks, expert comments, research) or primary research (discussions with government (local and national) stakeholders, regulators) or both

Tool and Techniques

- Presentation
- Meetings
- Workshop
- E&Y methodology

Deliverables\Outcomes

- Project inception report/Project Charter

NITAU Contribution

- Proposed a counter team (PIT) to work with Ernst & Young
- Confirmed commitment through structured resources to support the project.

Figure 4: Activities tools and techniques and deliverables at planning

2 Landscape Analysis

In Phase 2, the landscape analysis, our aim was to understand the current e-government initiatives within Uganda and the underlying policies, models and frameworks. The landscape assessment was aimed at establishing and assessing current practices in public management and service delivery capacity to use ICTs in the public sector.

Based on the landscape analysis Ernst & Young articulated the e-government model within Uganda which was primarily comprised of the following integrated and interconnected elements.

Figure showing the E-government Model

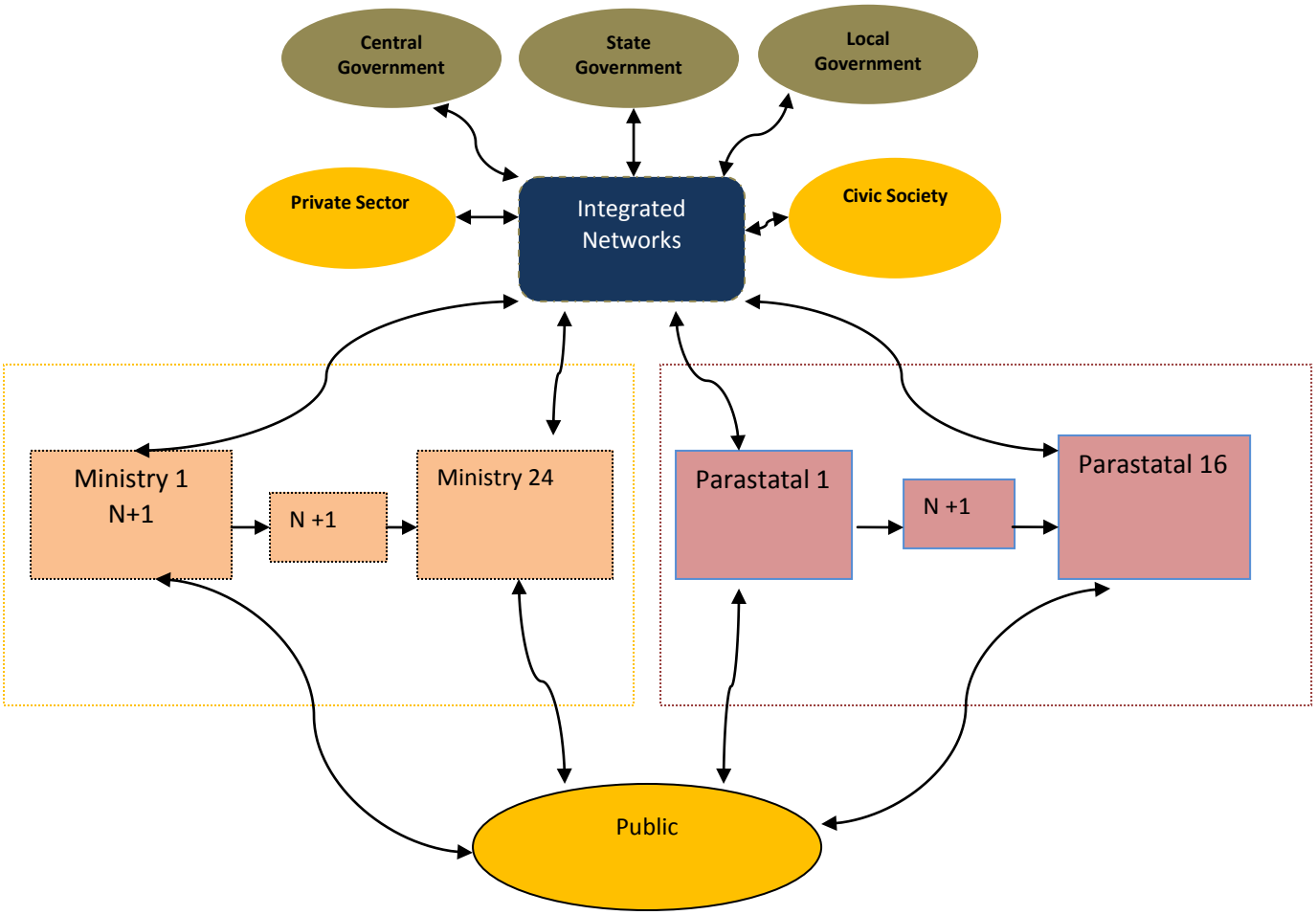


Figure 5: e-government model

E-government analysis in the public sector

Based on the agreed methodology of secondary and primary research in Phase 1, EY considered all the relevant e-government policies and initiatives within Uganda. These included; national ICT Master Plan, e-

government national feasibility study, e-government strategy framework, e-government policy framework and others.

Our aim here was to gain a better apprehension of the concept of e-government within Uganda.

ICT Industry Landscape assessment

The ICT industry Landscape is also very important as it may influence the direction which e-government will take. Our landscape assessment considered the key ICT players in the market, the ICT initiatives and products and services that are being adopted in Uganda. The ICT industry landscape has a significant influence in the way Government to Consumer/Public (G2C) and Consumer/Public to Government (C2G) services life cycle proceeds.

The private sector through Government to Business G2B and Business to Government B2G plays an important role in driving e-government services. Examples h ere are the significant roles being played by banks and telecommunications entities in ICT infrastructure development. NITA-U and the Ministry of ICT are working on the backbone infrastructure project which aims to connect Uganda public services. We took keen interest in understanding the impact of the backbone project within Uganda in terms of connectivity of the government services in Uganda.

E-government benchmark review with international governments and patterns

While Uganda's e-government readiness assessment primarily focused on the extent of e-government initiatives in keeping with its indigenous development framework, it was found important to confirm e-government initiatives, developments and polices from other developing countries in Africa and globally. We also looked at the e-governance initiatives in the developed nations to confirm progress they have made and understand components related to e-government assessment that have been built over the years . This way we were able to identify and agree with NITA-U on the adoption of e-government readiness assessment model and frameworks most appropriate for Uganda

In conducting such benchmark assessments, secondary research was the main source of data and considerations were also obtained from the World Bank bodies, United Nations, University researches and other governments' specific literature based on the selected samples.

Primary research was used mostly from the selected key stakeholders within Uganda. In capturing information about this area, meetings and workshops were key in primary data collection. In future assessments, there may be need to indentify stakeholders from UN, World Bank, Universities and research institutions as well as other governments who may be willing to contribute to this project in terms of case studies, lessons learnt and thought leadership.

Stakeholder identification and classification

To ensure comprehensive coverage and inclusiveness in the e-government readiness assessment, stakeholders' identification in key primary sectors that include national and local government, private sector as well as industries were require represented. Before selecting the stakeholders key attributes of representation, we considered demographics like gender, profession, education, age, location as primary. A set criterion for demographics was used as input in the design of the core stakeholders' selection.

A workshop for stakeholders was conducted and it was aimed at identifying the opportunities and challenges related to-e-government. The workshop was focused on;

- Educating stakeholders on the concept of e-government and its benefits.
- Sharing local and global insights related to e-governance
- Highlighting initiatives the government of Uganda has taken to date and the progress
- Seeking feedback in terms of reach of e-government initiatives within Uganda.
- Discussing the current areas of opportunities and challenges within Uganda in e-government.
- Getting feedback in terms of focus areas on e-government assessment model.

Below is a summary of the activities tools ,techniques and deliverables under Landscape analysis phase

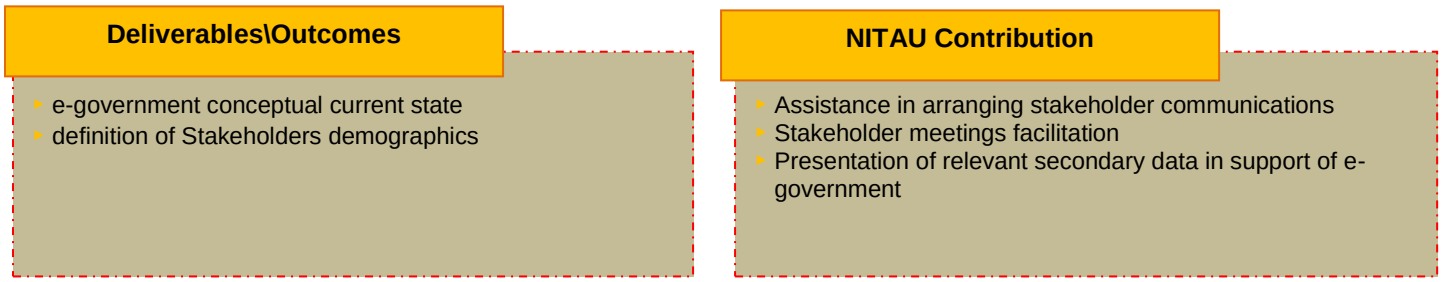


Figure 6: Activities tools and techniques and deliverables at Landscape Analysis

3 Frameworks and Model Design

The landscape analysis assisted in developing a solid understanding of the concept of e-government, the underlying high-level status core within the various sectors, the respective stakeholders who impact upon and are impacted by the e-government initiatives, the global perspective of e-government and how it relates to the Uganda perspective, the ICT industry landscape and the array of opportunities and challenges within Uganda.

This information provided Ernst& Young team with a solid foundation for developing the respective frameworks and models which included;

- Component based e-Government Assessment model
- E-government readiness assessment framework
- E-Government readiness assessment Monitoring and evaluation framework
- Design and Creation of a database of existing core stakeholders

Component based E-Government Assessment Model

E-Government Assessment is a foundation for developing e-government strategies that provides important knowledge for policy and decision makers.

E-government Assessment aimed at;

- Analysing the existing environment in which e-government would be implemented and assessing the motivations and capacity of a country to commence and sustain e- Government programs
- Providing benchmarks and awareness on current practice in public management and service delivery and capacity to use ICT in public Sector.
- Identifying driving forces for online presence, e-services, needs, opportunities, obstacles and challenges to be addressed by the strategy and implementation program.
- Using it as a diagnostic tool that helped to assess current status of service delivery and ongoing e-government initiatives and provide baseline information for strategic planning.
- Ensuring that e-government assessment is carried out on a regular basis as an ongoing part of e-government development and monitoring due to rapidly changing environment and technology
- Providing capacity at the national level which should be built for regular practice of e-government assessment
- Ensuring that e-government assessment is most successful when it forms part of a broader process of strategic planning

In developing the e-government assessment model our aim was to ensure that a robust and concrete model is developed. Our model components were based on input from landscape analysis and terms of reference initially presented by NITA-U . Major additions were derived from the landscape analysis.

When designing the modeling tools and techniques we considered our Ernst & Young modeling tools kits, UN e-government assessment tools kits and approved tools kits that were agreed at the planning stage with NITA-U and any other toolkits that were identified during the landscape analysis. The Components definition and modeling tools and best practise were used to design the e-government assessment model which went through various iterations of review and testing from selected stakeholders and NITA-U before approval.

The model was approved by NITA-U and selected stakeholders and can now be used for conducting e-government assessments within Uganda, and can also be referenced in the e-government readiness assessment and e-government readiness assessment monitoring and evaluation frameworks.

The following diagram illustrates how Ernst & Young designed the e-Government Assessment Model for the project.

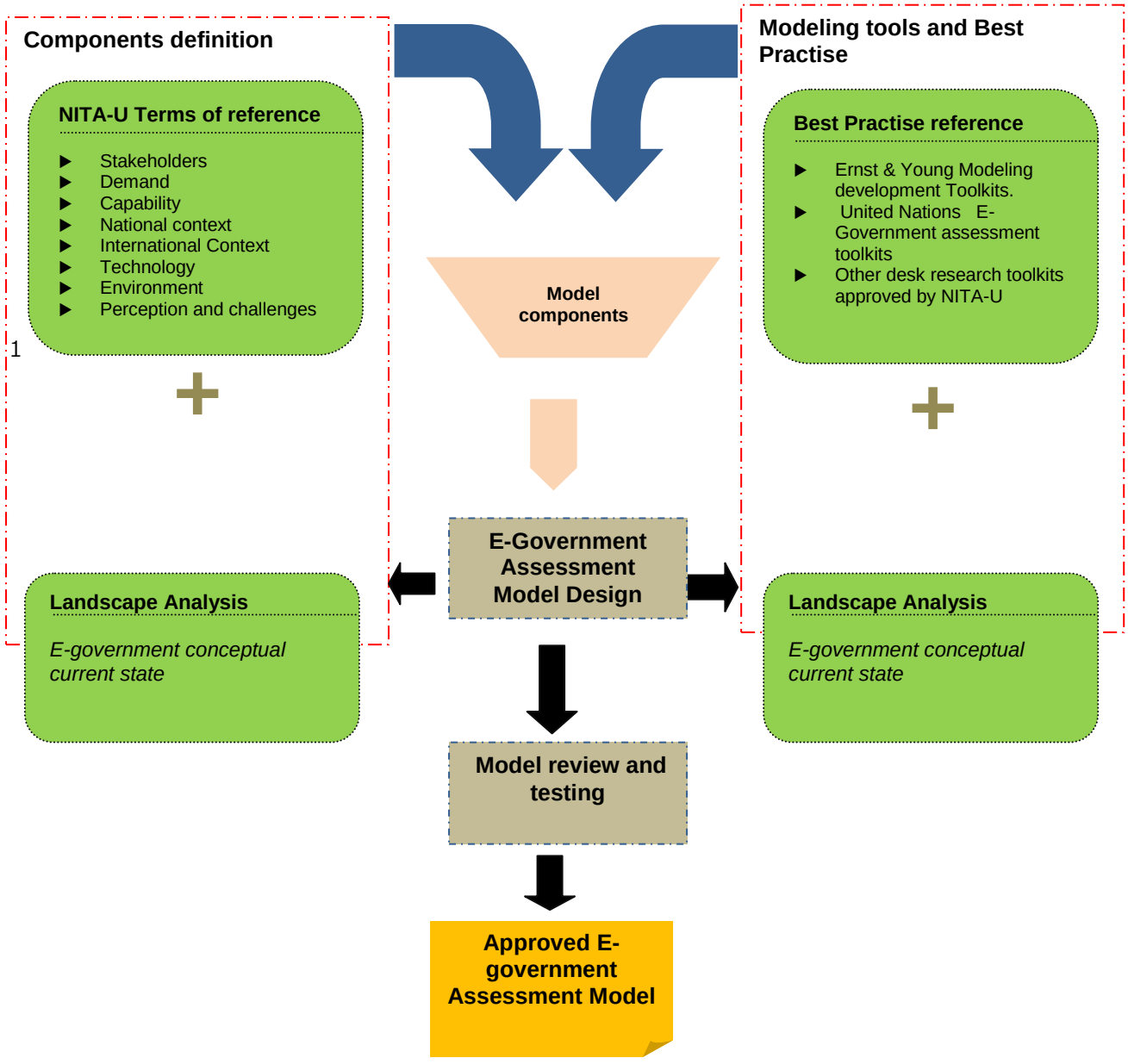


Figure 7: Design of E-Government Assessment model by Ernst & Young

E-government readiness assessment framework

E-government readiness assessment should provide all necessary information for strategic planning to address national development needs and to establish a sustainable implementation program. It aims to address information requirements for strategic planning by assessing e-government demand and capabilities within national and international contexts, as well as the enabling environment and ICT infrastructure.

The e-government assessment model is a key input into the development of the e-government readiness assessment framework. The government of Uganda has progressed in the development of the National ICT Master plan, e-government national feasibility study, e-government strategy framework and the e-government policy framework . In addition the developed e-government assessment model in this assignment was benchmarked against the National e-government targets , standards and benchmarks defined through the current e-government programs, policies and frameworks as well as standards, expectations and perceptions identified in the landscape analysis phase. The resultant product is an e-readiness assessment.

Below is a summarised model of the e-government readiness assessment model.

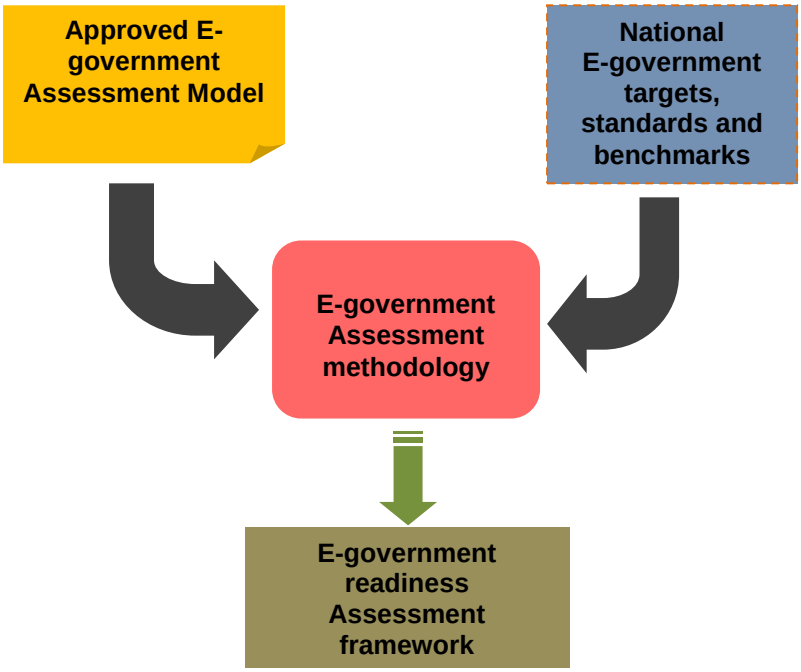


Figure 8: e-government readiness assessment framework

Following is how we envisaged the assessment methodology to resemble before any revisions as a result of the landscape assessment.

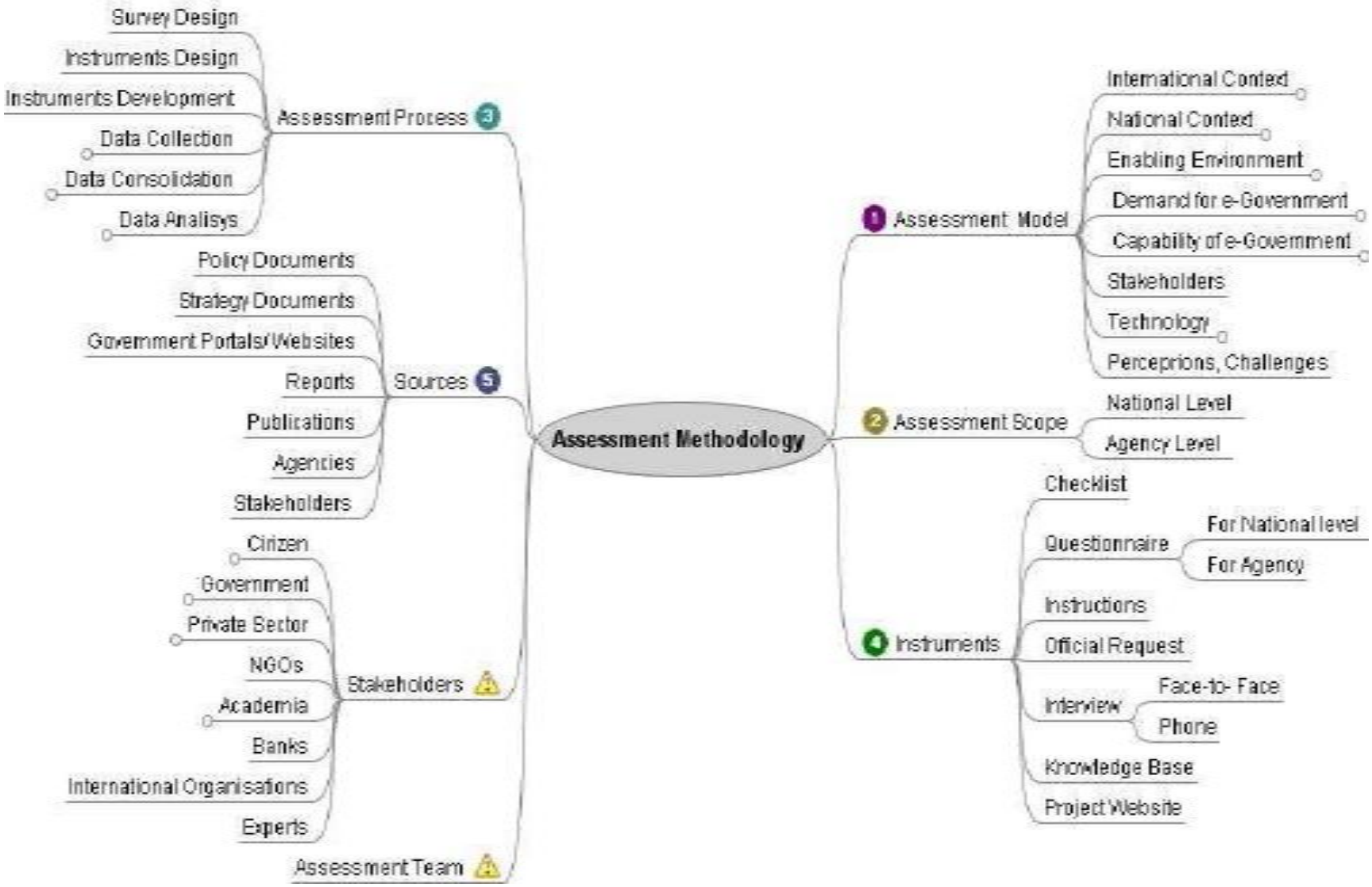


Figure 9: Assessment methodology

E-Government readiness assessment Monitoring and evaluation framework

The E-Government readiness assessment monitoring and evaluation framework was essentially designed to evaluate the E-Government readiness assessment framework by monitoring the component based e-government assessment model and confirming relevance based on the e-government landscape changes, as well as developments in the NITA-U and Ministry of ICT that may have an impact on e-government targets, standards and benchmarks. It was also aimed at assessing and regulating the process of e-government readiness assessment based on the e-government readiness framework.

Below is an illustration of the E-Government readiness assessment Monitoring and evaluation framework

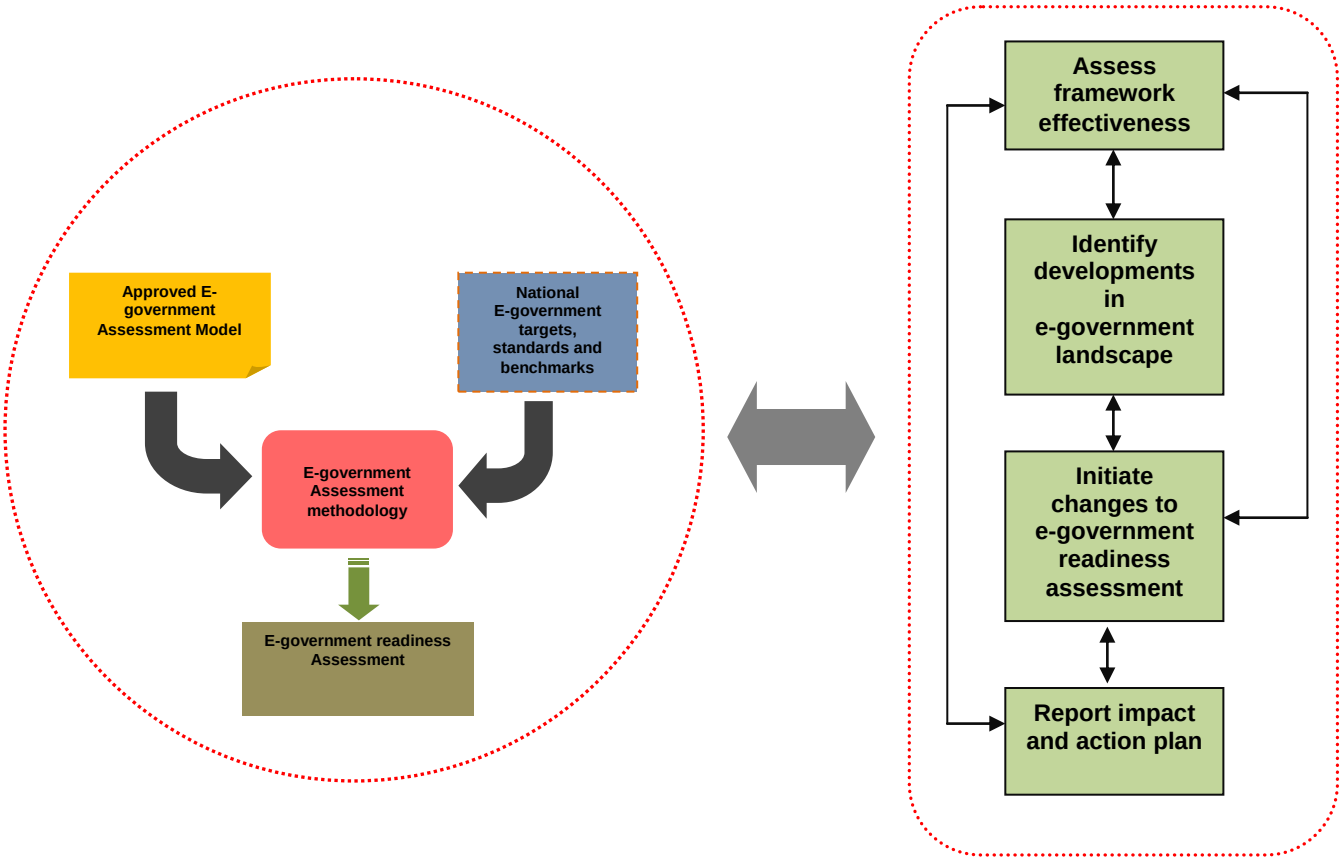


Figure 10: E-Government readiness assessment M&E framework

Design and Creation of a database of existing core stakeholders.

In the landscape analysis key stakeholders to participate in e-government readiness assessment were indentified based on a set criterion. However the component based e-government assessment would be key in the refinement of the scope of the stakeholders for inclusion in the assessment based on the revised components. . Under this phase the database was created based on the final accepted stakeholders.

The design specification was approved by NITA-U and some key stakeholders requested to champion the exercise.

Below is a summary of the activities ,tools ,techniques and deliverables under the ***Frameworks and Model design*** *phase*

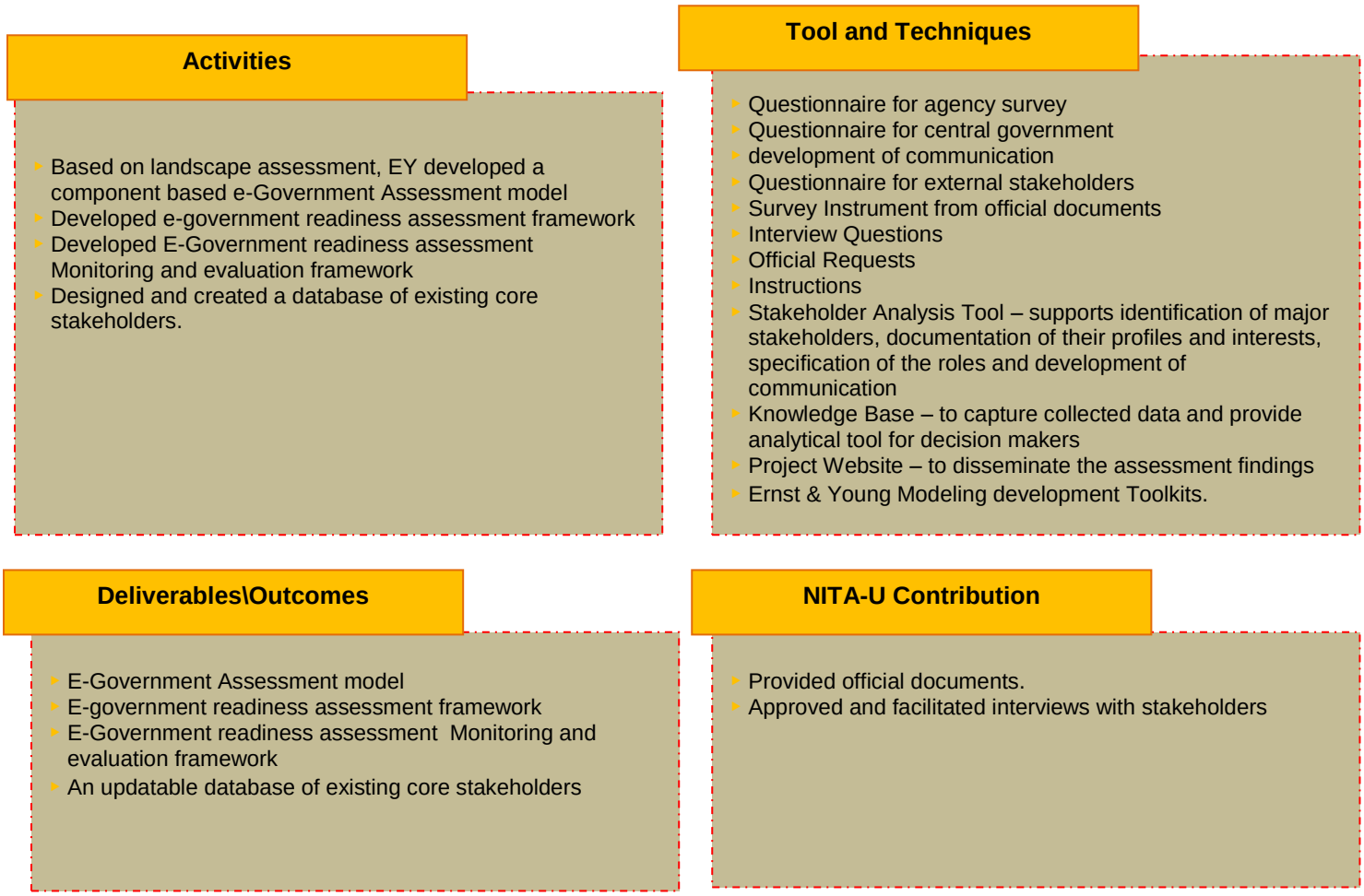


Figure 11: Activities, tools ,techniques and deliverables (Database design)

4 Feedback and sustain

The feedback and sustain phase was essentially aimed at providing feedback to stakeholders and NITA-U on the models and frameworks in phase 3 frameworks and model design. Once approved the e-readiness assessment was conducted based on the approved methodology, survey techniques, models and frameworks.

The database solution was also approved and commissioned for use by the stakeholders and NITA-U

Under this phase our aim was to;

- Solicit feedback from stakeholders (meetings, workshops presentation)
- Perform Quality Assurance on all proposed e-government frameworks and Models
- Collate stakeholders comments and assess impact on e-government readiness report
- Finalise E-Government readiness Assessment Monitoring and Evaluation framework
- Develop a final Updatable E-Government readiness benchmark database
- Conduct e-readiness assessment
- Finalise E-Government readiness report
- Write a Project closure report (processes and deliverables)

Below is a summary of the activities tools and techniques and deliverables under the Feedback and sustain phase

Activities

- etings, workshops presentation)
- Performed Quality Assurance on all proposed e-government frameworks and Models
- Collated stakeholders comments and assessed impact on e-government readiness report
- Finalised E-Government readiness report
- Finalised E-Government readiness Assessment Monitoring and Evaluation framework
- A final Updatable E-Government readiness benchmark database
- Project closure report (processes and deliverables)

Tool and Techniques

- Questionnaire for central government
- development of communication
- Questionnaire for external stakeholders
- Survey Instrument from official documents
- Interview Questions
- Official Requests
- Instructions
- Stakeholder Analysis Tool – supports identification of major stakeholders, documentation of their profiles and interests, specification of the roles and development of communication
- Knowledge Base – to capture collected data and provide analytical tool for decision makers
- Project Website – to disseminate the assessment findings
- Ernst & Young Modeling development Toolkits.

Deliverables\Outcomes

- Collate stakeholders comments and assess impact on e-government readiness report
- Final E-Government readiness report
- Final E-Government assessment model
- Final E-Government readiness framework
- Final E-Government readiness Assessment Monitoring and Evaluation framework
- A final Updatable E-Government readiness benchmark database
- Project closure report (processes and deliverables)

NITAU Contribution

- Provided official documents.
- Approved and facilitating interviews with stakeholders

Figure 12: Activities tools and techniques and deliverables (feedback and sustain)

Stakeholder's Consultation

4. Literature Review and Pre-Assessment Stakeholders' Consultation

4.1 National Context of E-Government – Current State Assessment

A current state assessment was carried out with the aim of gaining an understanding of the present e-government landscape in Uganda. The methodology for the assessment included a desk review of the available literature included various government policies, acts and initiatives. Various meeting were held with the NITA-U team regarding the scope and purpose of the current state assessment for the e-government readiness assessment.

Interviews were also conducted with the stakeholders from within and outside NITA-U. The process was complemented with a workshop with identified stakeholders that included government ministries, local governments, MDAs private sector players such as banks, telecoms as well representation from the academia. Ernst & Young and NITA-U presented a current summary of the current state situation followed by feedback session during which stakeholders presented their comments. The feedbackwas on both the current state summary presentation ,and the initial list of indicators that were developed by the NITA-U team and the Ernst & Young team. Feedback was also provided on the data collection methods proposed for the survey.

The feedback from the stakeholders was used to refine and enhance the indicators which helped define the scope and depth of the e-government readiness assessment survey. During the workshop it was noted that more sensitization was expected in the area of e-government within Uganda as well as the approach on how the survey was going to be carried out. The proposal of having the survey online was received with caution by the stakeholders and emphasis was put on incentivizing participants in the survey to complete the survey online as well as complementing the online data collection with physical data collection methods to ensure a reasonable amount of respondents responded to the survey.

Going forward the current state assessment findings assisted the consultant Ernst & Young to refine the set of indicators and NITA-U to validate key aspects that came out of the current state assessment . The findings further helped NITA_U to y adjust the approach that was to sensitization and conducting the surveys.

A set of potential questions were developed in line with the mandate of NITA-U, expectations of the survey, stakeholders and government of Uganda and once NITA-U approved the first set of indicators and questions a process to map the question to the survey tool followed resulting in the development of the framework for E-government readiness assessment.

4.1.1 Current State Assessment Summary

This section analyses the status of ICT Industry in Uganda in the context of E-governance readiness assessment, a tool that can be used to develop, implement and maintain a successful E-government programme. It should be looked at as an advisory tool that aims to;

- Raise awareness about the basic motivations and capacities and describing the environment for a successful e-government development process;
- Identify weaknesses that need to be addressed in order to ensure development of a successful e-government,
- Provide a monitoring and evaluation tool. Unfortunately E-readiness assessments are characterised by very short lifetimes and should be undertaken more regularly. In which case capacities should be built at the national level to ensure periodic e-government readiness assessment

The current state assessment revealed that us the Government of Uganda has taken strides towards implementing E-Governance. The following specific achievements have been attained;

- According to the Country Profiles E-Government overview from the United Nations E-Government Development Database, maintained by the UN Public Administration Programme, the E-Government ranking for Uganda was at 133 in 2008, and 142 in 2010, dropping 9 places. The E-Government status in Uganda in 2010 was estimated to be 28.12% compared to that of Kenya at 33.38%., Rwanda at 27.49% , Seychelles at 41.79% and Mauritius at 46.45%.

Key Observations

UN E-Government Development database rankings

- The E-Government ranking for Uganda was 133 in 2008, and 142 in 2010, dropping 9 places.
- The E-Government status in Uganda in 2010 was estimated to be 28.12% compared to that of Kenya at 33.38%., Rwanda at 27.49% , Seychelles at 41.79% and Mauritius at 46.45%

4.1.2 State of e-Government in Uganda

- The National Electronic Government Framework December 2010 was developed by MoICT with the consideration of the implementation of the e-Government programme
- A national ICT Master Plan and e-Government Network Feasibility Study was undertaken in Uganda, in August 2006;
- An e-readiness assessment was carried out in 2004.
- A feasibility study report for the National ICT Action Plan and e-Government Network has been undertaken
- A Rural Communication Development Program (RCDP) has been deliberately adopted by Government to extend ICT services to rural communities where service providers would not invest. It is implemented by UCC???
- A National data transmission and e-Government backbone infrastructure (NBI/EGI) linked to the submarine cable at the East African Coast is being installed by the Government

- All Government Ministries, Agencies and districts have Internet presence through websites. Websites for district local governments have been developed under the Rural Communication Development Program (RCDP)
- The Government of Uganda is developing a web portal to act as a gateway to government services with linkages to the business sector
- The MoICT in collaboration with UNIDO has successfully piloted the establishment of District Business Information Centers in eight districts of Arua (North), Jinja, Mbale and Soroti (East), Masaka (Central), Kabale (West), Gulu and Masindi to enhance access to ICT services to the citizens
- A National Data Centre to facilitate government wide data storage, usage, sharing and security has been built
- A coordination Agency, NITA-U has been established

A number of government institutions have taken on e-government computerization projects with varying degrees of success:

- The Ministry of Finance Planning & Economic Development has Installed an Integrated Financial Management System (IFMS) to facilitate management of public funds
- The Ministry of Defence has set up, and is implementing an Integrated Resource Management System;
- Local Governments Information Communication System (LoGICS) by Ministry of Local Government was tested but is yet to be adopted.
- Uganda Revenue Authority Countrywide Network (URANET) and Electronic Tax (e-Tax) by Uganda Revenue Authority;
- Electronic Funds Transfer System, Bank of Uganda/MoFPED;
- Community Information System (CIS) by National Planning Authority and Uganda Bureau of Statistics;
- Integrated Personnel Payroll System (IPPS) by Ministry of Public Service;
- Court Case Management System by the Judiciary;
- Land Information Management System by Ministry of Lands Housing and Urban Development
- The GIS based Water Resources Management System by the Department of Water Development (DWD)
- The spot billing and e-payment system by National Water & Sewerage Corporation
- E-Government Intercom (central government VOIP phones & Video Conferencing facilities) by Ministry of ICT
- National Voters' Register by Electoral Commission is available Online
- Salary and Wage Processing System by MOFPED
- Health Management Information System (HMIS) in the Ministry of Health
- Education Management Information System (EMIS) by MoES
  - Rural Information System to provide market information to farmers and other agriculture value chain stakeholders (Ministry of Trade, Tourism and Industry)
  - National Id System, launched but not yet operational, by Ministry of Internal Affairs
    - Birth & Death registration System by the Registrar General

Key Observations

- The national ICT Master Plan serves as a baseline on current state of ICT programs in the government
- GoU has fully addressed the six Key enablers of E_Government comprising of (i) establishment of a highly rated and successful regulator (the UCC) (ii) deregulation of telecomms sector, (iii) liberalisation of ICT trade, (iv) development of a national ICT framework, (v) establishment of internet cafes & phone kiosks in rural areas, and (vi) extending favourable commercial terms , to create a conducive environment for E- government
- The first phase of the NBI/EGI is linking Kampala, Bombo, Entebbe and Jinja offering such services as Voice (VoIP), Video (conferencing), office automation and email. The second phase is planned to extend to the border with Kenya in Eastern Uganda and Kabale in the south west. Third phase –is planned to connect Northern Uganda, North Western and Masindi in Bunyoro sub-region
- IFMS is being rolled out to other MALGS.
- LoGICs is meant to be a one stop center on decentralised services. It has however been faced with many conceptual challenges and therefore not successful
- The E-Tax system has the potential to succeed as a good implementation of e-governance; tax payers can conduct partial transactions.
- CIS is still under development. Potential to be a good implementation of e-governance. Has potential to provide good information to public online
- The IPPS allows limited interrogation by the payees. Public cannot interact with the system online. There is no provision for acknowledgement of receipt of payment
- The court case management system is still under Implementation. Could be resourceful in tracking progress of cases
- The E-Government intercom is not being used extensively. Sensitization and education about its use is highly recommended
- The National Voters' register is perhaps the best effort of E-Governance in Uganda but Citizens still cannot register online. Registration of political parties cannot be done online . Bandwidth issues still deny many a citizen access to the register online
- The salary & wage processing system is not really available for interrogation on line. Needs to be harmonized with the IPPS in MoPS
- The HMIS is helpful in monitoring diseases burden across the country and has provided internal efficiency.
- The EMIS has the potential to serve needs of citizens in monitoring education services. Implementation challenges abound
- The Rural IS is still under development but has potential to benefit both farmers and traders alike if properly implemented.
- Implementation issues have delayed the national ID system.
- No much information is available about the birth & registration system but a useful facility to serve citizens from districts and sub-counties

Current State description

Country	E-Government 2010	Rank 2010 out of 184	Rank 2008 out of 184	Rank Change
Mauritius	0.4645	77	63	-14
Seychelles	0.4179	104	69	-35
Kenya	0.3338	124	122	2
Zimbabwe	0.3230	129	137	+8
United Republic of Tanzania	0.2926	137	143	+6
Madagascar	0.2890	139	135	-4
Uganda	0.2812	142	133	-9
Zambia	0.2810	143	158	+15
Rwanda	0.2749	148	141	-7
Malawi	0.2357	159	146	-13

Source: United Nations E-Government Development Database 2010

Figure 13: E-government progress current state description 1

Current State description

Uganda's E-Governance Trend

Year	2003	2004	2005	2008	2010
E-Governance Index	0.296	0.329	0.3081	0.3133	0.2812

E-Governance Index		Online Service Index		Infrastructure Index		Human Capital Index		E-Participation Index	
Uganda	World Average	Uganda	World Average	Uganda	World Average	Uganda	World Average	Uganda	World Average
0.281	0.441	0.102	0.286	0.048	0.236	0.700	0.797	0.071	0.205

Source: United Nations E-Government Development Database 2010

Figure 14: E-government progress current state description 2

4.2 ICT Industry in Uganda Public Sector - Current State Assessment

4.2.1 Legal framework

The following legal framework is in place to promote ICT use in Uganda:

- The Electronic Transactions Act 2011
- The Electronic Signatures Act 2010
- The Computer Misuse Act 2011. The law ensures the security of and prevention of unlawful access to computers and information systems.
- National ICT Policy Framework (2003)
- National Electronic Government Framework 2010
- Communications Act, 1998
- Draft Postal Policy, July 2008
- Revised Telecommunications Policy, 2006
- National Information Technology Policy, 2009
- Electronic Waste Management Policy for Uganda (June 2010) MoICT

Key Observations

- There is now a conducive and competitive environment for doing business using electronic means in Uganda.
- There are favourable policies in support of ICT use in Uganda.
- A suitable enabling environment has been created for Uganda to fast track implementation of e-government
- Most MALGs have adopted use of ICTs in their service delivery but E-governance is yet to progress beyond websites.

4.2.2 Implementation of the National Backbone infrastructure

- Uganda is now connected to the fast international submarine fibre optic cables at the East African Coast.

4.2.3 Growth in Telecommunications

- There has been a significant growth in fixed line subscription and an explosive growth of the mobile phone platform
- The hirtherto prohibitive Exclusivity clause in the operator licenses has been removed thereby allowing new participants to enter the sector.
- Uganda has the lowest ICT licensing and services regimes in Africa. Tariffs and subscription fees have been significantly reduced.

4.2.4 Capacity building

- There is high production rate of skilled labour force with good training background. Each year Uganda's Universities produce over 10,000 graduates who can productively be engaged in the ICT sector.

4.2.5 Government interventions to promote ICT growth

- There is a supportive tax regime on computers. Government has reduced and also waived , taxes on computers and computer related equipment to encourage the growth of the ICT sector and its services.
- Government has planned and designated special areas for ICT Technology Parks. These will boost the development of Business Process Outsourcing (BPO), Incubation and Innovation systems

4.2.6 Rural Communications Policy:

- The Rural Communications Development Programme (RCDP) has helped extend telecommunications services to rural areas that would not attract commercial investors. This policy lays focus on three key aspects for the development of Uganda as an information society and these are: Coverage, Connectivity, and Content.

4.2.7 Business Process Outsourcing (BPO):

- Uganda has developed a Business Process Outsourcing strategy that is very supportive if ICT growth

4.2.8 Innovations in Science:

- Promotion of Innovative ICT Solutions through the Millennium Science Initiative and the Presidential Fund Support to new technologies at Makerere University through the Incubator
- The Ministry of ICT spearheaded the introduction of smart phone technologies (starting with Blackberry communications services) in Uganda which have made access to information e.g. through email easy and quicker. This service is aimed at making government more efficient and effective. It has been embraced by various agencies in the public and private sector

Key Observations

- There has been a dramatic fall in prices for international bandwidth, Internet subscription and usage: The total number of Internet users (fixed and mobile) is estimated to have grown to over 3.5 million by end of 2010
- population coverage of voice in Uganda is estimated at 100% (using both mobile and fixed lines)
- This has facilitated the development / establishment of International bandwidth infrastructure
- Internet usage costs are however still high for the average Ugandan especially in the rural areas
- There is skilled labour to harness the full potential of ICTs in Uganda.

- Many Government Ministries, Agencies and Local Governments have bought computers and other ICT technology related equipment for use by staff, creating a suitable environment for e-governance.
- NITA-U and Makerere University have embarked on training University Graduates to equip them with ICT Skills for global BPO opportunities. However the plan is very ambitious. It is unlikely that the expectations of these graduates will be met after training
- As detailed above this policy has created internet cafes, kiosks, call centers and local government portal,
- Private sector has strongly embraced the use of smart phones especially for internet access and e-mail communication

4.3 International Context of E-Government – Benchmarks

4.3.1 Regional and International developments on e-government current state summary

The United Nation e-government index is widely recognized as an authoritative measure of public sector capacity to provide electronic and mobile services. The UN e-Government Survey 2010 Report reflects that Uganda has regressed in its global e-government development index from 2008 to 2010, falling from rank 133 globally to rank 142. Kenya experienced a decline from rank 122 to 124, while Tanzania improved its ranking from 143 to 137. It is worth noting that Kenya and Rwanda are 6 years and 5 years ahead of Uganda respectively in terms of developing an e-Government framework Additionally an enabling environment for the development of e-Government across the EAC and COMESA trading blocs is being promoted and fostered by the two regional bodies

Crosscutting challenges and threats to e-Government implementation across the globe include:

- Cyber crime and cyber terrorism
- Undefined cross-border jurisdiction for cyber litigation
- Reliance on imported hardware and software
- Reliance on foreign funding
- Un-harmonized ICT Policies and Strategies
- Inadequate Infrastructure
- Adverse cultural beliefs and languages
- Inadequate funding
- Inadequate human resources
- Inadequate Public Private Partnerships (PPPs) frameworks

Country	E-government development index value		World e-government development ranking	
	2010	2008	2010	2008
Mauritius	0.4645	0.5086	77	63
Seychelles	0.4179	0.4942	104	69
Kenya	0.3338	0.3474	124	122
Zimbabwe	0.3230	0.3000	129	137
United Republic of Tanzania	0.2926	0.2929	137	143
Madagascar	0.2890	0.3065	139	135
Uganda	0.2812	0.3133	142	133
Zambia	0.2810	0.2266	143	158
Rwanda	0.2749	0.2941	148	141
Malawi	0.2357	0.2878	159	146
Comoros	0.2327	0.1896	160	170
Mozambique	0.2288	0.2559	161	152
Djibouti	0.2059	0.2279	170	157
Ethiopia	0.2033	0.1857	172	172
Burundi	0.2014	0.1788	174	174
Eritrea	0.1859	0.1965	175	169

Figure 15: E-government development ranking - Uganda

Benchmarking and Best Practices

The National Electronic Government Framework December 2010 was developed with the consideration of the implementation of the e-Government programme. A number of countries' e-Government programmes were reviewed and their implementation experiences were included in the framework. Not to reinvent the wheel, E&Y used the e_Government programs ofo the following countries as bench marks; Kenya, Rwanda, Mauritius, Singapore, Japan, and Canada. Regional body e-Government initiatives for the Common Market for East and Southern Africa (COMESA) and the East African Community (EAC) were also reviewed.

As such, this current state assessment report will focus on the e-Government implementation experience of these countries to ensure continuity in comparison toUganda's e-Government implementation experience against other countries and trading blocs. This report will also provide other international comparisons based on the United Nations E-Government Survey 2010 Report.

4.3.2 Case studies on e-government initiatives - Neighboring Countries (Kenya, Rwanda)

Kenya

- A National e-Government Framework was developed in March 2004
- A Directorate of e-Government was set up under the Cabinet Office within the Office of the President to coordinate and spearhead the implementation of the e-Government programme in Kenya.

- A change management programme has been undertaken through training and awareness of public servants
- Business process re-engineering is ongoing in some government departments to simplify procedures for computerization
- Village information centres are being set up in rural areas to promote public information access within rural communities
- Strong public private partnership in implementation of e-Government projects has been established
- Government Website standards have been developed
- Inter Ministerial Local and Wide Area Networks have been installed to promote seamless communication and information sharing
- Broadband infrastructure development is ongoing
- Various management information systems in Health, Financial, Human Resource, and Integrated Personnel amongst others have been developed.

Rwanda

- A comprehensive integrated ICT-led socio-economic development policy and plan (NICI-2005) set within the wider context of the developmental objectives of the country is in place.
- A blue print known as the Rwandan Electronic Government and Governance Initiative (REGGI) is in place for rolling-out the e-government and governance strategy and action plans within the context of the implementation of the four NICI Plans (NICI-2005, NICI-2010, NICI-2015 and NICI-2020) over the envisaged 20 years life-span of the Vision for Rwanda (VfR).
- An e-government Action Plan identifying specific programmes and initiatives to be implemented mainly as part of the NICI-2005 Plan is also in place.
- A clear framework within the context of the proposed e-government implementation strategy for the development and implementation of relevant e-government programmes within the subsequent NICIs (NICI-2010, NICI-2015 and NICI-2020) as part of the REGGI initiative.
- An institutional reform initiative aimed at the re-engineering of organizational processes, procedures and structures of civil and public sector institutions and establishments is on going

4.3.3 Middle Level Developed Countries (Mauritius and Singapore) Mauritius

In the year 2000, the Government of Mauritius announced that it would bring its services closer to the citizens by implementing an ambitious e-Government programme. Key developments that have taken place include:

- Development of a vision for e-Government to develop the country into a Cyber Island and create an information based society.
- Setting up of a high level Inter-Ministerial Committee under the Chairmanship of the Minister of Information Technology & Telecommunications to spearhead the development of e-Government.
- An awareness campaign to shift the mindset and culture within the Civil Service.

- Setting up of the Government Online Centre (GOC) infrastructure at the Ebene Cyber city
- Elaboration of an e-Government Master Plan for the Civil service
- Setting up of the Government Web Portal
- Introduction of e-Business Plan for Ministries and Departments
- Setting up of a Central IT Committee (CITC) at the Prime Minister's Office under the Chairmanship of the Head of the Civil Service
- Designation of Chief Information Officers (CIO) within each Ministry (Setting up of a CIO Council.
- Introduction of new legislations to consolidate the legal framework to create a conducive environment for the deployment and use of ICT.
- Civil service computerization.
- A training programme introduced to provide ICT-related training to some over 7,000 public officers.
- A National ICT Strategic Plan (NICTP) 2007 – 2011

Singapore

The e-Government Vision of the Singapore Government is "To be a leading e-Government to better serve Singapore and Singaporeans in the new Knowledge-based economy".

Singapore e-Government initiative originated from a Government decision to computerize the Civil Service in 1981 under the Civil Service Computerization Programme (CSCP). It aimed at manpower savings, operational efficiency improvement, better information support for decision making and certain pioneer services for the public. The early strategies that CSCP adopted was called Start Small, Scale Fast (SS-SF) - -.

The Singapore e-Government Strategic Framework was centered on three critical relationships – Government to Citizens (G2C), Government to Businesses (G2B) and Government to Employees (G2E). Based on this framework, an e-Government Action Plan was launched in June 2000, with five key thrusts:

- Re-inventing Government through continuous rethinking of all aspects of governance to explore the nature and quality of government interactions with its citizens, businesses and employees.
- Delivering integrated electronic services centered on customers' needs.
- Being proactive and responsive by adopting a 'sense and respond' approach.
- Using ICT to build new capabilities and capacities for achieving quantum leaps in service delivery.
- Innovating with ICT by embracing enterprise and experimentation.

To cater for the wide-ranging needs of the citizen, the Singapore Government established an e-Citizen Centre portal that provides one-stop online information and services covering Arts and Heritage, Business, Education, Elections, Health, Library, Safety and Security, Transport, Defense, Employment, Family, Housing, Recreation, Sports and Travel. The e-Citizen Centre is currently a home to more than 1,700 services of the 2,600 services identified that can be delivered electronically.The Infocomm Development Authority (IDA) of Singapore champions the implementation of the e-Government initiative.

4.3.4 Highly Developed Countries (Japan and Canada)

4.3.4.1 Japan

- February 1995: the Government of Japan developed and adopted a "Policy for the Promotion of the use of Information Technology (IT) in the whole society. Administrative reforms were implemented through the use of IT.
- November 1998: the policy was revised as "Basic Policy for the Promotion of Advanced Information and Communication Society". Accordingly, a Master plan was developed that led to the development of local and wide area networks (LAN and WAN) and provision of administrative information between government ministries and local governments by the internet.
- 2000/2001: Japan Government developed its e-Japan Strategy enacted into an IT Basic Law on the Formation of an Advanced Information and Telecommunications Network Society. The Law empowered the Prime Minister as the Chair of the Strategic Steering Committee. Emphasis was put on the development of the key IT infrastructure (backbone broadband infrastructure across the country).
- 2002/2003: e-Japan Strategy II was put in place emphasizing IT usage and applications development. The Government portal site (e-Gov), online acceptance systems for Ministries, and Public Key Infrastructure (PKI) was developed.
- June 2004, an e-Japan Priority Policy Program was put in place to enhance and further promotion of e-Government through the provision of one-stop services; optimization plans business processes and systems, and appointment of Ministry and Government Departments Chief Information Officers (CIOs) and their Assistants to champion the initiative.
- January 2006: Japan put in place a New IT Reform Strategy in pursuit of IT structural reform capabilities to be a front-runner leading the global IT revolution in the realization of an autonomous IT ubiquitous society (U-Society).

4.3.4.2 Canada

- The Canada portal has services ranging from;
- Governance Aspects (The Governor General, the Prime Minister, Parliament, Supreme Court, Government News and about the Government, Educational and Training).
- Services (Service Canada, Canada Business and Canada International)
- Information Resource Centre
- Popular Services (Weather, Jobs, Taxes, Social Insurance Number, Starting a Business, Replacing new documents, Financial Benefits, Passport, Immigration, Old Age Security, Canada Pension Plan)
- Canada is rated highest in the provision of e-Government Services due to the fact that it periodically consults its citizens on what kind of e-services they want.
- Unlike many countries, Canada's e-Government action plan is built on a foundation of facts based on known information from its customer base.
- Canada regularly surveys citizens and businesses about their attitudes and needs--more than any other country.

- Canada also actively markets its e-Government services to the citizens, business and non-citizens. It advertises on TV and radio, in airline magazines and newspapers to get citizens to use the portal, www.canada.gc.ca.
- One of the most interesting e-Government initiatives in Canada is its wireless portal that gives citizens mobile access to information, e-mail, and personal services. The wireless portal provides Canadians access to information on border wait times, government news, and economic indicators. Also the government portal lets the users to create their own customized page and offers alternate versions of its main site, such as for use on a mobile phone or through Blackberry devices. Canada, like many nations, has a national Chief Information Officer (CIO), who has been given the muscle to drive standards and promote e-Government across the government.

4.3.5 Regional Body Initiatives (COMESA and EAC)

4.3.5.1 COMESA Regional e-Government Initiative

- COMESA Secretariat has developed Information Technology (IT) Strategy Guidelines to guide full utilization and harness IT benefits during service delivery to member states
- Enabling laws and procedures on aspects of Telecoms, e-Commerce, Intellectual Property rights, Information and Communication, have been put in place
- Supportive tax regime on computers
- Automation of most of the back office operations at the COMESA Secretariat is ongoing
- Cross border ICT infrastructure like the EASSY project is under implementation
- Public Private Sector Partnership promotion
- COMESA Secretariat has established a number of websites that are providing member states with access to information facilitating implementation of regional initiatives. These include main COMESA website (www.comesa.int), COMESA Public Procurement (http://cpis.comesa.int), COMESA trade statistics (comstat.comesa.int), Food and Agriculture management information system (www.famis.comesa.int), Regional custom transit guarantee (www.rctgmiscomesa.int) and www.ariceaonline.org. for the Telecommunications Regulatory Authorities.
- COMESA is drawing up e-legislation guidelines to maximize on the opportunities provided by ICT to trade more efficiently and securely on a global scale
- Installation of a COMESA Closed User Group Very Small Aperture Terminal (VSAT) communications network used for Video Conferencing, Voice over Internet Protocol, and Internet and data exchange
- COMESA has established a Regional Customs Transit Guarantee Management Information System ((RCTG-MIS) to effectively manage the operations of the Regional Customs Transit Guarantee Scheme. The RCTG-MIS has four modules including; Information Dissemination module, Carnet Tracking module to monitor issuance of COMESA Carnets, Claims Management module to manage the registration, payment and reimbursement of claims and Reports and Statistics module for monthly and quarterly report generation and submission by various stakeholders

- RICTP at COMESA is providing opportunities to harmonize ICT policies and strategies, promoting information access (sharing and dissemination though websites and portals) both at the COMESA Secretariat and the Regional Implementing Organizations/RECs (EAC, OIC, IGAD).

4.3.5.2 EAC Regional e-Government Initiative

- The EAC Regional e-Government Programme was born at a stakeholder's e-Government Strategy Forum/Workshop that was held in Dar es Salaam in November 2004.
- Priority areas for the implementation of e-Government flagship applications were identified, prioritized and agreed upon by the stakeholders. The areas identified included; Customs and Immigration Control, e-Parliament, e-Health, e-Banking, e-Procurement, e-Commerce, e-Tourism, and Meteorological and Tidal Information. Immediately, a study to develop an EAC regional e-Government Framework was commissioned.
- The Study Report identified harmonized Policies and Strategies, Legal and Regulatory Framework, Crosscutting Issues (Education, Infrastructure, Poverty Reduction and Gender, Coordination, Monitoring and Benchmarking) as the major critical enabling factors for the effective implementation of the EAC Regional e-Government Strategy both at the regional and national levels. The Framework developed emphasized the need for a strong back-up support of legislations on data security, network security, cyber crime, information systems and electronic transactions.
- The EAC Regional e-Government initiative aims at using Information and Communications Technology (ICT) to transform the delivery of government services to the betterment of the people of the East African partner states.

4.3.6 Crosscutting challenges and threats to e-Government implementation

- Cyber crime and cyber terrorism
- Undefined cross-border jurisdiction for cyber litigation
- Reliance on imported hardware and software
- Reliance on foreign funding
- Un-harmonized ICT Policies and Strategies
- Inadequate Infrastructure
- Adverse cultural beliefs and languages
- Inadequate funding
- Inadequate human resources
- Inadequate Public Private Partnerships (PPPs) frameworks

United Nations E-Government Survey 2010 Results

The Top 20 Countries in E-Government Development

Rank	Country	E-government development index value
1	Republic of Korea	0.8785
2	United States	0.8510
3	Canada	0.8448
4	United Kingdom	0.8147
5	Netherlands	0.8097
6	Norway	0.8020
7	Denmark	0.7872
8	Australia	0.7863
9	Spain	0.7516
10	France	0.7510
11	Singapore	0.7476
12	Sweden	0.7474
13	Bahrain	0.7363
14	New Zealand	0.7311
15	Germany	0.7309
16	Belgium	0.7225
17	Japan	0.7152
18	Switzerland	0.7136
19	Finland	0.6967
20	Estonia	0.6965

High-income countries enjoy the top rankings in the UN e-government development index in 2010 as in previous years. Among the top five countries in the 2010 United Nations E-Government Survey, the Republic of Korea received the highest score (0.8785), followed by the United States (0.8510), Canada (0.8448), the United Kingdom (0.8147) and the Netherlands (0.8097).

Figure 16: UN e-government Survey 2010 Results-Top 20 countries

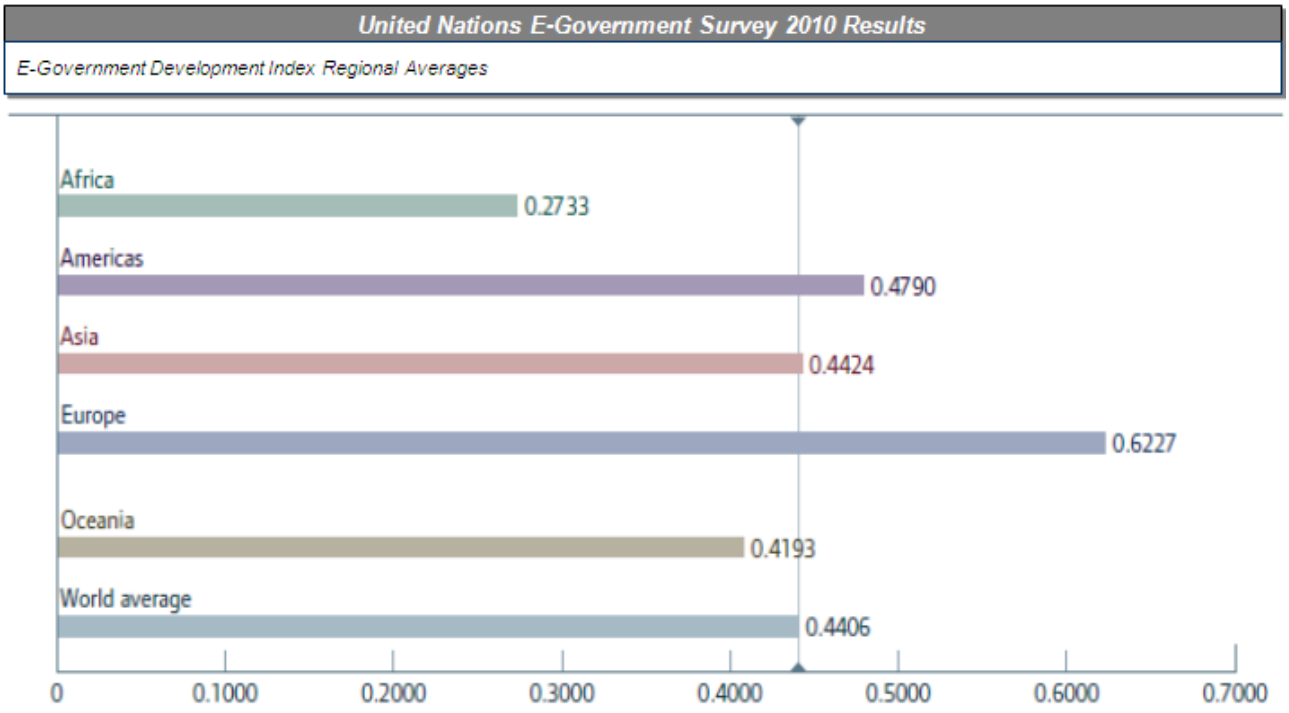
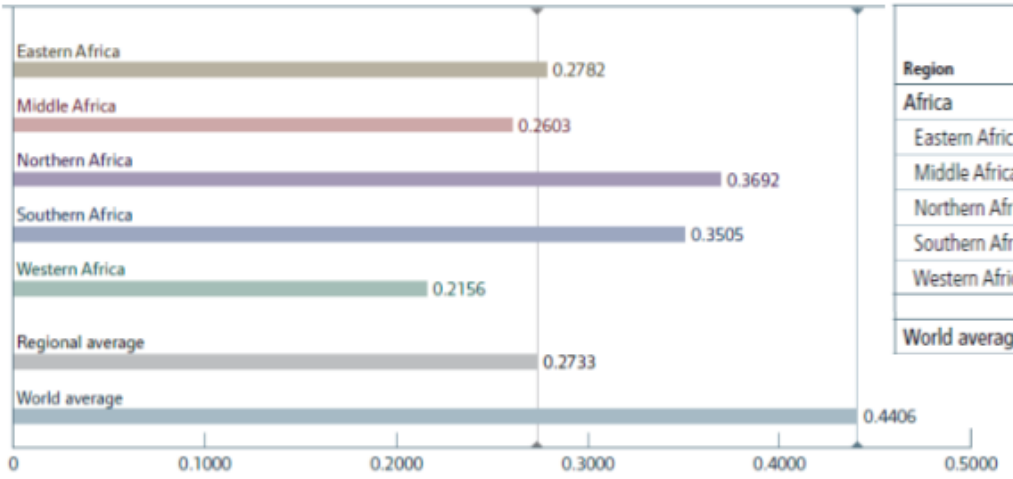


Figure 17: UN E-government Survey 2010 Results-Regional Averages

United Nations E-Government Survey 2010 Results

E-Government Development in Africa



Region	E-government development index value 2010	2008
Africa	0.2733	0.2739
Eastern Africa	0.2782	0.2879
Middle Africa	0.2603	0.2530
Northern Africa	0.3692	0.3403
Southern Africa	0.3505	0.3893
Western Africa	0.2156	0.2110
World average	0.4406	0.4514

Figure 18: UN E-government Survey 2010 Results-Development in Africa

United Nations E-Government Survey 2010 Results

E-Government Development – Top Ranked Countries in Africa

Rank	Country	E-government development index value 2010	2008	World e-government development ranking 2010	2008
1	Tunisia	0.4826	0.3458	66	124
2	Mauritius	0.4645	0.5086	77	63
3	Egypt	0.4518	0.4767	86	79
4	South Africa	0.4306	0.5115	97	61
5	Seychelles	0.4179	0.4942	104	69
6	Cape Verde	0.4054	0.4158	108	104
7	Libya	0.3799	0.3546	114	120
8	Botswana	0.3637	0.3647	117	118
9	Lesotho	0.3512	0.3805	121	114
10	Gabon	0.3420	0.3228	123	129
	World average	0.4406	0.4514		

Figure 19: UN e-government Survey 2010 Results-Top Africa Countries

United Nations E-Government Survey 2010 Results

E-Government Development in Least Developed Countries

Rank	Country	E-government development index value		World e-government development ranking	
		2010	2008	2010	2008
1	Maldives	0.4392	0.4491	92	95
2	Samoa	0.3742	0.3761	115	115
3	Lesotho	0.3512	0.3805	121	114
4	São Tomé and Príncipe	0.3258	0.3215	128	130
5	Angola	0.3110	0.3328	132	127
6	Bangladesh	0.3028	0.2936	134	142
7	United Republic of Tanzania	0.2926	0.2929	137	143
8	Equatorial Guinea	0.2902	0.2890	138	145
9	Madagascar	0.2890	0.3065	139	135
10	Cambodia	0.2878	0.2989	140	139
11	Myanmar	0.2818	0.2922	141	144
12	Uganda	0.2812	0.3133	142	133
13	Zambia	0.2810	0.2266	143	158
14	Rwanda	0.2749	0.2941	148	141
15	Lao People's Democratic Republic	0.2637	0.2383	151	156

Figure 20: UN e-government Survey 2010 Results-Least Developed Countries

4.4 Stakeholders' Interviews

4.4.1 Stakeholders' Workshop 15 December 2012

Stakeholders Comments	EY Response	NITA-U Response	Agreed Way Forward	Indicator Ref.
A. Is the coverage of the indicators sufficient? (Yes/No) 1. The General comment from participants was "No". More indicators need to be considered and these have been outlined in question No.2 below				
B. Which specific additional indicators need to be covered in the survey? As per the workshop group discussions, we noted the following additional indicators				
Specific comments for the indicators				
2. EG1; a) There is need to capture the quality of computer equipment since some are obsolete while others are in good condition and for how many years the equipment should be used	Have since included: i) % of working computers ii) Average age of computer			UEG4
b) Computer equipment should be accompanied with peripherals like scanners and printers	Already covered			UEG5
c) End point protection inventory should also be included	Already covered			UEG1
3. EG2; a) Include the job description for better assessment of results	Currently there are no standardized job description used by MDAs. We relied on information related to trained ICT staff and competency sets tested under current indicators			U

Stakeholders Comments	EY Response	NITA-U Response	Agreed Way Forward	Indicator Ref.
b) Capacity of the links, type of the links, the cost incurred, ISP and Service Level agreements terms should be captured under indicators	Type of link is already addressed in EG11. The following question was added: i) What bandwidth does your MDA have?			
4. Combine indicators No. 2 & 11	The two indicators are fundamentally different. There was no need to combine them .			
5. EG3; The status of the website should be noted as well. Some websites are updated while others are obsolete	Included a new indicator on frequency of update: i) How often is your website updated? Daily, Weekly, Monthly, Quarterly, Annually, Never ii) When did you last update your website iii) Who updates the website?			
6. No.5; Please remove the word phone and replace with mobile technology and specify types of services and platform	This indicator caters for the rural/mass population. No other indicator does. There was therefore no need to remove the word "phone"			
7. EG6; Consider the level of education and qualifications of the IT professionals	E&Y modified the question to Include: i) What is the minimum qualification of your ICT staff? (drop down list)			

Stakeholders Comments	EY Response	NITA-U Response	Agreed Way Forward	Indicator Ref.
8. EG9; Areas of expenditure should be captured as well	E&Y added: i) 4 to 5 Broad categories of ICT expenditure budget lines			
9. EG11; There is need to capture measurement of bandwidth and amounts	This was already Captured in 3(b) above			
10. Indicator 20 & 29 are referring to the same thing. There is need to cancel indicator 29 and then include the issue of formal training and expertise	E&Y Cancelled indicator number 20 due to its subjectivity and because number 29 is specific to Cyber Laws.			
11. No.22; Average computer processor capacity should be captured	This was already covered.			UEG4
12. Separate the expenditure on IT in order to measure effectiveness (Capex/Opex)	This was addressed. Refer to response in 8 above			EG9
13. Compare expenditure on IT capacity development with institutional capacity development budget	E&Y found this not necessary. Percentage of training to ICT budget is already captured.			EG10
14. Cost of maintaining the software should be used as an indicator	E&Y already addressed this in 8 above			EG9
General comments for the indicators				
15. There are various levels of professionalism and these need to be captured as well	Were addressed with the update of EG6			EG6
16. % of government systems that can inter-operate	This is not easily measurable. It is			

Stakeholders Comments	EY Response	NITA-U Response	Agreed Way Forward	Indicator Ref.
i.e. have connectivity with other systems should be captured	important to test integration of all GoU systems.			
17. There is need to include more qualitative and quantitative indicators	There was no specific indicator proposed. E&Y Did not change the indicator			
18. The number of MDAs enrolled onto the national back bone infrastructure should be captured	NITA-U has this information.			
19. The number of MDAs with electronic surveillance should be captured	E&Y considered the suggestion to be irrelevant because it does not seem to add any value in relation to E-Government Readiness Assessment			
20. Minimum requirement for all government computer equipment purchases; Standardization of hardware procured by all government institutions	E&Y Included the following new indicators: i) Does your MDA have a policy on minimum requirements for computer equipment specifications? ii) If Yes, what are the minimum requirements for: Hard drive space, RAM and Processor Speed for computers?			
21. % of government institutions with documented IT policies	E&Y included the new indicator and combine UEG17, 18, 21, 23 within it			

Stakeholders Comments	EY Response	NITA-U Response	Agreed Way Forward	Indicator Ref.
22. Transformation of individuals in terms of technology should be captured as an indicator	This would be based on analysis of all indicators.			
23. Categories of Indicators should also include; Financial, Individual and institutions both government and non-governmental	This has been done.			
24. Additional Indicators need to be relocated to the different categories namely; capacity, security, infrastructure and access plus usage	This has been done.			
25. Awareness of individuals needs to be captured as an indicator	This has been Captured in EG18			EG18
26. Under capacity building, an indicator reflecting training in the specialized areas should be included	Not sure about the specialized areas being referred to. NITA-U to provide guidance.			
27. The indicator of software to be moved elsewhere and usage indicator to concentrate on services	This has been addressed.			
28. Under staff disaggregation, introduce the level and rank category	Do not see any value of obtaining this data. NITA-U to guide.			
29. A section of the enabling environment i.e. laws, regulations, etc should be addressed	This has been Captured in various indicators; We also addressed the recent Cyber Laws.			
30. Under usage; Open source and proprietary may	This has been addressed.			

Stakeholders Comments	EY Response	NITA-U Response	Agreed Way Forward	Indicator Ref.
not be so relevant under new developments but should also be moved to infrastructure				
31. Policies; dissemination and implementation of policies indicators should also be captured	Refer to response under 21 above.			
32. Capacity; government capacity to provide e-services, citizens to access e-services, business to access e-services should be captured as indicators	The entire catalogue of indicators is aimed at achieving this.			
33. The definition of computer as an indicator needs to be specified as there are various devices called computers	This has bee addressed under ICT equipment indicator.			
34. Indicator showing the number of useful computers should be captured	Already captured under number 2 above.			
35. Location should be included in the disaggregation for capacity	Was included as standard information captured on respondents at the start of completing the survey questionnaire.			
36. Process automation; capture information on active websites and processes	Already captured information on frequency of website update, and types of processes that are automated in 5 above.			EG3 EG15
C. For the additional indicators identified, how would you propose the indicators to be measured? As per the workshop group discussions, we noted the following resolutions or measurement of indicators				

Stakeholders Comments	EY Response	NITA-U Response	Agreed Way Forward	Indicator Ref.
37. EG1; Each institution should list their comprehensive inventory and this should be used as a measure	This was not practical for survey purposes. It better suits an audit.			
38. List of government institutions with operational IT policies	It was Noted.			
39. Skills and ability of individuals in terms of technology should be captured and used as a measure	This was not a skills audit. E&Y did not consider it necessary.			
40. Extent of individual usage of technology should be used as a measure	Survey did not cover all ICT staff in MDAs as respondents andn was thereforenot measurable.			

4.4.2 E-government Assessment - 30 July 2012 Stakeholders' Workshop Report

No.	Code	Indicator	Relevance	Measurement (MDAs)	Information Source
1.	EG1	Percent of staff in government institutions with a computer, disaggregated by gender, age and PWD	Basic ICT Infrastructure Capacity	▶ Number of current staff segregated by age, gender, PWD ▶ Number of computers in issue segregated by users age, gender and PWD	▶ NITA-U ▶ HR Managers ▶ IT Managers
2.	EG2	Percent of staff in government institutions with Internet access at the office, disaggregated by gender, age and PWD	Connectivity to the internet	▶ Number of current staff segregated by age, gender, PWD ▶ Number of staff with access to the internet	▶ HR Managers ▶ IT Managers

No.	Code	Indicator	Relevance	Measurement (MDAs)	Information Source
				(regardless of whether they have access to a full time computer) segregated by gender, age and PWD	
3.	EG3	Percent of government institutions with websites and/or databases	Information portals and repositories	▶ List of government institutions URLs ▶ List of government institutions databases	▶ IT Managers
4.	EG4	Percent of government institutions with corporate networks (LAN, intranet, extranet)	G2G internal connectivity	▶ Connectivity Scenarios	▶ IT Managers
5.	EG5	Percent of government institutions offering mobile phone technology accessible platforms	Mobile Phone Application Technology	▶ List of mobile phone technology accessibility platforms by institution	▶ IT Managers
6.	EG6	Percent of ICT personnel in government institutions, disaggregated by gender, age and PWD	ICT Resource Capacity	▶ Number of ICT staff per institution segregated by age, gender and PWD	▶ HR Managers
7.	EG9	Percent of expenditure on ICT per total expenditure of government institutions	ICT Spend	▶ ICT expenditure in FY 2010-11 per MDA ▶ Total expenditure in FY 2010-11 per MDA ▶ Spend per major ICT Categories per MDA (including human resource, information security, ICT Equipment Maintenance) ▶ Specific spend on software maintenance	▶ Accounting Officers
8.	EG10	Percent of ICT budget spent on institutional capacity-building and human resource	ICT Resource / Capacity	▶ ICT expenditure in FY 2010-11 per MDA on ICT staff training and development	▶ Accounting Officers

No.	Code	Indicator	Relevance	Measurement (MDAs)	Information Source
		development	Development	▶ ICT expenditure in FY 2010-11 per MDA	
9.	EG11	Percent of government institutions with access to the Internet by type of access (narrowband, fixed broadband, mobile broadband)	Internet Connectivity Scenarios	▶ Internet connectivity scenarios per MDA	▶ IT Managers
10.	EG12	Percent of open source software vis-à-vis proprietary	ICT Build or buy decisions	▶ List/Number of software applications per MDA segregated by open source and proprietary applications including: o Cost of software license o Frequency of software upgrades	▶ IT Managers
11.	EG13	Percent and type of applications used, e.g. word processing, accounting, data base, website	Software functionality	▶ List of software applications used segregated by type/nature of application (functionality)	▶ IT Managers
12.	EG14	Percent of staff in government institutions who are trained on use of ICTs, disaggregated by gender, age and PWD	ICT usage capability	▶ Number of current staff segregated by age, gender, PWD trained on use of ICTs	▶ HR Managers
13.	EG15	Percent of government institutions providing services online and type of services; e.g. retrieval and printing of online forms, use of interactive online forms, online bids, payment of bills, tax filing applications, company registration, car registration, voting, public grievance systems, online feedback	Current Online Service Capability	▶ List of institutions with websites and services provided online segregated by type of service	▶ IT Managers

No.	Code	Indicator	Relevance	Measurement (MDAs)	Information Source
14.	EG16	Percent of requests processed using ICTs vis-à-vis overall number of requests	Request Processing – ICT (online and offline) usage Capacity	▶ List of types of requests processed by MDA; both manually and using ICTs ▶ List of types of requests capable of being processed using ICTs ▶ Number of total requests processed using ICTs in FY 2010-11 ▶ Total number of requests processed in FY 2010-11 both manually and using ICTs	▶ IT Managers ▶ Process Owners
15.	EG17	Percent of requests processed online vis-à-vis overall number of requests processed using ICTs	Request Processing – Online only Capacity	▶ List of types of requests processed by MDA; both offline and online ▶ List of types of requests capable of being processed online ▶ Number of total requests processed online in FY 2010-11 ▶ Total number of requests processed in FY 2010-11 both offline and online	▶ IT Managers ▶ Process Owners
16.	EG18	Degree of satisfaction of e-government service users, disaggregated by gender, age and PWD	e-Government users satisfaction levels	▶ List of e-government services in operation at 30 June 2011 e.g. e-Tax ▶ Lists of key functionalities of the e-government services e.g. for e-Tax; registration, filing returns, etc ▶ List of Satisfaction level criteria	▶ MDAs staff and managers ▶ Business owners / managers ▶ Citizens
17.	UEG1	Percentage of government institutions with network firewalls	Information Security and	▶ Type of firewall used by each MDA	▶ IT Managers ▶ Major ICT

No.	Code	Indicator	Relevance	Measurement (MDAs)	Information Source
			Business Continuity		learning institutions in Uganda
18.	UEG3	Percentage of government institutions with formal e-waste disposal policies and practices	e-waste disposal	▶ Number/List of institutions with formal e-waste disposal policies and practices as follows: ○ No formal policies and practices ○ Drafting formal policies and procedures ○ Planning to draft formal policies and procedures within the next 12 months ○ Formal policies and practices in use	▶ IT Managers
19.	UEG4	Average computer processor speed specifications across government institutions	Systems compatibility	▶ Number of computers and their processor speeds per institution	▶ IT Manager
20.	UGE5	Percentage of government institutions with ICT equipment	Basic ICT Infrastructure Capacity	▶ Number and type of ICT equipment in use per institution including: ○ Computers segregated by desktop and laptop ○ Printers segregated by multifunctional business printers (print, copy, scan, fax) and single function desktop printers ○ Standalone Scanners	▶ IT Manager

No.	Code	Indicator	Relevance	Measurement (MDAs)	Information Source
				○ Fixed line telephones segregated by type – IP or Analogue ○ Issued mobile phones and PDAs ○ Fax machines ○ Projectors ○ Servers ○ Network Switches/Hubs	
21.	UEG6	Percentage of government institutions ICT equipment maintenance performed in-house	ICT Infrastructure Sustainability	▶ List of types of ICT equipment maintenance performed segregated by in-house and outsourced maintenance per institution ▶ Number of ICT equipment maintenance tickets/jobs completed in FY 2010-11 segregated by type of maintenance performed per institution	▶ IT Manager
22.	UEG8	Number of push and pull mobile technology applications available to all geographic regions of the country per government institution	Mobile Technology Platform Use	▶ List of mobile technology applications used to serve citizens and businesses across all regions of the country e.g. use of a mobile phone to tell your polling station; get your NSSF balance; pay your water bill, etc	▶ IT Manager
23.	UEG9	Number of users connected to e-systems established by government institutions	Web & Mobile Technology Platform Use	▶ List of web and mobile technology applications used to serve citizens and businesses across all regions of the country e.g. e-Tax; and the number of	▶ IT Manager

No.	Code	Indicator	Relevance	Measurement (MDAs)	Information Source
				subscribers to each system segregated by government institution, business and citizen	
24. U	UEG10	Number of IT enabled services which are offered on mobile applications by Telecommunication Service Providers segregated by regional coverage	Mobile Application Service Platforms	▶ List of all telecommunication service providers in Uganda ▶ List of all mobile application services provided per telecom company by regional coverage (e.g. mobile money, mobile banking, etc)	▶ Telecom Companies ▶ UCC
25.	UEG11	Average number of IT security personnel per Government Ministry, Department or Agency	Cyber Laws	▶ Number of IT security staff per institution	▶ IT Manager
26.	UEG12	Number of cyber security incidences responded to by the National Computer Incident Response Team	Cyber Laws	▶ Number of cyber security incidences responded to by the National Computer Incident Response Team in FY 10-11	▶ Head of National Cyber Security Team
27.	UEG13	Average level of records management proficiency in government institutions	Records Management	▶ Status of records management per institution indicating: ○ Existing records management manual / policy document ○ Types of records maintained segregated by electronic and/or paper based records ○ Records Security Policies ○ Records Retrieval Polices and	▶ Head of Records Department ▶ Information Systems Manager

No.	Code	Indicator	Relevance	Measurement (MDAs)	Information Source
				number of steps ○ Quality of records and archive systems	
28.	UEG14	Level of e-records management in government institutions	Records Management	▶ Status of e-records management per institution indicating: ○ Existing e-records management policy ○ Level of records computerization – none; partial; full ○ Status of e-records – scattered isolated files; networked databases; information management system	▶ Head of Records Department ▶ Information Systems Manager
29.	UEG15	Status level of policy and legal framework for managing e-records by government institutions	Records Management	▶ Existence of public sector e-records policy and legal framework ▶ Comparability factor of public sector e-records policy and legal framework compared to: ○ International best practice ○ Private sector e-records management best practice	▶ NITA-U
30.	UEG16	Percentage of computers in government institutions that are running antivirus	Information Security and Business Continuity	▶ List of available antivirus programs used in Uganda ▶ Type of antivirus programs used by each MDA and status of licenses	▶ IT Manager

No.	Code	Indicator	Relevance	Measurement (MDAs)	Information Source
31.	UEG20	Percent of business objectives supported by information security strategy *Goals: Business Continuity, Cyber Laws Compliance, Training & Awareness, Governance & IT Risk Management*	Information Security and Business Continuity	▶ Number of ICT staff who have ICT security skills/knowledge based on receiving formal training or on-the-job learning segregated by gender, age and PWD ▶ Number of institution with information security functions ▶ Number of institutions planning to set up information security functions in the next 12 months	▶ IT Manager
32.	UEG21	Percentage of government institutions which have a business continuity management (BCM) strategy and framework	Information Security and Business Continuity	▶ Number/List of institutions with Business Continuity Plans and policies as follows: o No formal policies and practices o Drafting formal plans and procedures o Planning to draft formal risk management plans and procedures within the next 12 months ▶ Formal BCP program and practices in use and approved by management	▶ IT Manager
33.	UEG22	Percentage of government institutions that are currently using cloud computing based services	Internet connectivity affordability	▶ List of cloud computing technology accessibility platforms by institution ▶ Number of institutions o Currently using cloud computing o Cloud computing under evaluation o Not using cloud but considering in the	▶ IT Manager

No.	Code	Indicator	Relevance	Measurement (MDAs)	Information Source
				next 12 months ○ No plans to use cloud ○ Having approved policies for cloud computing	
34.	UEG24	Percent of government institutions permitting use of tablet computers for business use	Internet connectivity affordability	▶ List of mobile computing technology accessibility platforms by institution ▶ Number of institutions with approved policies for use of tablet computers	▶ IT Manager
35.	UEG25	Percentage of government institutions using e-signatures or digital certificates for online services	Information Security and Business Continuity	▶ List of institutions with websites and services provided online segregated by type of service ▶ List of types of electronic signatures used by MDA; ▶ List of types of online services and transactions capable of being processed using electronic signatures	▶ IT Manager
36.	UEG26	Number of vendors supplying digital certificates to government institutions	Information Security and Business Continuity	▶ Number/List of government institutions using electronic signatures ▶ List of digital signatures vendors	▶ IT Manager
37.	UEG28	Percent of business objectives in government institutions supported by the IT strategic plans	IT Governance	▶ Number of institutions with business plans ▶ ICT expenditure in FY 2010-11 per MDA ▶ Total expenditure in FY 2010-11 per MDA	▶ IT Manager

No.	Code	Indicator	Relevance	Measurement (MDAs)	Information Source
38.	USEG1	Percentage of working computers in government institutions	Capacity	▶ Total number of computers a government institution has ▶ Number of computers that are working in the government institution	▶ IT Manager
39.	USEG2	Average age of computers in government institutions	Capacity	▶ Average number of years since the majority of computers were purchased ▶ Date of last major purchase of computers	▶ IT Manager
40. U	USEG3	Average bandwidth being used (subscribed) to government institutions	Capacity	▶ Monthly bandwidth currently purchased by each government institution	▶ IT Manager
41.	USEG4	Average frequency of government institutions updating their websites	Capacity	▶ Average Periodic timelines for updating the website ▶ Dedicated resource for updating the website	▶ IT Manager
42.	USEG5	Average minimum qualifications of ICT personnel in government institutions	Capacity	▶ Minimum qualifications of MDA ICT personnel	▶ IT Manager
43.	USEG6	Average technical specifications for the purchase of computers by government institutions	Capacity	▶ Existence of minimum technical specifications policy ▶ Minimum technical specifications for the purchase of computers by government institutions	▶ IT Manager
44.	USEG7	Percentage of government institutions with documented IT policies	Capacity	▶ Number of institutions with documented formal IT policies in the following areas:	▶ IT Manager

No.	Code	Indicator	Relevance	Measurement (MDAs)	Information Source
				a) Information Security b) Classification and handling of sensitive data c) Acceptable Use d) Logical Access Security e) Change Management f) Risk Management as follows: ○ No formal policies and practices ○ Drafting formal policies and procedures ○ Planning to draft formal policies and procedures within the next 12 months ▶ Formal policies and practices in use	
45.	USEG8	Percentage of staff in government institutions with access to computers	Capacity	▶ Number of staff in each government institution with access to computers to performance work related activities	▶ MDA IT Manager
46.	A1	Fixed telephone lines per 100 inhabitants	Phone line connectivity	▶ Total Uganda Population ▶ Number of fixed phone line subscribers with Telecom Companies	▶ Uganda Bureau of Statistics (UBOS) ▶ Uganda Communications Commission(UCC)
47.	A2	Mobile cellular telephone subscriptions per 100	Phone line	▶ Total Uganda Population	▶ UBOS

No.	Code	Indicator	Relevance	Measurement (MDAs)	Information Source
		inhabitants	connectivity	▶ Number of mobile phone line subscribers with Telecom Companies	▶ UCC
48.	A3	Fixed Internet subscribers per 100 inhabitants	Internet connectivity access	▶ Total Uganda Population ▶ Number of fixed internet subscribers with Telecom Companies	▶ UBOS ▶ UCC
49.	A4	Fixed broadband Internet subscribers per 100 inhabitants	Internet connectivity access	▶ Total Uganda Population ▶ Number of fixed broadband internet subscribers with Telecom Companies	▶ UBOS ▶ UCC
50.	A5	Mobile broadband subscriptions per 100 inhabitants	Mobile internet connectivity access	▶ Total Uganda Population ▶ Number of mobile broadband subscribers with Telecom Companies	▶ UBOS ▶ UCC
51.	A6	International Internet bandwidth per inhabitant (bits/second/inhabitant)	Internet connectivity speed	▶ Total Uganda Population ▶ Total internet bandwidth available to Telecom Companies	▶ UBOS ▶ UCC
52.	A7	Percentage of the population covered by a mobile cellular telephone network	Mobile network coverage	▶ Total Uganda Population by geographical area/region ▶ Regional mobile telephone network coverage by telecom company	▶ UBOS ▶ UCC
53.	A8	Fixed broadband Internet access tariffs per month: In UGX as a percentage of monthly *per capita* income	Internet connectivity affordability	▶ Monthly per capita income in UGX ▶ Total fixed broadband tariffs charged by all telecom companies	▶ UBOS ▶ UCC / Telecom Companies

No.	Code	Indicator	Relevance	Measurement (MDAs)	Information Source
				▶ Total fixed broadband subscribers	
54.	A9	Mobile cellular telephone prepaid tariffs per month: In UGX as a percentage of monthly *per capita* income	Mobile telephone use affordability	▶ Monthly per capita income in UGX ▶ Total mobile phone pre-paid tariffs charged by all telecom companies ▶ Total mobile phone subscribers	▶ UBOS ▶ UCC / Telecom Companies
55.	A10	Percentage of localities with public Internet access centres (PIACs)	Access to free public internet connectivity	▶ List/Number of Districts ▶ Number of District Business Information Centers per district ▶ Number of registered internet cafes	▶ Ministry of Local Government ▶ NITA-U ▶ Uganda Registration Services Bureau

Indicator Coding Notes

EG	Task Group on E-Government of the Partnership on Measuring ICT for Development – Draft list of core e-government indicators
UEG	Specific E-Government Indicators provided by NITA-U
USEG	Specific E-Government Indicators provided by NITA-U Stakeholders at Workshop on 15 December
A	Core List of ICT indicators on ICT Infrastructure and Access

E-government Framework and Indicators

5. E-government Readiness Assessment framework and Indicators

5.1 Readiness Assessment Framework

5.2 Indicators

Below are the selected core E-government indicators

E-Government Capacity indicators

1. Percent of staff in government institutions with a computer, disaggregated by gender
2. Percent of staff in government institutions with Internet access at the office, disaggregated by gender
3. Percent of government institutions with websites and/or databases
4. Percent of government institutions with corporate networks (LAN, intranet, extranet)
5. Percent of government institutions offering mobile phone technology accessible platforms
6. Percent of ICT personnel in government institutions, disaggregated by gender
7. Number of intrusions and hacking of networks and websites of government institutions
8. Percent of spam messages per total email messages received
9. Percent of expenditure on ICT per total expenditure of government institutions
10. Percent of ICT budget spent on institutional capacity-building and human resource development
11. Percent of government institutions with access to the Internet by type of access (narrowband, fixed broadband, mobile broadband)

E-Government Usage indicators

12. Percent of open source software vis-à-vis proprietary
13. Percent and type of applications used, e.g. word processing, accounting, data base, website
14. Percent of staff in government institutions who are trained on use of ICTs, disaggregated by gender

E-Government Transformation indicators

15. Percent of government institutions providing services online and type of services; e.g. retrieval and printing of online forms, use of interactive online forms, online bids, payment of bills, tax filing applications, company registration, car registration, voting, public grievance systems, online feedback
16. Degree of satisfaction of e-government service users, disaggregated by gender

Core ICT indicators

17. Estimated Internet Users per 100 inhabitants
18. Main fixed telephone lines per 100 inhabitants
19. Mobile subscribers per 100 inhabitants
20. Total fixed broadband per 100 inhabitants
21. Total mobile broadband per 100 inhabitants
22. Internet bandwidth per inhabitant (bits/second/inhabitant)

Key Observations

- The United Nation e-government index is widely recognized as an authoritative measure of public sector capacity to provide electronic and mobile services. The list of core e-government indicators is derived from the UN's global e-government survey 2010 report.
- NITA-U requires indicators for assessing e-government readiness with the ability to monitor the indicators on a periodic basis and evaluate the impact of Government programs based on Uganda's e-government strategy on the performance of the indicators
- The selected indicators would provide a good indication of Uganda's e-government readiness and provide NITA-U with an implementable M&E framework for assessing e-government readiness

E-Government – The Four Stages of Online Service Development that influence Indicator selection

E-Government: The four stages of online service development

1. Connected
2. Transactional
3. Enhanced
4. Emerging

Stage 1 Emerging information services

Government websites provide information on public policy, governance, laws, regulations, relevant documentation and types of government services provided. They have links to ministries, departments and other branches of government. Citizens are easily able to obtain information on what is new in the national government and ministries and can follow links to archived information.

Stage 2 Enhanced information services

Government websites deliver enhanced one-way or simple two-way e-communication between government and citizen, such as downloadable forms for government services and applications. The sites have audio and video capabilities and are multi-lingual. Some limited e-services enable citizens to submit requests for non-electronic forms or personal information, which will be mailed to their house.

Stage 3 Transactional services

Government websites engage in two-way communication with their citizens, including requesting and receiving inputs on government policies, programmes, regulations, etc. Some form of electronic authentication of the citizen's identity is required to successfully complete the exchange. Government websites process non-financial transactions, e.g. e-voting, downloading and uploading forms, filing taxes online or applying for certificates, licenses and permits. They also handle financial transactions, i.e. where money is transferred on a secure network to government.

Stage 4 Connected services

Government websites have changed the way governments communicate with their citizens. They are proactive in requesting information and opinions from the citizens using Web 2.0 and other interactive tools. E-services and e-solutions cut across the departments and ministries in a seamless manner. Information, data and knowledge is transferred from government agencies through integrated applications. Governments have moved from a government-centric to a citizen-centric approach, where e-services are targeted to citizens through life cycle events and segmented groups to provide tailor-made services.

Governments create an environment that empowers citizens to be more involved with government activities to have a voice in decision-making.

Task Group on E-Government of the Partnership on Measuring ICT for Development
Draft List of Core E-Government Indicators

The Partnership on Measuring ICT for Development is an international, multi-stakeholder initiative to improve the availability and quality of ICT data and indicators, particularly in developing countries. Launched in 2004, one of the major roles of the Partnership is to help measure the information society by defining a core list of ICT indicators and methodologies to collect these indicators; the aim being to achieve a common set of core ICT indicators, to be harmonized and agreed upon internationally, which will constitute the basis for a database on ICT statistics.

Regional Workshops have taken place in Addis Ababa, Beirut, Gaborone and Santiago de Chile for capacity building in developing countries. Current partners include EUROSTAT, ITU, OECD, UNCTAD, UNESCO Institute for Statistics, the UN Regional Commissions (UNECLAC, UNESCWA, UNESCAP, UNECA), UN ICT Task Force, and the World Bank Group.

The Partnership published a list of forty-two core ICT indicators under four categories:

1. ICT infrastructure and access,
2. Access to, and use of ICT by households and individuals,
3. Use of ICT by businesses, and
4. ICT sector and trade in ICT goods.

Based on various key functions of ICTs, Seven (7) areas were proposed for use in defining an exhaustive list of e-Government indicators for the Partnership. These themes are based on a literature review of various documents produced in Africa and elsewhere, dealing with public reforms, local authorities and also the private sector.

The following 7 themes are proposed for developing core indicators:

1. Public sector management
2. Delivery of public services

3. Facilitating development of the private sector
4. Legal and judicial reforms
5. Policy, Legal and Regulatory Frameworks
6. Strengthening the capacity of parliaments
7. Empowering Local authorities

In 2009, The Partnership developed 18 core E-Government Indicators.

Extracts from the National Electronic Government Framework 2010

Considerations when selecting e-Government Indicators

The Key Pillars for the National e-Government Framework for Uganda

Six pillars have been earmarked for the successful implementation of the e-Government programme in Uganda. They include;

1. Institutional Framework which stipulates the core ministries, departments and agencies, private sector, academia and NGOs specifying roles and responsibilities for each.
2. A Legal and Regulatory Framework meant to provide the requisite environment for the e-Government service delivery between government, citizens, business and noncitizens.
3. Identified priority e-Government applications and services
4. Common ICT infrastructure and Shared services
5. A deliberate e-Government skills development programme for civil servants and other key actors
6. A deliberate communication and advocacy programme that will need to be developed to popularize the benefits of the e-Government programme across the country.

e-Government Objectives

The following objectives represent broad statements of the e-Government Framework:-

1. To continuously improve the efficiency of, and access to government information and services to meet citizen's expectations
2. To use the successful development of the e-Government initiative to promote Uganda, as an Information Technology centre for excellence in Africa.
3. To establish leadership and partnerships that advance e-Government services.
4. To develop and maintain a secure seamless and comprehensive e-Government interface (one-stop centre integrated service delivery mechanisms).
5. To manage the cost of e-Government implementation through effective use of technology.
6. To institutionalize the use of e-Government information and services through the adoption of appropriate organizational models.

7. To encourage the use of open source software in order to reduce the amount of money spent by Government on licensing proprietary software and encourage innovation in enterprise platform software development.

When considering the indicators to select for the e-Government readiness assessment, the key pillars for the National e-Government Framework and the e-Government objectives were considered

Draft List of Core E-Government Indicators

Section 1: Capacity Indicators

No.	Code	Indicator
1	EG1	Percent of staff in government institutions with a computer, disaggregated by gender, age and PWD
2	EG2	Percent of staff in government institutions with Internet access at the office, disaggregated by gender, age and PWD
3	EG3	Percent of government institutions with websites and/or databases
4	EG4	Percent of government institutions with corporate networks (LAN, intranet, extranet)
5	EG5	Percent of government institutions offering mobile phone technology accessible platforms
6	EG6	Percent of ICT personnel in government institutions, disaggregated by gender, age and PWD
7	EG7	Percent of government institutions that have IT strategic plans in place
8	EG8	Percent of business objectives in government institutions supported by the IT strategic plans
9	EG9	Percent of expenditure on ICT per total expenditure of government institutions
10	EG10	Percent of ICT budget spent on institutional capacity-building and human resource development
11	EG11	Percent of government institutions with access to the Internet by type of access (narrowband, fixed broadband, mobile broadband)

Section 2: Usage Indicators

No.	Code	Indicator
12	EG12	Percent of open source software vis-à-vis proprietary
13	EG13	Percent and type of applications used, e.g. word processing, accounting, data base, website
14	EG14	Percent of staff in government institutions who are trained on use of ICTs, disaggregated by gender, age and PWD

Figure 21: E-government Indicators

Draft List of Core E-Government Indicators

Section 3: Transformation Indicators

No.	Code	Indicator
15	EG15	Percent of government institutions providing services online and type of services; e.g. retrieval and printing of online forms, use of interactive online forms, online bids, payment of bills, tax filing applications, company registration, car registration, voting, public grievance systems, online feedback
16	EG16	Percent of requests processed using ICTs vis-à-vis overall number of requests
17	EG17	Percent of requests processed online vis-à-vis overall number of requests processed using ICTs
18	EG18	Degree of satisfaction of e-government service users, disaggregated by gender, age and PWD

Section 4: Core indicators on ICT security and e-content

No.	Code	Indicator
19	UEG1	Percentage of networks in government institutions in government with firewalls
20	UEG2	Percentage of ICT staff in government institutions with the ability to handle security either through formal training or on-the-job learning segregated by gender, age and PWD
21	UEG3	Percentage of government institutions with formal e-waste disposal policies and practices
22	UEG4	Average computer processor capacity specifications across government institutions
23	UEG5	Percentage of government institutions with ICT equipment
24	UEG6	Percentage of government institutions ICT equipment maintenance performed in-house
25	UEG7	Percentage of ICT budget spent on ICT equipment maintenance

Draft List of Core E-Government Indicators		
Section 5: Core indicators on ICT security and e-content		
No.	Code	Indicator
26	UEG8	Number of push and pull mobile technology applications available to all geographic regions of the country per government institution
27	UEG9	Number of users connected to e-systems established by government institutions
28	UEG10	Number of IT enabled services which are offered on mobile applications by Telecommunication Service Providers segregated by regional coverage
29	UEG11	Average number of IT security personnel per Government Ministry, Department or Agency
30	UEG12	Number of cyber security incidences responded to by the National Computer Incident Response Team
31	UEG13	Average level of records management proficiency in government institutions
32	UEG14	Level of e-records management in government institutions
33	UEG15	Status level of policy and legal framework for managing e-records by government institutions

Draft List of Core E-Government Indicators		
Section 4: Indicators on Information security		
No.	Code	Indicator
34	UEG16	Percentage of computers in government institutions that are running antivirus
35	UEG17	Percentage of government institutions which have a documented information security policy or strategy in place for the next 1-3 years
36	UEG18	Percentage of government institutions that have a defined policy for classification and handling sensitive data as a control for data leakage
37	UEG19	Percent of ICT budget spent on information security
38	UEG20	Percent of business objectives supported by information security function
39	UEG21	Percentage of government institutions which have a business continuity management (BCM) strategy and framework)
40	UEG22	Percentage of government institutions that are currently using cloud computing based services
41	UEG23	Percentage of government institutions that have a formalised IT risk management program in place
42	UEG24	Percent of government institutions permitting use of tablet computers for business use
43	UEG25	Percentage of government institutions using e-signatures or digital certificates for online services
44	UEG26	Number of vendors supplying digital certificates to government institutions

Figure 22: Draft list of Core E-Government Indicators

Survey Design and Online Survey Tool

6. Survey Design and Development of Online Survey Tool

6.1 Overview of survey design

The survey design mainly involved:

- Identifying the various types of respondents to be targeted for the survey; to ensure that the results from the survey would be fully representative,
- Determining the sampling frame and sample size,
- Developing the instrument (questionnaire) to be administered and
- Determining how the data would be collected (field work plan)

The e-Government Readiness Assessment Survey Instrument – a set of eight questionnaires based on identifying eight difference types of respondents was developed and formally approved by NITA-U. This document therefore outlines the other aspects of how the survey was administered; (1) the target respondents including the sampling frame and sample size, and (2) the survey plan.

The target respondents were identified, for each of the eight questionnaires, through a determination of the:

- target survey population;
- sampling technique and sampling frame; and
- sample size and location distribution;

.

The survey plan (preparation and execution/administration) addressed, for each of the eight questionnaires, the aspects of:

- Survey team recruitment and training
- Respondent sensitization/awareness
- Pilot survey
- Fieldwork – Data Capture
- Data Entry and Validation
- Survey Timeline

.

6.1.1 Survey Assumptions

- All respondents would be fully cooperative and provide the required data within the timeline and format required
- There would be no interruption in the survey process due to any unforeseen circumstances including forces of nature, politics, social unrest, etc

- Respondents have experience in completing online surveys or know how to complete online surveys
- All respondents know what e-Government is
- Respondents are technically competent in their areas of specialization
- All respondents' institutions have electricity/power
- All respondents' institutions have active internet access
- All respondents have computers and active email addresses
- All respondents will be available to complete the online survey during the survey period
- There are incentives for respondents to complete the survey

6.1.2 Anticipated Survey Challenges

- Getting all the target respondents to cooperate and participate objectively could be a challenge and lead to incomplete data.
- Communication/Language barriers in some areas up-country would make administering the questionnaires difficult.
- Un-timely local administration support especially in the districts up-country.
- Some institutions regard the data requested as sensitive and confidential (e.g. Bank of Uganda, Ministry of Finance, Security organizations like ISO, ESO, etc)
- Honoring of appointments by the respondents.
- Some questions may not be easily understood by the respondents.
- Some respondents may provide incorrect data for the sake of completing the survey.
- Fear by some respondents and their institutions that NITA-U may want the survey data for the purpose of taking over their jobs/roles or Information Technology budget allocation. A perception of conflict of roles or interest.

6.1.3 Possible Mitigating Measures to address the challenges during the Survey

- Use of introductory letters from NITA-U, and the intervention of local administrators in some districts who could introduce the enumerators.
- Advance sensitization of respondents and the public.
    - A single paper document could be developed to provide respondents with information on e-Government and the purpose of the survey.
    - Develop e-Government sensitization poster to leave on the notice boards of government institutions.
    - Investigate the possible use of ongoing government IT forums to sensitize the public.
    - Provide a brief of what the survey is about and outline the benefits of participation in all sensitization materials.
- Send questionnaires to respondents in advance, so that they can gather reference data in advance.
- Organize travel logistics prior to the field visits and use 4WD vehicles up-country.

- Train enumerators on how to handle communication barriers and used enumerators who know the local languages in the region they are allocated to.
- Conduct up-country survey first, and conduct the Kampala survey last, so that data entry can start during data collection while the Kampala survey is being done.
- The interface of the online survey should appear similar to the paper questionnaire.
- Use of SMS media and telephone calls to send targeted messages to respondents for those who have mobile contacts to inform them of and remind them about the survey timeline.
- Allow delegation of survey completion for respondents.
- Recognize the people/institutions who respond to the survey as an incentive for future participation

6.1.4 Online Survey Tool

The Online Survey Tool that was developed and used for all data entry (100% data entry) for all survey questionnaires. Data validation was specifically built into the tool to minimize data errors and any inconsistencies.

Figure 1.1 Survey Respondents and Fieldwork Plan – Single Frame Summary

	Survey Questionnaire								
Survey Design	1. NITA-U Head of Institution	2. GI* Head of Institution	3. GI* Human Resource Manager	4. GI* IT Manager	5. GI* Records Manager	6. Businesses and Citizens		7. UCC Head of Institution	8. UBOS Head of Institution
						Businesses	Citizens		
Target Respondents									
1. Survey Population	1	148	148	148	148	27,673	32,940,000	1	1
2. Sampling Technique	N/A	N/A	N/A	N/A	N/A	Cluster	Cluster	N/A	N/A
3. Sampling Frame	NITA-U AO	NITA-U Mini IT Surveys	NITA-U Mini IT Surveys	NITA-U Mini IT Surveys	NITA-U Mini IT Surveys	SMLEs**	General Public	UCC AO	UBOS AO
4. Sample Size *(1,642)*	1	148	148	148	148	379	664	1	1
5. Sample Location	Kampala	20 Districts	20 Districts	20 Districts	20 Districts	20 Districts	20 Districts	Kampala	Kampala
Survey Plan									
1. Respondent Sensitization	Required	Required	Required	Required	Required	Required	Required	Required	Required
2. Pilot Survey	N/A	11 April	11 April	11 April	11 April	11 April	11 April	N/A	N/A
3. Primary Data Collection	Online	Paper	Online	Online	Online	Paper	Paper	Online	Online

a) Secondary Collection	Paper	N/A	Paper	Paper	Paper	N/A	N/A	Paper	Paper
4. Data Entry & Validation	Survey Tool	Survey Tool	Survey Tool	Survey Tool	Survey Tool	Survey Tool	Survey Tool	Survey Tool	Survey Tool
5. Data Capture Timeline	1 Week	2 Weeks	2 Weeks	2 Weeks	2 Weeks	2 Weeks	2 Weeks	1 Week	1 Week
a) Start Date	13 April 2012	13 April 2012	13 April 2012	13 April 2012	13 April 2012	13 April 2012	13 April 2012	13 April 2012	13 April 2012
b) Field Visits Start Date	16 April 2012	16 April 2012	16 April 2012	16 April 2012	16 April 2012	16 April 2012	16 April 2012	16 April 2012	16 April 2012
c) End Date	20 April 2012	30 April 2012	30 April 2012	30 April 2012	30 April 2012	30 April 2012	30 April 2012	20 April 2012	20 April 2012
6. Qns & Completion Time	2Qs / 2m	21Qs / 45m	7Qs / 20m	54Qs / 2hr	4Qs / 3m	5Qs / 10m	2Qs / 3m	10Qs / 2hr	6Qs / 1hr
7. No. of Enumerators (28)	0	5	3	10	3	2	4	1***	1***
8. No. of Data Entrants (5)	0	0.8	0.2	2.6	0.1	0.6	1	Negligible	Negligible

**GI refers to Government Institutions*

***SMLEs refer to Small, Medium and Large Enterprises as per the definition by Government of Uganda*

****The enumerator and data entrant for NITA-U will cover the UCC and UBOS questionnaires as well. Hence only 1 resource has been budgeted for the 3 institutions.*

Figure 1.2 Survey Respondents – Single Frame Commentary

	Survey Questionnaire					
Survey Design	NITA-U	Government Institutions (Head of Institution, Human Resource Manager, IT Manager & Records Manager)	Businesses and Citizens		UCC	UBOS
			Businesses	Citizens		
Target Respondents						
1. Survey Population	Head of Institution *(Executive Director or his/her designee)*	All known Government Ministries, Departments and Agencies, and specifically targeted national/regional universities, hospitals and research institutions Size: 148	Small, Medium and Large Enterprises Size: 27,673	32,940,000	Head of Institution *(Executive Director or his/her designee)*	Head of Institution *(Executive Director or his/her designee)*
2. Sampling Technique	N/A	▶ 98 Specifically Targeted Ministries, Departments and Agencies ▶ 20 Cluster Sampled Local Governments (Districts) ▶ 28 Universities, Hospitals and Research Institutions	▶ Cluster Sampling ▶ Districts are the clusters		N/A	N/A
3. Sampling Frame	NITA-U Head of Institution	NITA-U Mini IT Surveys	Business Register	General Public	UCC Head of Institution	UBOS Head of Institution

4. Sample Size *(1,646)*	1	148	379	664	1	1
5. Sample Location	Kampala	20 Districts Country-wide			Kampala	Kampala

6.2 Sampling of Districts for Local Government, Businesses and Citizens

The steering committee of the survey proposed that for the purpose of surveying local government across the country, the Project Implementation Team should develop a subjectively determined sample of 5 districts per region, including new districts.

As such, based on the 4 regions of Uganda, we surveyed a total of 20 out of 112 districts as per the latest information on districts from the Ministry of Local Government of Uganda.

Consequently, we used the same analogy for the determination of the districts to be sampled for businesses and citizens in order to ensure comparability of data collected.

Members of the Project Implementation Team opted to select from each region, 3 mature districts (districts that have been in existence prior to 1 July 2005: over 6 years old), 1 semi-mature district (districts created between 1 July 2005 and 30 June 2009: between 2 and 6 years old) and 1 new district (districts created on or after 1 July 2009:and therefore less than 2 years old).

6.3 Target Respondents for Businesses and Citizens

6.3.1 Survey Population Definition

The target respondents are the population of businesses and citizens of Uganda.
For the purposes of this study, the following are the definitions of businesses and citizens:

- A business refers to any commercial enterprise that employs five people or more. This definition therefore includes small, medium and large enterprises as per the Ugandan definition of enterprises.
- A Citizen refers to a person who is a resident or inhabitant of a particular town or city.

6.3.2 Sampling Frame

Businesses

We used the business register compiled by Uganda Registration Services Bureau as the sampling frame to determine the sample size per region of small, medium and large enterprises.

Citizens

Residents of the selected 20 districts were the sampling frame.

6.3.3 Sampling Technique

A cluster sampling technique, which is equivalent to a two-stage sampling procedure, was used to identify businesses and citizens to be interviewed; with samples based on clusters (districts) spread by region across the country.

In the first stage of sampling; the district serves as a cluster, while in the second stage; a random sampling technique is used to pick the required number of businesses and citizens in each district.

The survey covers all the four regions in Uganda, with 5 districts being surveyed in every region. For Kampala in the Central region, all the five divisions of the district (Central, Kawempe, Nakawa, Makindye and Rubaga) will be covered. The number of sampled districts from each region was subjectively determined by the Steering Committee of the Survey.

The sample size distribution is based on the proportion of total population in the sampled districts in each region. The sampled districts are selected based on their maturity level, economic importance (concentration of businesses in the region) and geographical spread within the region.

For districts that serve as regional headquarters, only businesses in the municipal council are included in the sample, thus all municipalities and city divisions (for Kampala) are included in the sample. For the rest of other sampled districts in all other regions, the major town councils will be selected.

6.4 Sample Size by Location Distribution

6.4.1 Sample Size:

Businesses

The proportionate number of enterprises sampled from each area is based on distributional pattern of enterprises in Uganda as per the inventory of businesses from the Uganda Registration Services Bureau business register, 2006/07 reflected in Table 2.4.1.1 below.

Table 2.4.1.1: 2006/7 Uganda Business Register Report (Extract)

Region	2001/02	2006/07	% Increase	2011/12 (Prorated)	Regional Sample Size
Central	6,699	11,003	64.2%	18,067	248
Eastern	1,431	2,226	55.6%	3,464	47
Northern	721	1,297	79.9%	2,333	32
Western	1,718	2,558	48.9%	3,809	52
Total	**10,569**	**17,084**	**61.6%**	**27,673**	**379**

Based on a commonly used error of margin of 5% (confidence interval), with a population of 27,673 based on table above, and a 95% level of confidence, we calculated a sample size of 379 businesses.

Citizens

Below, Table 2.4.1.2 shows the districts and the number of enterprises and citizens sampled in each region based on the sampling technique described in section 2.3 of this document.

Table 2.4.1.2: Districts in Uganda and their populations – 2012 (as per Ministry of Local Government)

Region	Number of Districts	Regional Population	% of Total Population	Regional Sample Size
Central	24	6,575,425	27.2%	181
Eastern	32	6,116,369	25.3%	168
Northern	30	5,148,882	21.3%	142
Western	26	6,298,075	26.1%	173
Total	**112**	**24,138,751**	**100.0%**	**664**

Based on a commonly used error of margin of 5% (confidence interval), with a sample size of 32,940,000 as per the latest population figures of Uganda on the Uganda Bureau of Statistics website, and a 99% level of confidence, we calculated a sample size of 664 citizens.

6.4.2 Location Distribution:

Local Government, Businesses and Citizens

Based on the requirements as specified by the steering committee and Project Implementation Team mentioned in the introduction to section 2 of this document, we developed Table 2.4.2 below that provides an outline of the 20 districts that form the sample that will be used for the survey.

Table 2.4.2: Sample Size and Distribution

Region	**Districts sampled**		**Population as per MoLG***	**Percentage of sample population**	**Targeted Businesses**	**Targeted Citizens**
	Status	**Name**				
Central	Mature	Kampala	1,189,142	17.6%	67	117
		Mubende	423,422	6.3%	24	42
		Masaka	228,170	3.4%	13	23
	Semi-Mature	Mityana	266,108	4.0%	15	27
	New	Buikwe	329,858	4.9%	19	32
Eastern	Mature	Jinja	387,573	5.8%	22	38
		Mbale	332,571	4.9%	19	32
		Soroti	193,310	2.9%	11	19

Region	Districts sampled		Population as per	Percentage of sample	Targeted Businesses	Targeted Citizens
	Semi-Mature	Butaleja	157,489	2.3%	9	15
	New	Serere	176,479	2.6%	10	17
Northern	Mature	Arua	559,075	8.3%	31	55
		Gulu	298,527	4.4%	17	29
		Lira	290,601	4.3%	16	29
	Semi-Mature	Dokolo	129,385	1.9%	7	13
	New	Zombo	168,048	2.5%	9	17
Western	Mature	Hoima	343,618	5.1%	19	34
		Kasese	523,033	7.8%	30	52
		Mbarara	361,477	5.4%	20	36
	Semi-Mature	Ibanda	198,635	2.9%	11	19
	New	Sheema	180,234	2.7%	10	18
Total			**6,736,755**	**100%**	**379**	**664**

Note: Based on the total population of Uganda of 24,138,751 as per the Ministry of Local Government; the sample population of 6,736,755 represents 28% of the total population of Uganda.

**MoLG refers to Ministry of Local Government*

6.5 Survey Fieldwork Plan

6.5.1 Recruitment of Survey Fieldwork Team

6.5.1.1 Data Collection Team

For the fieldwork, the project recruited 28 enumerators (research assistants), 4 regional field supervisors, 4 survey assistants and 1 survey logistics coordinator for the data collection exercise.

Role	Number	Role Description
1. Enumerator	28	▶ Collection of data from targeted survey respondents
2. Regional Supervisor – Data Collection	4	▶ Coding of paper questionnaires ▶ Provision of guidance, supervision and logistical support to the data collection team while in the field ▶ Validation of data collected while in the field ▶ Confirmation of coverage of sample size while in the field

3. Survey Assistant	4	▶ Booking of appointments for survey team members for Government Funded Institutions' Respondents
4. Survey Logistics Coordinator	1	▶ Provision of logistical requirements and support prior to, during and after the survey. This includes: o Printing of survey questionnaires o Payment of enumerators o Coordination of transport – upcountry and Kampala o Coordination of hotel accommodation o Communication (contact person) liaison between the enumerators and the survey team leader
Total	**37**	

6.5.1.2Data Entry Team

For data entry, the project recruited 5 data entrants, 1 data entry supervisors, 2 data entry assistants and 1 data entry logistics coordinator for the data entry exercise.

Role	Number	Role Description
1. Data Entrants	5	▶ Post data from paper administered questionnaires into the survey database using the Online Survey Tool
2. Supervisor – Data Entry	1	▶ Provide guidance and supervision support to the data entrants ▶ Validate and clean up data posted prior to permanent storage and data analysis
3. Data Entry Assistant	2	▶ Support Data Entry Supervisors in data validation and clean up ▶ Filing of paper questionnaires before and after data entry
4. Data Entry Logistics Coordinator	1	▶ Provision of logistical requirements and support, including: o Payment of data entrants o Management of Data Entry Center o Provision & management of laptop computers for data entry o Communication (contact person) liaison between the entrants and the survey team leader
Total	**9**	

6.5.1.3 Training of Survey Fieldwork Team

After recruitment, the research assistants, supervisors, survey assistant and survey logistics coordinator were trained for two days (training timetable is included as an appendix to this document).
The purpose of the training was to equip the survey field work team with the necessary survey and data collection skills required for this specific survey; to enable them to undertake the exercise smoothly. The training involved discussing each item on the questionnaires to ensure clarity and test the robustness of the tool for the purpose of the study. To ensure NITA-U was involved in each step in the survey implementation processes, a member of the NITA-U project team was required to attend the training sessions and be instrumental in ensuring that all NITA-U concerns regarding the survey were addressed.

6.6 Pilot Survey

A one-day pilot study was conducted on 11th April 2012, day two of the trainingto validate the research questionnaires. The purpose of pre-testing the tool was to assess the clarity of the items on the questionnaires so that those items found to be inadequate in measuring the variables could either be modified or discarded to improve the quality of the research questionnaires. It would also be used to gauge the realism of the survey questions asked in terms of the time to complete the questionnaire and how that relates to the respondent providing the requested information in an agreeable amount of time.

The pilot survey was conducted in Kampala city. 10 respondents for the pilot survey were agreed with NITA-U and operated in different sectors. A communication informing the pilot survey respondents of their selection was sent out on 4th April 2012.

During the pilot study, the enumerators discussed each item on the questionnaire with the respondents to determine their suitability and clarity for the purpose of the study. An analysis of the results of the pilot study was conducted to validate the suitability of the questions being used to solicit the required data from the respondents and the robustness and reliability of the instrument. The necessary revisions to the questionnaires were made and the questionnaires finalized for the survey.

6.7 Respondent Sensitization/Awareness

A pre-survey communication to the public providing information regarding the purpose of the survey and expectations of the survey respondents was broadcast in the national media a week in advance in August 2011. A pre-survey email to the respondents providing information regarding the purpose of the survey, expectations of the survey respondent; instructions on how to complete the survey; and the deadline for completion was sent out on the same date.

6.7.1 Sensitization Responsibilities

The following table outlines the responsibilities of sensitization in relation to the role of NITA-U and Ernst & Young

Organization	Survey Sensitization Role
NITA-U	▶ Created all content for survey sensitization materials ▶ Created a page on the NITA-U website with information on e-Government and provided EY through which the Online Survey Tool could be made accessible. ▶ Determined the need for and decided upon the possible use of print media, radio, TV and the internet to sensitize survey respondents and the public about the e-Government survey
Ernst & Young	▶ Distributed all survey related sensitization materials targeting specifically respondents to sensitize them prior to interviewing them ▶ Validated any sensitization material to be released to the media through print media, radio, TV and the Internet that relates to the survey ▶ Attended and participated in radio and TV sensitization programs at the request of NITA-U in order to communicate information relating to the conduct of the survey

6.8 Survey Timeline

The survey was conducted after the Easter 2012 holidays in order to ensure that the respondent had ample time in which to complete the survey questionnaire.

The e-government readiness assessment survey run for 2 weeks from Friday 13th April to Monday 30th April 2012.

Date	Activity
Friday 13th April 2012	▶ Sent out emails with a link to the survey, and a soft copy of the questionnaire, to respondents ▶ Called respondents the following week to confirm receipt of the email and set up appointments to visit them to collect duly filled questionnaires
Week Starting	**Activity**
Monday 16th April 2012	▶ Conducted up-country Government Institutions survey through in-person visits ▶ Conducted businesses and citizens survey nation-wide including Kampala

Monday 23rd April 2012	▶ Conducted Kampala-based Government Institutions survey; in-person visits ▶ Commenced Data Entry
Date	**Activity**
Monday 30th April 2012	▶ Finalized data entry

6.9 Data Capture, Entry and Validation

Data capture was done using the online survey tool developed specifically for this survey. For respondents that did not have access to the online survey tool, data capture was done using paper based questionnaires which were pre-coded.

In order to minimize the amount of time spent waiting for respondents to complete the survey at their leisure and enhance the response rate, an assisted online survey approach was be adopted. The table below shows the priority that applied for respondents to complete the survey.

Table 3.5 Survey Completion Method Priorities

Questionnaire	Survey Completion Method		
	Self Completed (Online Survey Tool)	Assisted Completion (Online Survey Tool)	Assisted Completion (Paper Questionnaire)
1. NITA-U Head of Institution	Primary	Secondary	
2. GI* Head of Institution		Primary	Secondary
3. GI* Human Resource Manager		Primary	Secondary
4. GI* Information Technology Manager		Primary	Secondary
5. GI* Records / IS** Manager		Primary	Secondary
6. Businesses and Citizens			Primary
7. UCC Head of Institution		Primary	Secondary

8. UBOS Head of Institution		Primary	Secondary

**GI refers to Government Institution*

***IS refers to Information Systems*

Data Entry and data validation were done using the online survey tool. Data was validated by the online survey tool, section by section, prior to the respondent / data entrant being allowed to submit the completed questionnaire.

Data entry for all paper questionnaires administered were done by the 24 data entrants who were to be based in a data entry center set up specifically for the data entry exercise.

Completion Status

7. E-government Readiness Assessment – Completion Status

Section A: Completion Status

7.1 Overall Results

Questionnaires: GI, B&C, UCC, UBOS	Number of questionnaires	Percentage
Targeted	1582	100%
Completed	1426	90%
Pending	156	10%

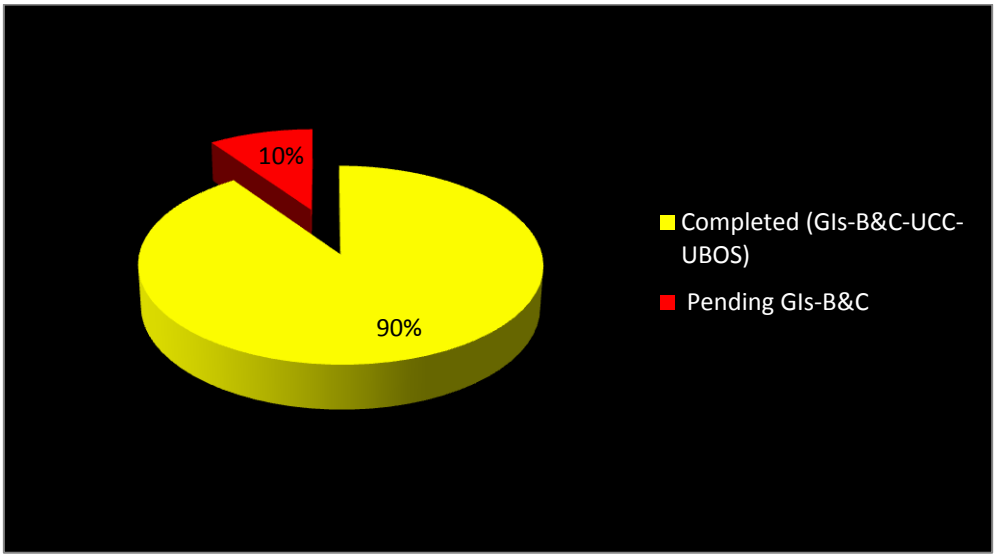


Figure 23: Overall completion status

7.2 E-government Readiness Assessment completion – Businesses and Citizens

7.2.1 Businesses and Citizens – Targeted Districts

List of Sampled Districts	No of B&C Questionnaires Completed	District composition in percentage
Kampala	262	23
Mubende	66	6
Masaka	36	3
Mityana	42	4
Buikwe	51	5
Jinja	58	5
Mbale	51	5
Soroti	30	3
Butaleja	24	2
Serere	27	2
Arua	86	8
Gulu	46	4
Lira	45	4
Dokolo	20	2
Zombo	26	2
Hoima	53	5
Kasese	82	7
Mbarara	56	5
Ibanda	30	3
Sheema	28	3
TOTAL	1119	100
Targeted Questionnaires	1119	100
Completed	1119	100
Pending	0	0

7.2.2 District Completion status - Businesses and Citizens

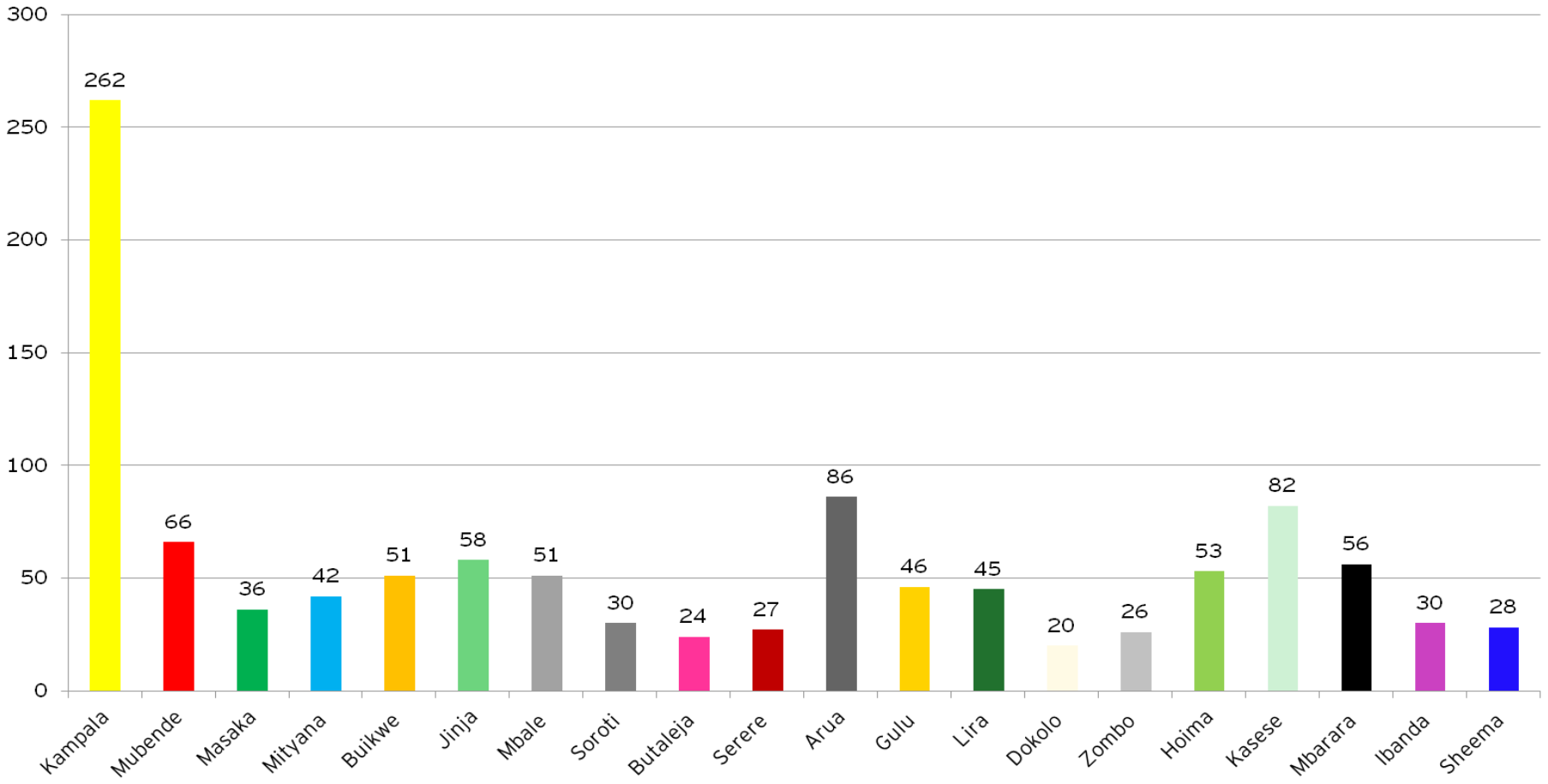


Figure 24: District Completion status – B&C

7.2.3 Businesses and Citizens – Percentage of Businesses and Citizens per district

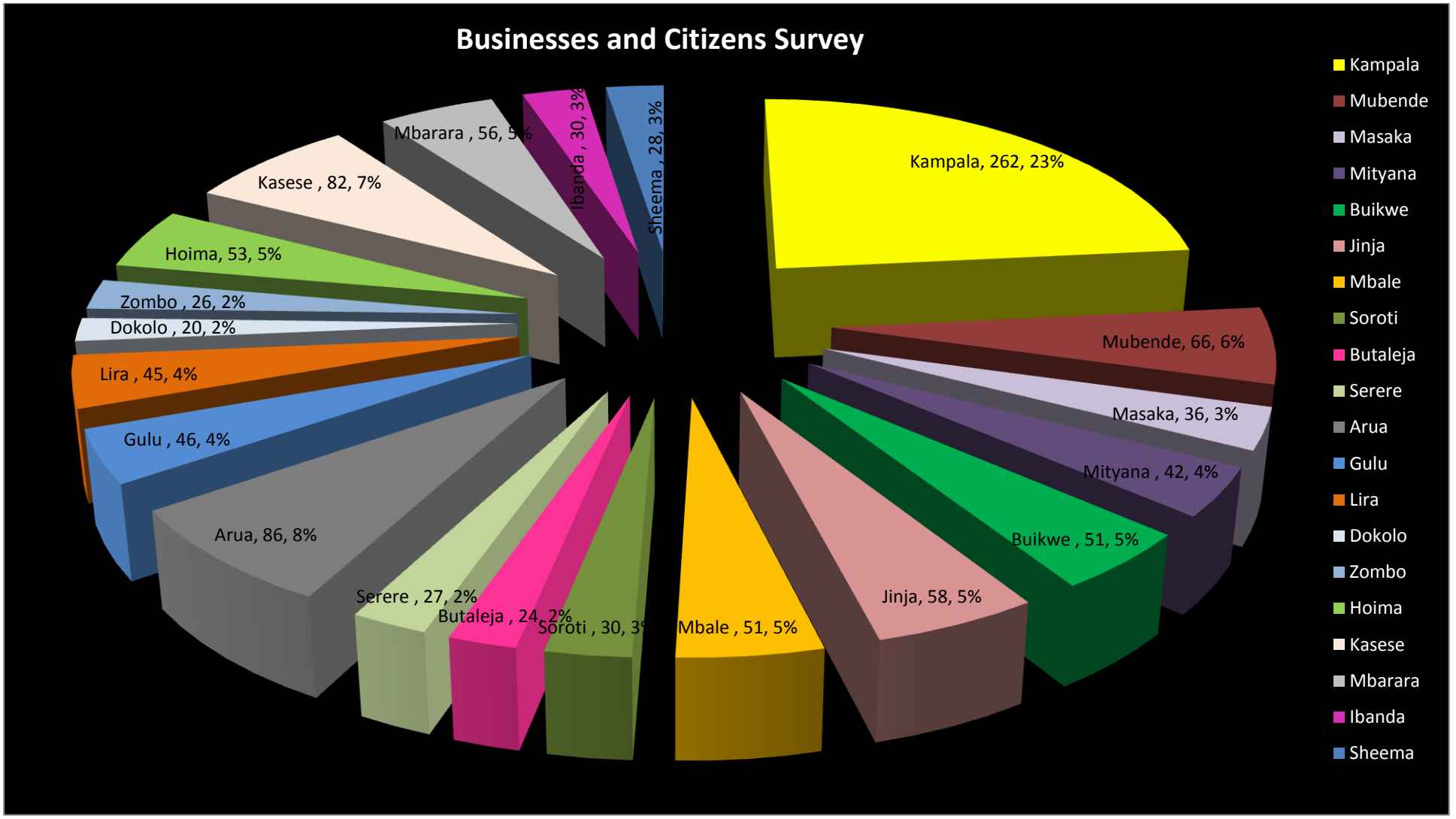


Figure 25: B&C – Percentage of B&C per district

7.3 Completion status per category

No	Section	Targeted Qnrs	Completed Qnrs	Pending Qnrs	Percentage Completion
1	Head of GI	115	61	54	53%
2	Head of IT	115	94	21	82%
3	Head of HR	115	72	43	63%
4	Head of Records	115	78	37	68%
5	NITAU	1	1	0	100%
6	UBOS	1	0	1	0%
7	UCC	1	1	0	100%
8	Businesses_& Citizens	1119	1119	0	100%
	Total	1582	1426	156	

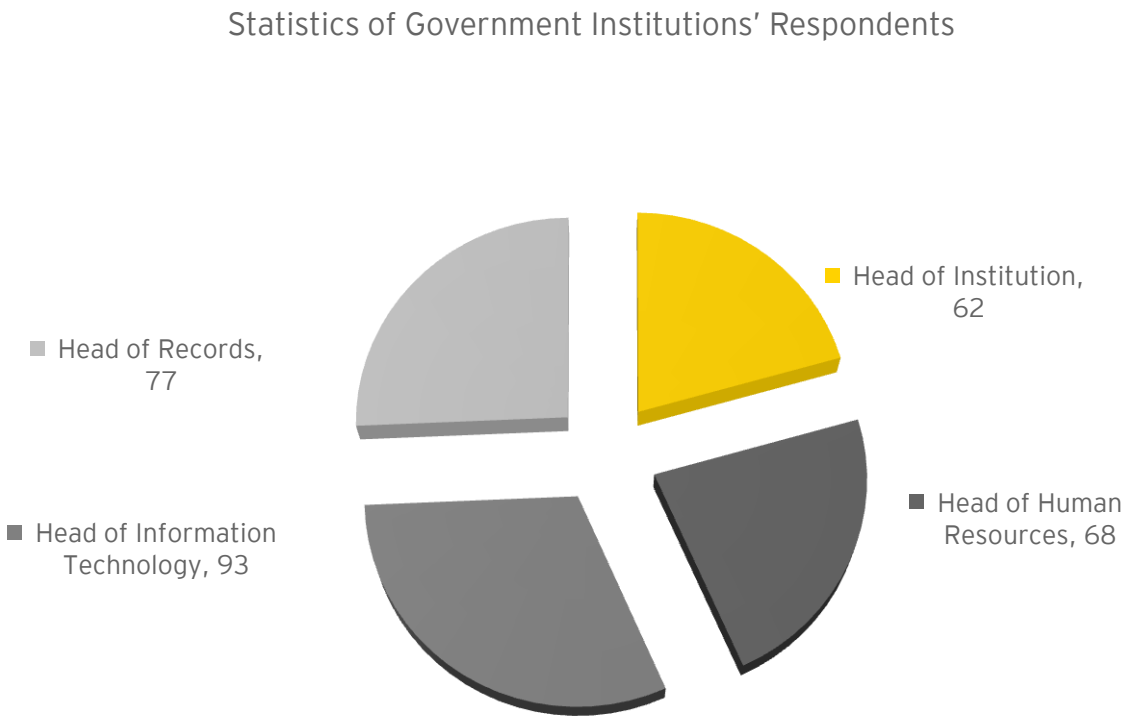


Figure 26: Completion status as per questionnaire category

Completion Status per category Chart

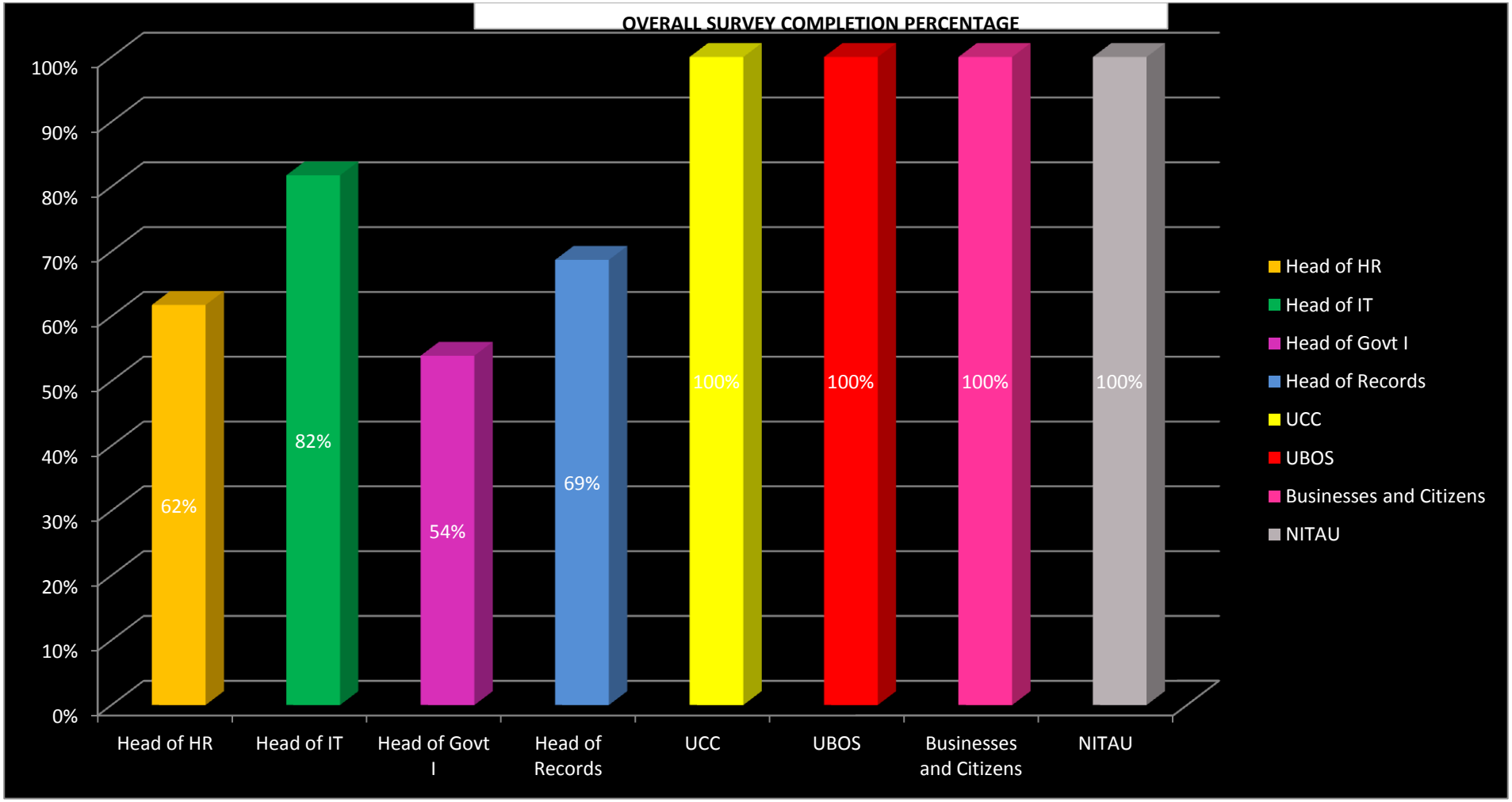


Figure 27: Completion Status per category Chart

7.4 Government Institutions completion status per questionnaire

No	Section	Targeted Qnrs	Completed Qnrs	Pending Qnrs	Percentage Completion
1	Head of GI	115	62	54	54%
2	Head of IT	115	94	21	82%
3	Head of HR	115	71	43	62%
4	Head of Records	115	79	37	69%

Government Institution Completion status per questionnaire chart

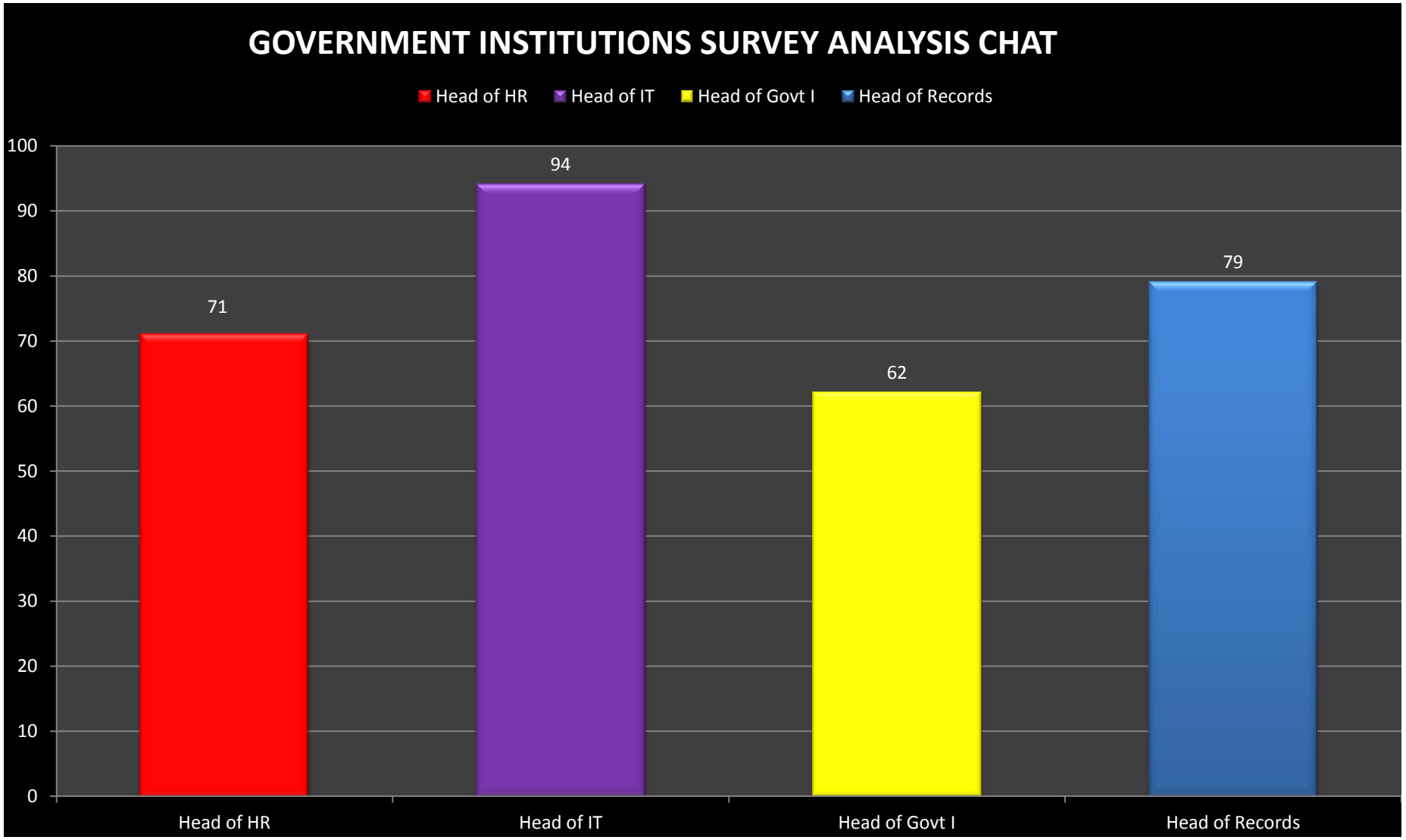


Figure 28: GI Completion status per questionnaire chart

7.5 Detailed completion status

7.5.1 Government Institutions that completed all (4) questionnaires

No	Government Agency	Head of GI	Head of HR	Head of Records	Head of IT	Total	Status
1.	Ministry of Agriculture, Animal Industry and Fisheries (MAAIF)	1	1	1	1	4	Completed
2.	Ministry of East African community Affairs (MEACA)	1	1	1	1	4	Completed
3.	Ministry of Finance, Planning and Economic Development (MoFPED)	1	1	1	1	4	Completed
4.	Ministry of Foreign Affairs	1	1	1	1	4	Completed
5.	Ministry of Information and Communications Technology	1	1	1	1	4	Completed
6.	Ministry of Internal Affairs (MoIA)	1	1	1	1	4	Completed
7.	Ministry of Justice and Constitutional Affairs (MoJCA)	1	1	1	1	4	Completed
8.	Ministry of Local Government (MoLG)	1	1	1	1	4	Completed
9.	Ministry of Tourism, Trade and Industry (MTTI)	1	1	1	1	4	Completed
10.	Ministry of Water and Environment	1	1	1	1	4	Completed
11.	Control of Trypanosomiasis in Uganda (COCTU)	1	1	1	1	4	Completed
12.	Directorate for Ethics and Integrity (DEI)	1	1	1	1	4	Completed
13.	Directorate of Public Prosecutions (DPP)	1	1	1	1	4	Completed
14.	Inspectorate of Government (IGG)	1	1	1	1	4	Completed
15.	Judiciary	1	1	1	1	4	Completed
16.	National Council of Sports	1	1	1	1	4	Completed
17.	National Curriculum Development Centre (NCDC)	1	1	1	1	4	Completed

18.	National Housing and Construction Company Limited (NHCC)	1	1	1	1	4	Completed
19.	Parliament of Uganda	1	1	1	1	4	Completed
20.	Posta Uganda	1	1	1	1	4	Completed
21.	Privatisation and Utility Sector Reform Project (PUSRP)	1	1	1	1	4	Completed
22.	Rural Electrification Agency (REA)	1	1	1	1	4	Completed
23.	Uganda Bureau of Statistics (UBOS)	1	1	1	1	4	Completed
24.	Uganda Electricity Distribution Company Limited (UEDCL)	1	1	1	1	4	Completed
25.	Uganda Institute of Information and Communications Technology (UICT)	1	1	1	1	4	Completed
26.	Uganda National Chamber of Commerce & Industry (UNCCI)	1	1	1	1	4	Completed
27.	Uganda Prisons Service	1	1	1	1	4	Completed
28.	Uganda Property Holdings Limited (UPHL)	1	1	1	1	4	Completed
29.	Uganda Road Fund	1	1	1	1	4	Completed
30.	Uganda Tourist Board (UTB)	1	1	1	1	4	Completed
31.	National Information Technology Authority	1	1	1	1	4	Completed
32.	Capital Markets Authority (CMA)	1	1	1	1	4	Completed
33.	Diary Development Authority (DDA)	1	1	1	1	4	Completed
34.	Insurance Regulatory Authority of Uganda	1	1	1	1	4	Completed
35.	National Forest Authority (NFA)	1	1	1	1	4	Completed
36.	Public Procurement and Disposal of Public Assets Authority (PPDA)	1	1	1	1	4	Completed
37.	Uganda Coffee Development Authority (UCDA)	1	1	1	1	4	Completed
38.	Uganda Investment Authority (UIA)	1	1	1	1	4	Completed
39.	Uganda National Roads Authority (UNRA)	1	1	1	1	4	Completed
40.	Amnesty Commission	1	1	1	1	4	Completed
41.	Education Service Commission	1	1	1	1	4	Completed
42.	Health Service Commission (HSC)	1	1	1	1	4	Completed
43.	Judicial Service commission	1	1	1	1	4	Completed

44.	Law Reform Commission	1	1	1	1	4	Completed
45.	Local Government Finance Commission	1	1	1	1	4	Completed
46.	Public Service Commission	1	1	1	1	4	Completed
47.	Uganda AIDS Commission (UAC)	1	1	1	1	4	Completed
48.	Uganda Communications Commission (UCC)	1	1	1	1	4	Completed
49.	Ugandan Human Rights Commission (UHRC)	1	1	1	1	4	Completed
50.	Uganda Land Commission	1	1	1	1	4	Completed
51.	Makerere University Business School	1	1	1	1	4	Completed
52.	Uganda Management Institute	1	1	1	1	4	Completed
53.	Uganda Cancer Institute	1	1	1	1	4	Completed
54.	Uganda Heart Institute	1	1	1	1	4	Completed

7.5.2 Government Institutions that completed (3) questionnaires

No	Government Agency	Head of GI	Head of HR	Head of Records	Head of IT	Total
1	Ministry of Defence	0	1	1	1	3
2	Ministry of Energy and Minerals	0	1	1	1	3
3	Ministry of Lands, Housing and Urban Development (MoLHUD)	0	1	1	1	3
4	Office of the President	0	1	1	1	3
5	Population Secretariat (Popsec)	0	1	1	1	3
6	Uganda Blood Transfusion Services (UBTS)	0	1	1	1	3
7	Uganda Media Center	1	0	1	1	3
8	Uganda National Examinations Board (UNEB)	1	0	1	1	3
9	Uganda Police Force	1	0	1	1	3
10	Uganda Registration Services Bureau	0	1	1	1	3
11	Uganda Wildlife Education Centre (UWEC)	1	1	0	1	3
12	Kampala Capital City Authority (KCCA)	1	1	0	1	3
13	National Planning Authority (NPA)	1	0	1	1	3
14	Electoral Commission (EC)	1	0	1	1	3
15	Uganda Virus Research Institute (UVRI)	0	1	1	1	3

7.5.3 Government Institutions that completed (2) questionnaires

No	Government Agency	Head of GI	Head of HR	Head of Records	Head of IT	Total
1	Ministry of Public Service (MoPS)	0	0	1	1	2
2	Ministry of Works and Transport	0	0	1	1	2
3	Office of the Prime Minister	0	0	1	1	2
4	Office of the Vice President	0	0	1	1	2
5	Chieftaincy of Military Intelligence (CMI)	0	0	1	1	2
6	Department of Administrator General	0	1	1	0	2
7	Export Promotion Board (EPB)	0	1	1	0	2
8	National Medical Stores (NMS)	0	0	1	1	2
9	National Social Security Fund (NSSF)	0	0	1	1	2
10	National Water and Sewerage Corporation (NWSC)	0	1	0	1	2
11	State house	0	0	1	1	2
12	Uganda Electricity Transmission Company Limited (UETCL)	0	1	0	1	2
13	National Drug Authority (NDA)	0	1	0	1	2
14	National Environment Management Authority (NEMA)	0	0	1	1	2
15	Kyambogo University	0	1	0	1	2
16	Makerere University	0	1	0	1	2

7.5.4 Government Institutions that completed (1) questionnaire

No	Government Agency	Head of GI	Head of HR	Head of Records	Head of IT	Total
1	Ministry of Education & Sports	0	0	0	1	1
2	Ministry of Health	0	0	0	1	1
3	Bank of Uganda (BoU)	0	0	0	1	1
4	National Enterprise Corporation (NEC)	0	0	0	1	1
5	Uganda Electricity Generation Company Limited (UEGCL)	0	0	0	1	1
6	Uganda National Bureau of Standards (UNBS)	0	0	0	1	1
7	Uganda National Council for Science and Technology (UNCST)	0	0	0	1	1
8	Civil Aviation Authority (CAA)	0	0	0	1	1
9	Uganda Revenue Authority (URA)	0	0	0	1	1
10	Gulu University	1	0	0	0	1
11	Presidential Initiative on Banana Industrial Development (PIBID)	0	0	0	1	1
12	Uganda Industrial Research Institute (UIRI)	0	0	0	1	1
13	National Citizenship Immigration Control	0	1	0	0	1

7.5.5 Government Institutions that did not complete any (0) questionnaire

No	Government Agency	Head of GI	Head of HR	Head of Records	Head of IT	Total
1	Ministry of Gender Labour and Social Development (MoGLSD)	0	0	0	0	0
2	Auditor General	0	0	0	0	0
3	External Security Organization (ESO)	0	0	0	0	0
4	Internal Security Organization (ISO)	0	0	0	0	0
5	Meteorological Department	0	0	0	0	0
6	National Agricultural Advisory Services (NAADS)	0	0	0	0	0
7	National Council for Higher Education (NCHE)	0	0	0	0	0
8	Uganda Cotton Development Organisation	0	0	0	0	0
9	Uganda Securities Exchange (USE)	0	0	0	0	0
10	Electricity Regulatory Authority (ERA)	0	0	0	0	0
11	Uganda Wildlife Authority (UWA)	0	0	0	0	0
12	Busitema University	0	0	0	0	0
13	Mbarara University	0	0	0	0	0
14	Law Development Centre	0	0	0	0	0
15	National Agricultural Genetic Research Center (NAGRIC)	0	0	0	0	0
16	National Agricultural Research Organisation (NARO)	0	0	0	0	0
17	Uganda National Health Research Organization (UNHRO)	0	0	0	0	0

Section B: Online Completion Rate

During the main survey, we assigned access to both paper and online survey questionnaires to respondents from Government Institutions . The following were noted:

- Only 1 institution (Inspectorate of Government) out of 115 Targeted GIs completed all the following 4 questionnaires online:
  - Head of Government Institution
  - Head of Human Resource
  - Head of Records
  - Head of Information Technology
- A total of out of the 460 targeted GIs respondents completed the online survey. These were

No	Name	Type of Qnr	Institution	Comment
1.	Robert Barigye	Head IT	UICT	**Confirmed** Survey was completed online
2.	Patrick Dusabe	Head IT	MOFA	**Confirmed** Survey was completed online
3.	Mr. Waiswa Bageya (Completed by Joseph Bamwidhukire)	Head GI	IGG	**Confirmed** Survey was completed online
4.	Annet Mwembe	Head HR	IGG	**Confirmed** Survey was completed online
5.	Joseph Bamwidhukire	Head IT	IGG	**Confirmed** Survey was completed online
6.	Mania Florence	Head Records	IGG	**Confirmed** Survey was completed online
7.	Nassimbwa Hamiddah	Head IT	National Drug Authority	**Confirmed** Survey was completed online

Section C: Data Validation

a) E-government Survey - Data Validation Questions

Key	Description	Validation Required (Yes or No)	Risk Rating
Numbers /Textbox	These questions required entering numbers / text and there is need for validation to ensure that data was captured correctly	Yes	Medium
Conversion	These questions required conversion (From Mbps to Kbps and from $ to UGX)	Yes	High
OK	These Questions were either radio buttons or checkboxes and are not prone to errors	No	Low

No of Qns	Head GI	Head HR	Head Records	Head IT	B&C	UBOS	UCC	NITAU
1	Conversion (Currency)	Number	OK	Number	OK	Number	Number	OK
2	Conversion (Currency)	Number	OK	Number	OK	Number	Number	OK
3	Conversion (Currency)	Number	OK	Number	OK	Number	Number	
4	OK	Number	OK	Number	OK	Number	Number	
5	OK	Number		Number	Text	Number	Number	
6	OK	Number		OK		Number	Conversion Kbps/Mbps	
7	Text			Number			Conversion (Currency)	
8	Text			OK			Conversion (Currency)	
9	Text			OK			Number	
10	Text			Text / Number			Text	
11	OK			Text / Number				
12	OK			OK				
13	Number			Number				
14	OK			OK				
15	OK			Conversion Kbps/Mbps/Currency				
16	OK			Number				
17	Textbox			OK				

No of Qns	Head GI	Head HR	Head Records	Head IT	B&C	UBOS	UCC	NITAU
18	OK			OK				
19	OK			OK				
20	Conversion Kbps/Mbps			OK				
21	Conversion (Currency)			OK				
22				OK				
23				OK				
24				OK				
25				Number				
26				Conversion (Currency)				
27				OK				
28				Number				
29				Number				
30				Number				
31				OK				
32				Text				
33				OK				
34				OK				
35				Text				
36				OK				
37				OK				
38				OK				
39				Text				
40				OK				
41				OK				
42				Text				
43				OK				
44				OK				
45				OK				
46				OK				
47				OK				
48				OK				
49				OK				
50				OK				
51				OK				
52				OK				
53				OK				
54				Text				

b) E-government Survey - Data Validation Activities that were Performed include:

- Cleaning all the data to reflect exactly what is on the questionnaires for GIs, UCC and NITAU
- For Businesses and Citizens, we validated Question Number 5 only
- Consulting with some institutions for instances where the data did not make much sense
- We changed blank spaces and inserted the word Not Provided or 0
- For respondents who were not comfortable providing their personal or work contacts, we inserted 10 zeros (0000000000) in the space provided for respondent telephone Numbers since the Number field is supposed to be 10 digits
- We removed ambiguous statements like NP, NA and replaced them with Not provided or Not Applicable
- We performed duplicate checks to ensure records had not been entered more than once
- We performed reconciliation of the data in the online tool, hard copy questionnaires and the survey calendar

c) E-government Survey - Data Validation Activities Key Points to note

- Not provided - This means that the respondent did not provide any information and we entered "Not provided" in the text field
- 0 – This means that the respondent did not provide any information and we entered "0" in the text field that only accepts numbers
- Not Applicable – This means that the question asked in the questionnaire is not applicable to the respondents' institution
- Conversion;
    - All amounts were converted to Uganda Shilling (UGX) from United stated Dollars ($) using an exchange rate of 2480 as the current rate as at the time
    - All bandwidth rates have been converted from Mbps to Kbps (1mb = 1000kbps)

d) E-government Survey - Data Validation Assumptions

- For respondents who gave proportions of quantities for a number of items we divided the amounts by the number of items
- Head IT Questionnaire No 2 & 3: We assumed that the amount provided in No.2 was not a breakdown of the quantities provided in No.3

e) E-government Survey - Data Validation - Reconciliation of Data in the survey tool, on hard copy and in the daily calendar

No	Government Agency	Head HR	Head IT	Head Records	Head GI	UCC	UBOS	NITAU	Reconciliation is Accurate Yes/No/Comment
1	Amnesty Commission	✓	✓	✓	✓	N/A	N/A	N/A	Yes
2	Auditor General	X	X	X	X	N/A	N/A	N/A	Yes
3	Bank of Uganda (BoU)	X	✓	X	X	N/A	N/A	N/A	Yes
4	Busitema University	X	X	X	X	N/A	N/A	N/A	Yes
5	Capital Markets Authority (CMA)	✓	✓	✓	✓	N/A	N/A	N/A	Yes
6	Chieftaincy of Military Intelligence (CMI)	X	✓	✓	X	N/A	N/A	N/A	Yes
7	Civil Aviation Authority (CAA)	X	✓	X	X	N/A	N/A	N/A	Yes
8	Control of Trypanosomiasis in Uganda (COCTU)	✓	✓	✓	✓	N/A	N/A	N/A	Yes
9	Department of Administrator General	✓	X	✓	X	N/A	N/A	N/A	Yes HR person is the same as MoJCA
10	Diary Development Authority (DDA)	✓	✓	✓	✓	N/A	N/A	N/A	Yes
11	Directorate for Ethics and Integrity (DEI)	✓	✓	✓	✓	N/A	N/A	N/A	Yes
12	Directorate of Public Prosecutions (DPP)	✓	✓	✓	✓	N/A	N/A	N/A	Yes
13	Education Service Commission	✓	✓	✓	✓	N/A	N/A	N/A	Yes
14	Electoral Commission (EC)		✓	✓	✓	N/A	N/A	N/A	Yes
15	Electricity Regulatory Authority (ERA)	X	X	X	X	N/A	N/A	N/A	Yes
16	Export Promotion Board (EPB)	✓	X	✓	X	N/A	N/A	N/A	Yes
17	External Security Organization (ESO)	X	X	X	X	N/A	N/A	N/A	Yes
18	Gulu University	X	X	X	✓	N/A	N/A	N/A	Yes

No	Government Agency	Head HR	Head IT	Head Records	Head GI	UCC	UBOS	NITAU	Reconciliation is Accurate Yes/No/Comment
19	Health Service Commission (HSC)	✓	✓	✓	✓	N/A	N/A	N/A	Yes
20	Inspectorate of Government (IGG)	✓	✓	✓	✓	N/A	N/A	N/A	Yes All 4 questionnaires were completed online so no hard copies
21	Insurance Regulatory Authority of Uganda	✓	✓	✓	✓	N/A	N/A	N/A	Yes
22	Internal Security Organization (ISO)	X	X	X	X	N/A	N/A	N/A	Yes
23	Judicial Service commission	✓	✓	✓	✓	N/A	N/A	N/A	Yes
24	Judiciary	✓	✓	✓	✓	N/A	N/A	N/A	Yes
25	Kampala Capital City Authority (KCCA)	✓	✓	X	✓	N/A	N/A	N/A	Yes
26	Kyambogo University	✓	✓	X	X	N/A	N/A	N/A	Yes
27	Law Development Centre	X	X	X	X	N/A	N/A	N/A	Yes
28	Law Reform Commission	✓	✓	✓	✓	N/A	N/A	N/A	Yes
29	Local Government Finance Commission	✓	✓	✓	✓	N/A	N/A	N/A	Yes
30	Makerere University	✓	✓	X	X	N/A	N/A	N/A	Yes These Questionnaires were completed by the directorate of ICT only, not the university as a whole
31	Makerere University Business School	✓	✓	✓	✓	N/A	N/A	N/A	Yes
32	Mbarara University	X	X	X	X	N/A	N/A	N/A	Yes
33	Meteorological Department	X	X	X	X	N/A	N/A	N/A	Yes

No	Government Agency	Head HR	Head IT	Head Records	Head GI	UCC	UBOS	NITAU	Reconciliation is Accurate Yes/No/Comment
34	Ministry of Agriculture, Animal Industry and Fisheries (MAAIF)	✓	✓	✓	✓	N/A	N/A	N/A	Yes
35	Ministry of Defence	✓	✓	✓	X	N/A	N/A	N/A	Yes
36	Ministry of East African community Affairs (MEACA)	✓	✓	✓	✓	N/A	N/A	N/A	Yes
37	Ministry of Education & Sports	X	✓	X	X	N/A	N/A	N/A	Yes
38	Ministry of Energy and Minerals	✓	✓	✓	X	N/A	N/A	N/A	Yes
39	Ministry of Finance, Planning and Economic Development (MoFPED)	✓	✓	✓	✓	N/A	N/A	N/A	Yes
40	Ministry of Foreign Affairs (MOFA)	✓	✓	✓	✓	N/A	N/A	N/A	Yes Head of IT Qnr was completed online so no hard copy
41	Ministry of Gender Labour and Social Development (MoGLSD)	X	X	X	X	N/A	N/A	N/A	Yes
42	Ministry of Health	X	X	X	✓	N/A	N/A	N/A	Yes
43	Ministry of Information and Communications Technology	✓	✓	✓	✓	N/A	N/A	N/A	Yes
44	Ministry of Internal Affairs (MoIA)	✓	✓	✓	✓	N/A	N/A	N/A	Yes
45	Ministry of Justice and Constitutional Affairs (MoJCA)	✓	✓	✓	✓	N/A	N/A	N/A	Yes
46	Ministry of Lands, Housing and Urban Development (MoLHUD)	✓	✓	✓	X	N/A	N/A	N/A	Yes
47	Ministry of Local Government (MoLG)	✓	✓	✓	✓	N/A	N/A	N/A	Yes

No	Government Agency	Head HR	Head IT	Head Records	Head GI	UCC	UBOS	NITAU	Reconciliation is Accurate Yes/No/Comment
48	Ministry of Public Service (MoPS)	X	✓	✓	X	N/A	N/A	N/A	Yes
49	Ministry of Tourism, Trade and Industry (MTTI)	✓	✓	✓	✓	N/A	N/A	N/A	Yes
50	Ministry of Water and Environment	✓	✓	✓	✓	N/A	N/A	N/A	Yes
51	Ministry of Works and Transport	X	✓	✓	X	N/A	N/A	N/A	Yes
52	National Agricultural Advisory Services (NAADS)	X	X	X	X	N/A	N/A	N/A	Yes
53	National Agricultural Genetic Research Center (NAGRIC)	X	X	X	X	N/A	N/A	N/A	Yes
54	National Agricultural Research Organisation (NARO)	X	X	X	X	N/A	N/A	N/A	Yes
55	National Citizenship Immigration Control	X	X	X	X	N/A	N/A	N/A	Yes
56	National Council for Higher Education (NCHE)	X	X	X	X	N/A	N/A	N/A	Yes
57	National Council of Sports	✓	✓	✓	✓	N/A	N/A	N/A	Yes
58	National Curriculum Development Centre (NCDC)	✓	✓	✓	✓	N/A	N/A	N/A	Yes
59	National Drug Authority (NDA)	✓	✓	X	X	N/A	N/A	N/A	Head of IT Qnr was completed online so no hard copy
60	National Enterprise Corporation (NEC)	X	✓	X	X	N/A	N/A	N/A	Yes
61	National Environment Management Authority (NEMA)	X	✓	✓	X	N/A	N/A	N/A	Yes
62	National Forest Authority (NFA)	✓	✓	✓	✓	N/A	N/A	N/A	Yes

No	Government Agency	Head HR	Head IT	Head Records	Head GI	UCC	UBOS	NITAU	Reconciliation is Accurate Yes/No/Comment
63	National Housing and Construction Company Limited (NHCC)	✓	✓	✓	✓	N/A	N/A	N/A	Yes
64	National Information Technology Authority	✓	✓	✓	✓	N/A	N/A	✓	Yes
65	National Medical Stores (NMS)	X	✓	✓	X	N/A	N/A	N/A	Yes
66	National Planning Authority (NPA)	X	✓	✓	✓	N/A	N/A	N/A	Yes
67	National Social Security Fund (NSSF)	X	✓	✓	X	N/A	N/A	N/A	Yes
68	National Water and Sewerage Corporation (NWSC)	✓	✓	X	X	N/A	N/A	N/A	Yes
69	Office of the President	✓	✓	✓	X	N/A	N/A	N/A	Yes
70	Office of the Prime Minister	X	✓	✓	X	N/A	N/A	N/A	Yes
71	Office of the Vice President	X	✓	✓	X	N/A	N/A	N/A	Yes The Head IT and Records are the same for state house
72	Parliament of Uganda	✓	✓	✓	✓	N/A	N/A	N/A	Yes
73	Population Secretariat (Popsec)	✓	✓	✓	X	N/A	N/A	N/A	Yes
74	Posta Uganda	✓	✓	✓	✓	N/A	N/A	N/A	Yes
75	Presidential Initiative on Banana Industrial Development (PIBID)	X	✓	X	X	N/A	N/A	N/A	Yes
76	Privatisation and Utility Sector Reform Project (PUSRP)	✓	✓	✓	✓	N/A	N/A	N/A	Yes
77	Public Procurement and Disposal of Public Assets Authority (PPDA)	✓	✓	✓	✓	N/A	N/A	N/A	Yes
78	Public Service Commission	X	✓	✓	✓	N/A	N/A	N/A	HR was

No	Government Agency	Head HR	Head IT	Head Records	Head GI	UCC	UBOS	NITAU	Reconciliation is Accurate Yes/No/Comment
									completed Verify 0414 254 271
79	Rural Electrification Agency (REA)	X	X	X	X	N/A	N/A	N/A	Yes
80	State house	X	✓	✓	X	N/A	N/A	N/A	Yes
81	Uganda Electricity Transmission Company Limited (UETCL)	✓	✓	X	X	N/A	N/A	N/A	Yes
82	Uganda AIDS Commission (UAC)	✓	✓	✓	✓	N/A	N/A	N/A	Yes
83	Uganda Blood Transfusion Services (UBTS)	✓	✓	✓	X	N/A	N/A	N/A	Yes
84	Uganda Bureau of Statistics (UBOS)	✓	✓	✓	✓	N/A	✓	N/A	Yes
85	Uganda Cancer Institute	✓	✓	✓	✓	N/A	N/A	N/A	Yes
86	Uganda Coffee Development Authority (UCDA)	✓	✓	✓	✓	N/A	N/A	N/A	Yes
87	Uganda Communications Commission (UCC)	✓	✓	✓	✓	✓	N/A	N/A	Yes
88	Uganda Cotton Development Organisation	X	X	X	X	N/A	N/A	N/A	Yes
89	Uganda Electricity Distribution Company Limited (UEDCL)	✓	✓	✓	✓	N/A	N/A	N/A	Yes
90	Uganda Electricity Generation Company Limited (UEGCL)	X	✓	X	X	N/A	N/A	N/A	Yes
91	Uganda Heart Institute	✓	✓	✓	✓	N/A	N/A	N/A	Yes
92	Uganda Industrial Research Institute (UIRI)	X	✓	X	X	N/A	N/A	N/A	Yes
93	Uganda Institute of Information and Communications	X	✓	✓	✓	N/A	N/A	N/A	Yes Head of IT Qnr was completed

No	Government Agency	Head HR	Head IT	Head Records	Head GI	UCC	UBOS	NITAU	Reconciliation is Accurate Yes/No/Comment
	Technology (UICT)								online so no hard copy
94	Uganda Investment Authority (UIA)	✓	✓	✓	✓	N/A	N/A	N/A	Yes
95	Uganda Land Commission	✓	✓	✓	✓	N/A	N/A	N/A	Yes
96	Uganda Management Institute	✓	✓	✓	✓	N/A	N/A	N/A	Yes
97	Uganda Media Center	X	✓	✓	✓	N/A	N/A	N/A	There is no HR at media centre - They share with state house and SH has also not yet completed HR Qnr
98	Uganda National Bureau of Standards (UNBS)		✓			N/A	N/A	N/A	Yes
99	Uganda National Chamber of Commerce & Industry (UNCCI)	✓	✓	✓	✓	N/A	N/A	N/A	Yes
100	Uganda National Council for Science and Technology (UNCST)	X	✓	X	X	N/A	N/A	N/A	Yes
101	Uganda National Examinations Board (UNEB)	x	✓	✓	✓	N/A	N/A	N/A	Yes
102	Uganda National Health Research Organization (UNHRO)	X	X	X	X	N/A	N/A	N/A	Yes
103	Uganda National Roads Authority (UNRA)	✓	✓	✓	✓	N/A	N/A	N/A	Yes
104	Uganda Police Force	X	✓	✓	✓	N/A	N/A	N/A	Yes
105	Uganda Prisons Service	✓	✓	✓	✓	N/A	N/A	N/A	Yes
106	Uganda Property Holdings Limited (UPHL)	✓	✓	✓	✓	N/A	N/A	N/A	Yes
107	Uganda Registration	✓	✓	✓	X	N/A	N/A	N/A	Yes

No	Government Agency	Head HR	Head IT	Head Records	Head GI	UCC	UBOS	NITAU	Reconciliation is Accurate Yes/No/Comment
	Services Bureau								
108	Uganda Revenue Authority (URA)	X	✓	X	X	N/A	N/A	N/A	Yes
109	Uganda Road Fund	✓	✓	✓	✓	N/A	N/A	N/A	Yes
110	Uganda Securities Exchange (USE)	X	X	X	X	N/A	N/A	N/A	Yes
111	Uganda Tourist Board (UTB)	✓	✓	✓	✓	N/A	N/A	N/A	Yes
112	Uganda Virus Research Institute (UVRI)	✓	✓	✓	X	N/A	N/A	N/A	Yes
113	Uganda Wildlife Authority (UWA)	X	X	X	X	N/A	N/A	N/A	Yes
114	Uganda Wildlife Education Centre (UWEC)	X	X	X	X	N/A	N/A	N/A	Yes
115	Ugandan Human Rights Commission (UHRC)	✓	✓	✓	✓	N/A	N/A	N/A	Yes

Stakeholder Demographics

8. Database of existing stakeholder demographics

8.1 E-government stakeholder demographics current state summary

Extract from the National Electronic Government Framework 2010 - Considerations when selecting e-Government Stakeholders

The Government of Uganda has a strong belief that ICT has the potential to enhance the relationship between Government and Citizens (G2C), Government and Business community (G2B) and within Government to Government departments (G2G).

According to the National electronic government framework (December 2010), one of the six pillars that have been earmarked for the successful implementation of the e-Government in Uganda is the Institutional Framework which stipulates the core ministries, departments and agencies, private sector, academia and NGOs specifying roles and responsibilities for each. In other words, these form the key stakeholders identified for the e-Government program.

The institutional framework comprises the following:

(A) Ministry of Information and Communications Technology (ICT)

- Championing and presenting policy matters to Government machinery in the areas of Information Technology (IT), Communications Technology (CT) Broadcasting Infrastructure and Information Management (IM) services.
- In collaboration with the National Planning Authority (NPA), spearhead activities for developing Sectoral e-Government Plans for integration into the National Development Plan (NDP) elaborated in long, medium and short term plans.
- Oversee policy development and periodic policy reviews for the Information Technology (IT) and Information Management (IM) sub-sectors for the growth of the e-Government programme
- Develop a public-private partnership framework to promote and drive e-Government initiative opportunities.
- Monitor the implementation of the National e-Government Framework by various Government Ministries and Agencies.
- Spearhead the creation of an enabling legal, commercial, and regulatory framework conducive for the e-Government adoption as a catalyst towards the socio-economic development of Uganda.
- Promote awareness and adoption of e-Government by all Sectors and segments of the population in the country.
- In collaboration with the Ministry of Public Service (MOPS), fully operationalize the national ICT/e-Government institutional arrangements

- In collaboration with the MOPS, Ministry of Education and Sports (MoES) and NPA spearhead the development of a National ICT and e-Government Human Resource Development Strategic Plan for the country.
- Ensure that the available ICT resources (financial, material and human) are fully exploited by Government agencies in the most efficient and cost effective manner consistent with government procedures and regulations to realize the e-Government programme.
- Develop and implement a prudent monitoring and evaluation system for the e-Government Framework

(B) National Information Technology Authority – Uganda (NITA-U)

- Initiating and leading the development of the national e-Government strategies and implementation plans;
- Identifying and advising Government on all matters of e-Government development, utilization and deployment.
- Providing first-level technical support and advice for critical Government IT systems including managing the utilization of the resources and infrastructure for centralized data center facilities for large systems through the provision of the specialized technical skills
- Enforcing and regulating standards for e-Government planning, acquisition, implementation, delivery, support, organization, sustenance, risk management, data protection, security, and contingency planning;
- Regulating the electronic signature infrastructure and related matters as used in electronic transactions in the country;
- Recruiting, training, posting and managing all e-Government staff in the various government ministries, departments and agencies
- Providing IT capacity building and awareness facilities

(C) Ministry of Public Service

- Leading the public services process review and computerization studies
- Taking of the business process reengineering activities for the effective and efficient service delivery
- Taking charge of Civil servants capacity building for the implementation of e-Government initiatives

(D) Government Ministries, Agencies and Local Governments

- To mainstream e-Government services within the national development initiatives of Government, fully fledged Departments of ICT/e-Government will need to be created in each of the Ministries headed by a Commissioner of ICT with at least four professional ICT staff. In other Central Government autonomous Agencies and Local Governments, fully fledged Divisions of ICT need to be created with an Assistant Commissioner of ICT and at least three professional ICT staff in the division.

- The ICT Departments in Government Ministries and Divisions in Government Agencies and Local Governments will develop and implement respective institutional ICT strategies and action plans in harmony with the overall national ICT Policy and e-Government Master Plan.

(E) Private Sector

- Through Public-Private Partnerships, the Private sector will fully participate in the e-Government framework, strategy, action plan development and implementation in all sectors of government.

(F) Civil Society

- The Civil Society will fully participate in the e-Government framework, strategy, action plan development and implementation especially in the area of advocacy and monitoring of sectors of government.

(G) Academia

- The academic institutions will be very instrumental in building the requisite ICT and e-Government human resource critical mass across the country. Research in e-Government will also be critical and the Academia should play a very key role in this area.

Key Observations

- E-Government by definition requires the active participation of many stakeholders, both within and outside government. Together, these stakeholders share ownership of e-Government
- There is an increasing recognition that various stakeholder groups for e-government have a significant role to play in ensuring the long-term success of the e-government enterprise.
- According to the National electronic government framework (December 2010), one of the six pillars that have been earmarked for the successful implementation of the e-Government in Uganda is the Institutional Framework which stipulates the core ministries, departments and agencies, private sector, academia and NGOs specifying roles and responsibilities for each. In other words, these form the key stakeholders identified for the e-Government program.

The following table identifies the key stakeholders of e-Government and their roles in e-government

No	Stakeholder group	Stakeholder Examples	Roles & responsibilities
1	Government	Ministry of ICT, Government agencies, NITA-U, Ministry of Public service, political leaders, etc	▶ Provide an enabling policy environment ▶ Political commitment deliver public services through ICTs ▶ Establish consultative process ▶ Establish public private partnerships

			▶ Legislate e-government services ▶ Is also a user of e-government services
2	Private sector	Banks, Business community, Experts, investors, Telecommunications, etc	▶ Increase access to ICTs ▶ Enhance capacity of telecommunications networks ▶ Provide platforms for public services t be delivered through local e-content ▶ Identify markets for services ▶ Assist government in PPPs ▶ Create/Convert content for dissemination as public services
3	Civil society	NGOs (WOUGNET)	▶ Identify stakeholders' needs ▶ Raising user awareness and demand for public services through ICTs ▶ Providing services as government intermediaries
4	Academia	Public and Private Universities	▶ Building the requisite ICT and e-Government human resource critical mass across the country. Research in e-Government will also be critical and the Academia should play a very key role in this area.
5	Citizens	Government employees as citizens, private citizens, political leaders, experts, consumers, etc	▶ These are the users of the G2C services. User/citizen adoption literature uses notions of barriers and facilitators to the use of eGovernment services, user satisfaction and service quality. It also recognises the different benefits associated with the role of taxpayer, user (consumer), and citizen
6	International organisations	Embassies, Donor agencies	▶ Financial support for e-government programs ▶ Monitoring and evaluation of e-government programs

8.2 Feedback on e-government survey from stakeholders - current state description

During the stakeholder workshop, participants were asked to provide feedback on the e-government readiness assessment. The participants were provided a set of questions to provide feedback on. The participants were broken down into 12 groups of approximately eight (8) members per group.

8.2.1 Questions discussed by participants in their respective groups:

Question 1: Indicators

1a. Is the coverage of the indicators sufficient? (Yes/No)

1b. Which specific additional indicators need to be covered in the survey?

1c. For the additional indicators identified, how would you propose the indicators to be measured?

Question 2: Survey Tool

The online- survey tool was proposed as a survey data collection tool. Survey participants will be expected to complete the survey questionnaires online using the internet. The questions below were used to obtain stakeholder feedback on the online tool.

2a. What should be done to ensure the success of carrying out the e-government readiness survey using the online survey tool?

2b. What are the potential challenges of using an online survey tool for the e-government readiness assessment?

2c. How can each challenge identified be resolved?

It was generally noted by the participants that the draft indicators presented for discussion during the workshop had insufficient coverage. Accordingly stakeholders e proposed a number of changes to the indicators as highlighted below..

8.2.2 General feedback on Indicators

Below is a summary of the general comments made by the stakeholders in response to the indicators.

It was proposed that the indicators should be updated to cover the following:

- Percentage of government systems that can inter-operate i.e. have connectivity with other systems
- The number of MDAs enrolled onto the national back bone infrastructure
- The number of MDAs with electronic surveillance equipment installed. As a policy, ATM/CCTV usage must be included in the indicators.
- The usage of SMS technology as a utility for registration of ICT personnel should be harmonized within the MDAs
- Minimum requirement for all government computer equipment purchases.
- Quality and useful life of computer equipment
- Standardization of hardware equipment procured by all government institutions
- Measurement of bandwidth, (i.e. capacity of the links, type of the links, etc), the cost incurred, ISP and Service Level agreements terms
- Proportion of government institutions with documented, implemented and disseminated IT policies.

- Coverage of financial, Individual/private citizens and non-governmental institutions
- Awareness of individuals in e-government
- Capacity building through formal training and expertise in the specialized areas. This should cover the level of education and qualifications of the IT professionals.
- The indicators on usage should concentrate on services. For instance, Open source and proprietary software may not be so relevant under new developments. This should be moved to infrastructure.
- Under staff disaggregation, introduce the level and rank category
- A section of the legal and regulatory environment should be introduced. As a measure for cyber laws, the number of certified IT security personnel should be included in the indicators. There should also be an indicator concerning the available hardware and software for forensic investigation and whether organizations are equipped adequately
- Location should be included in the disaggregation for capacity
- The proper definition of computer to remove ambiguity. In addition, "mobile technology" specifying type of services and platforms should be used as opposed to "phone".
- The number of useful or working computers in government, and their average processor capacity
- Capture information on active websites. It was noted that some websites are updated while others are obsolete.
- Measurement of the level of process automation and innovation for the accurate evaluation of changes in technology (e.g., processors, cloud computing, etc.)
- Compare expenditure on IT capacity development with institutional capacity development budget. In addition, the areas of expenditure in IT should be specified or separated into Capex and Opex. The cost of software licenses should be measured under the Opex costs.
- Measure of services that are meant to be offered online which should be disseminated in all ministries, local government and MDAs

8.2.3 Suggestions for measurement of proposed indicators

The following were proposed as ways of measuring the proposed indicators:

- Each institution should list their comprehensive inventory of indicators and this should be used as a measure
- List of government institutions with operational IT policies
- Skills and ability of individuals in terms of technology should be captured and used as a measure
- Extent of individual usage of technology should be used as a measure

8.2.4 Key success factors for conducting the survey using the online tool

Stakeholders identified the following Key Success factors for using online survey tool

- Sensitization and awareness of the online tool.

- Identify the target group for the survey so that only relevant information is obtained
- The survey timeframe should be well planned and performed within the planned period since the environment is constantly changing.
- Clear, understandable, precise and concise questions should be used in the tool
- Identify the proper and capable respondent on behalf of MDA in order to capture the relevant and adequate information
- Frequent updates to the online tool to ensure it is current and applies to the current situation
- The tool should be sufficient and comprehensive in order to accommodate all the relevant indicators
- Create a database of all participants so that there is virtual recognition of their participation.
- The online tool should not be subjective
- There is need to encourage respondents to fill in the online tool. As an incentive, reward or recognise those who participate in the survey
- Communicate the benefit of the E-government assessment to the relevant participants to create buy-in from the participants
- Mechanisms should be in place to validate the data submitted
- There should be a logical access policy governing users and data uploads into the online tool.
- Security protection of the tool to prevent unauthorized usage and hackers gaining access to the tool
- Compatibility requirements for the application should be considered as various MDAs use different computer HW & SW platforms
- The tool should provide real time feedback to spur interest of users

8.2.5 Potential challenges

The following were identified as potential challenges to implementation of E-Governance in Uganda.

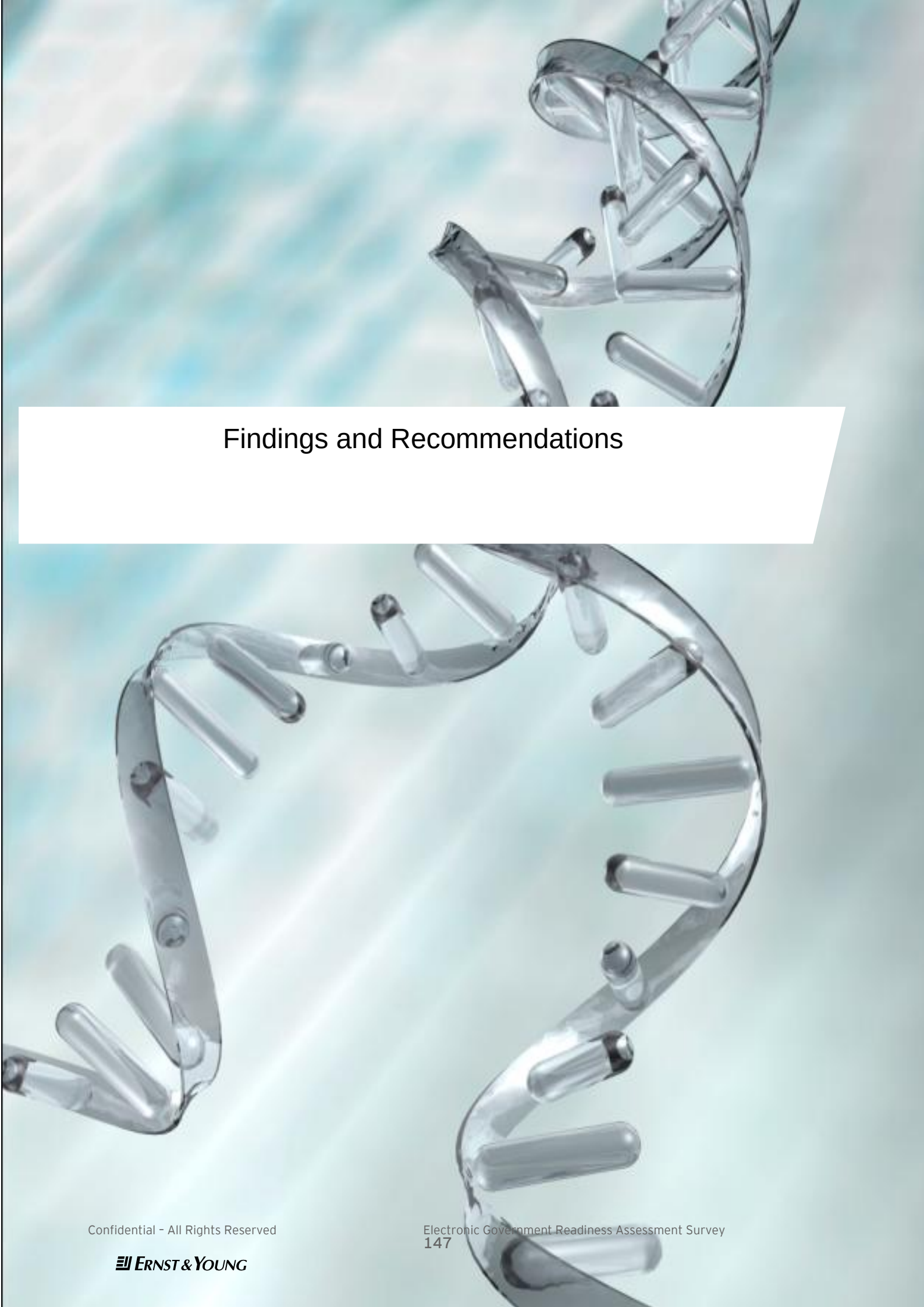
- High percentage of general and computer illiteracy in the country
- Limited access to internet
- Unreliable internet connectivity and level of uptime
- Incompatibility of internet browsers in use owing to lack of standardisation
- Power outages
- The general attitude of individuals is a challenge. It is difficult to obtain people's input and co-operation for the e-govt readiness assessment
- Challenges with choosing the right person to represent the MDAs
- Lack of capacity to respond to questions in the online tool
- Resistance to change; People are generally resistant to change and this is a big challenge towards the project

- Culture and beliefs; The society has its own culture and beliefs plus perception towards various government initiatives. This can present a challenge and make it hard to conduct a successful survey
- Online survey may be long and time consuming
- Lack of awareness about the e-government readiness assessment
- Lack of appropriate security features in the online tool will lead to hacking and unauthorized access
- Lack of maintenance of the online tool application could present a challenge and render the tool obsolete
- System based challenges could also arise

Key Observations

The following additional observations were made by stakeholders.

- There is need for government to empower IT professionals in Uganda through formal capacity building programs to undertake IT projects through in-sourcing in government.
- There is need to understand how the indices were developed and what kind of information is captured for it to be able to match the index recorded or attained by the country
- Sector wide approach to the survey for consistency of information captured taking into consideration the different levels of development in the various sectors.
- The citizens were not represented and the indicators were general and giving more of a representation of the MDAs
- The OECD has a benchmark of some indicators and UCC has regular submission to ITU however the Ministry of ICT doesn't make such submissions and this is necessary for representation globally
- In regard to sustainability there should be involvement of all uses as it will be necessary for the monitoring and evaluation phase of the assessment. There should be adequate responsibility for the management of government websites and domains.



Findings and Recommendations

9. Survey Findings and Recommendations

9.1 Findings

9.1.1 Staff Access to Computers

93 Heads of IT for central government institutions responded during the survey, indicating that 10,926 out of a total of 19,626 government staff in these institutions do not have computers to do their work. On average, there are 211 staff in every central government institution that need computers to do their work, of which only 94 staff have one assigned to them; as per the Heads of IT. Hence 56% of staff who need computers, to do their work do not have them. However, we noted that 52% or 61 staff of the 117 staff who do not have an assigned computer have access to a computer to do their work on an as-need basis. The total percentage of staff with assigned computers and with access to computers is 73%; or 155 staff out of 211 staff in central government institutions who need computers to do their work.
Only 44% of staff in central government institutions who need computers to do their work have a computer assigned to them; while 27% have no form of access to computers whatsoever. In order to meet the objectives of e-government, the **number of computers within central government needs to increase by 126%** to meet current state demands.

The basic requirement for central government to provide computers to employees who require computers to do their work to enable service delivery through e-Government initiatives has not yet been met.

Comparing the number of staff without assigned computers who need computers to do their work as per the head of IT to the total number of staff as per the head of HR, we get 13% of staff in government institutions needing computers to do their work, but who do not have them.

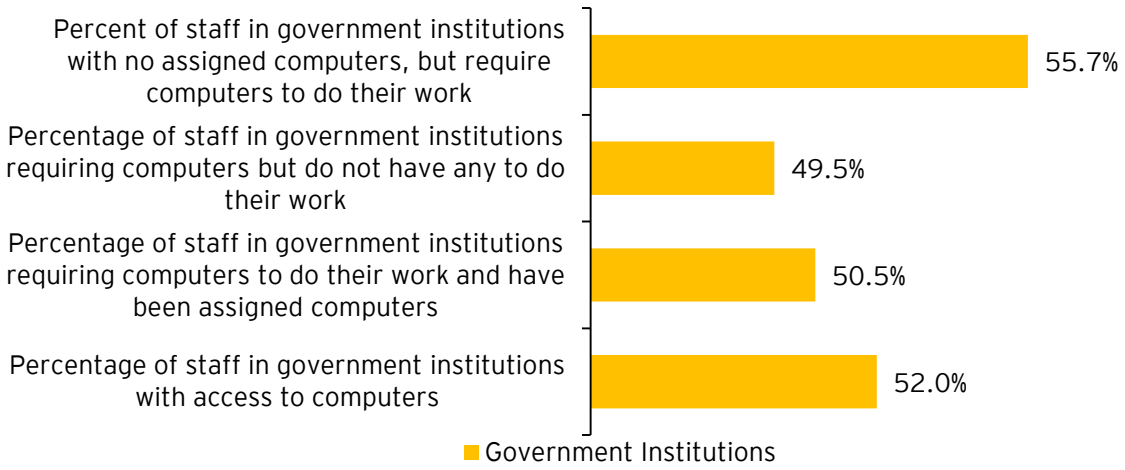


Figure 29: Staff Access to Computers

Staff in government institutions with a computer, disaggregated by gender and PWD

On average, 87 staff in every government institution has an assigned computer. 36 staff out of every 100 staff in a government institution has a computer assigned to them; with approximately 6 out of every 10 staff who have computers being male. This compares favourably to the statistic provided by the human resource managers that shows that 66% of all government employees are male.
According to the HR Managers, 0.67% of all government staff are persons with disabilities. Considering that 0.5% of staff with assigned computers are PWDs, there is a close correlation between staff distribution by gender and PWD and computer distribution by gender and PWD

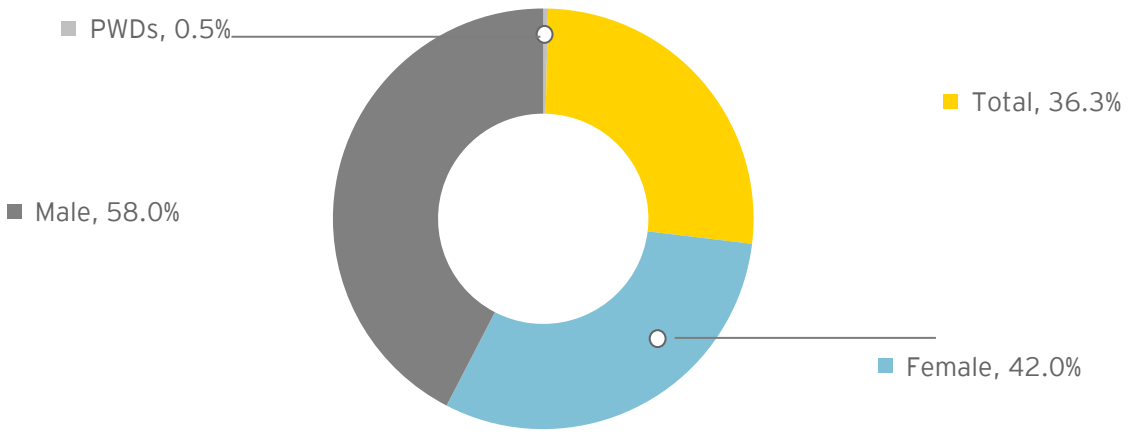


Figure 30: Staff in GI with a computer, disaggregated by gender and PWD

Average age of computers in government institutions

Modern day software demands on computers require that computers with **high-end technical specifications** are purchased for them to last a good number of years before requiring replacement. The fact that the central government has less than half of the computers it currently needs presents an opportunity for the government to develop **global standard technical specifications** for the purchase of computer hardware - to be implemented by all government institutions to ensure hardware and software compatibility across government and to promote longevity in terms of the useful life of computers.

In the event that such standards do not exist or have not been approved, NITA-U should **publish on its website proposed best practice hardware technical standards** that all government institutions should be encouraged to adopt as a **minimum standard** for any hardware purchases until such standards have been approved and implemented.

53% percent of computers in government institutions are between 0 and 3 years, with the average last major purchase of computers by the majority of government institutions having been made in 2010. This reflects that the majority of the current computers in central government should have the **minimum technical specifications** for implementing various e-Government initiatives.

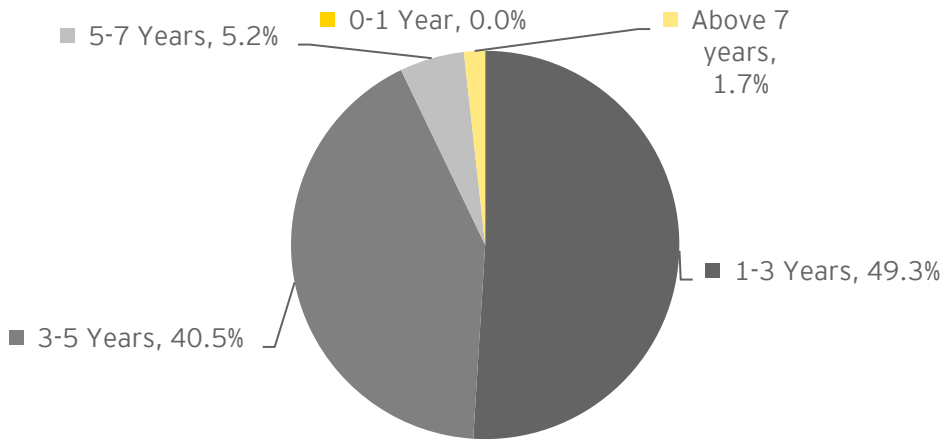


Figure 31: Average age of computers in GI

Percentage of working computers on government institutions

Feedback from 93 central government institutions indicates that of the total 21,907 computers within these institutions; only 70% are working; and only 56% of the 21,907 have been assigned to staff. Consequently, 14% of working computers have not been assigned.

For the institutions that responded; the 3,038 computers that are working, and that have not been issued, need to be issued; while an additional 9,251 computers need to be purchased to meet current needs.

There are 6,622 computers that cannot be used, because they are either old, damaged and/or due for disposal.

The fact that 30% of computers in central government are not working correlates favourably with the fact that 47% of computers in central government institutions are above 3 years old.

There is now a need to seriously think about how these computers are disposed of; and the required e-waste policies and procedures.

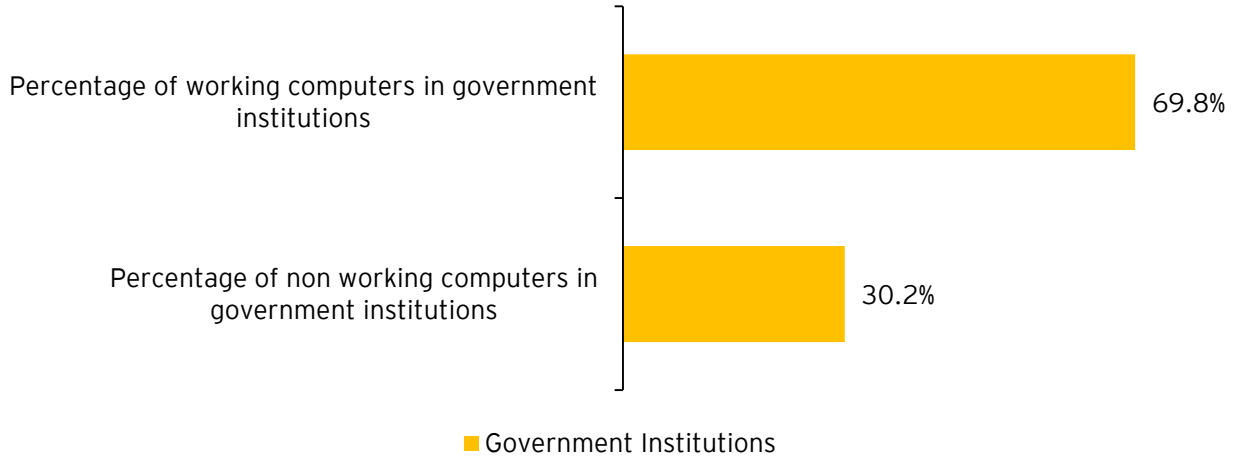


Figure 32: Percentage of working computers on GI

Percentage of government institutions with ICT equipment

In total, there are 15,808 desktops, laptops and tablet computers of which 84% are desktops, 15% are laptops and 1% is tablet computers. This appears to reflect the desire by government institutions to maintain non-portable computing devices, which may be due to the tradition of having cabled network connections requiring specific non-movable end points, and to address physical security requirements. With the upsurge of wireless networks (LANs, Wi-Fi, 3G mobile, etc), cloud computing, and a cultural shift towards portable computing devices, the government will need to revisit her policies around the mix of non-portable computing devices in consideration of the emerging culture of a mobile work force.

A few standardized fixed phone lines managed centrally, with dialing codes for each government institution would save the government a lot of money spent on maintaining direct lines; through the utilization of the National Backbone Infrastructure to provide low-cost inter-departmental phone calls across all government institutions using fixed line IP phones.

98% of the central government institutions that responded have desktop computers totalling to 13,212; while 97% of government institutions have laptops totalling to 2,391.
18% of government institutions have tablet computers totalling to 205 across 12 institutions.

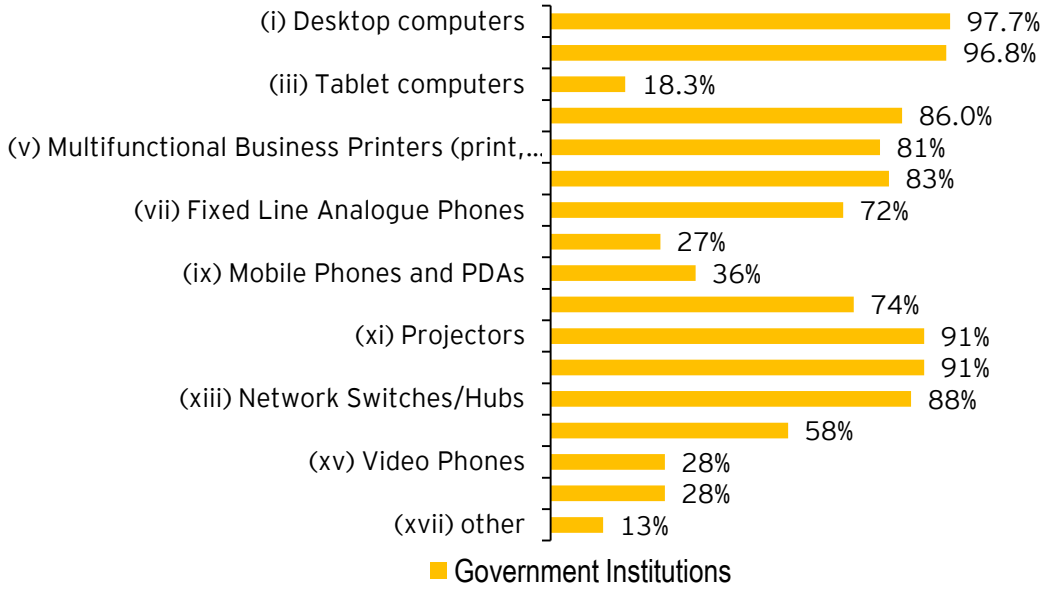


Figure 33: Percentage of GI with ICT equipment

9.1.2 Mobile phone technology accessible platforms (EG5)

22% of central government institutions offer services or information to end users that can be accessed using a mobile phone.

Considering that the mobile phone penetration rate in the country is at 51% according to the Uganda Communications Commission, it is vital for more government institutions to **engage in developing e-government initiatives that can be implemented through mobile phone technology accessible platforms**.

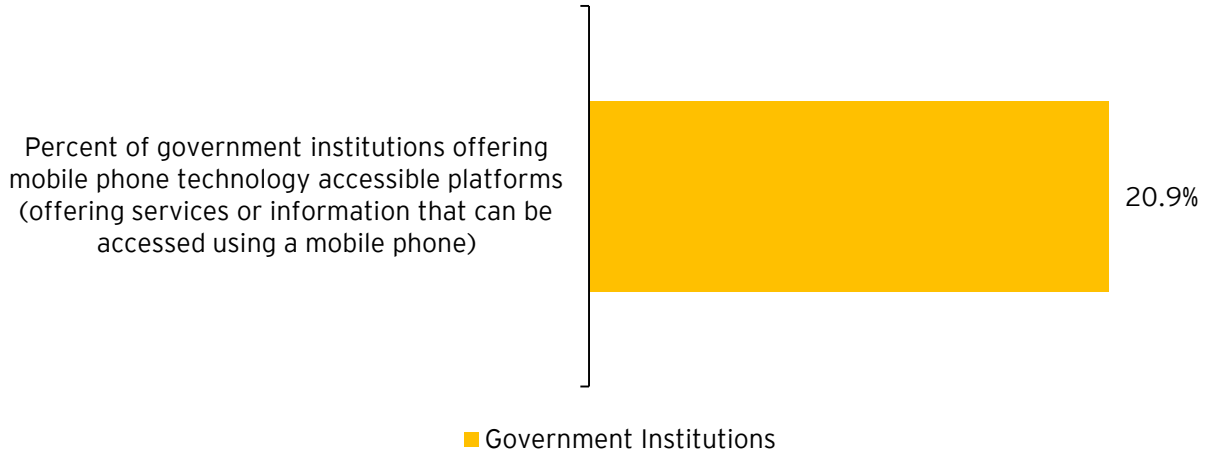


Figure 34: Percentage of GI offering mobile phone technology accessible platforms

Mobile computing trends

23.6% of respondents in central government currently permit the use of tablet computers for business use

Only 13.6% of respondents have made policy adjustments to mitigate the risks related to mobile computing risks.

Government needs to **develop standard policies to address information security concerns arising from** the increasing shift towards **the use of tablet computers**

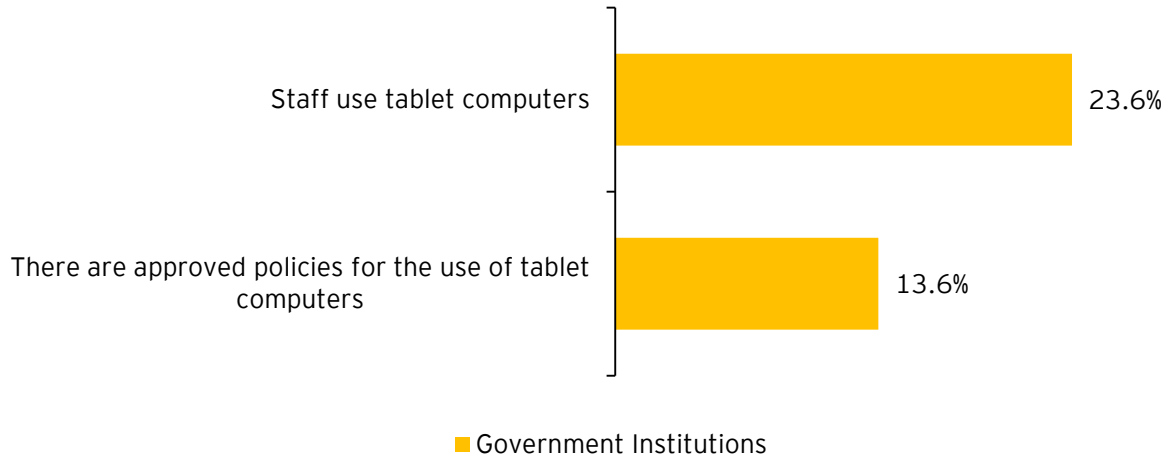


Figure 35: Mobile computing trends

Average number of telephone handsets in government institutions

On average, across the 93 respondent central government institutions there are:

- 67 direct telephone lines per institution
- 207 mobile phone lines supported per institution
- 90 intercoms per institution

The large number of direct telephone lines per institution should be reduced with increased adoption of IP telephony to save on the cost of supporting the direct lines.

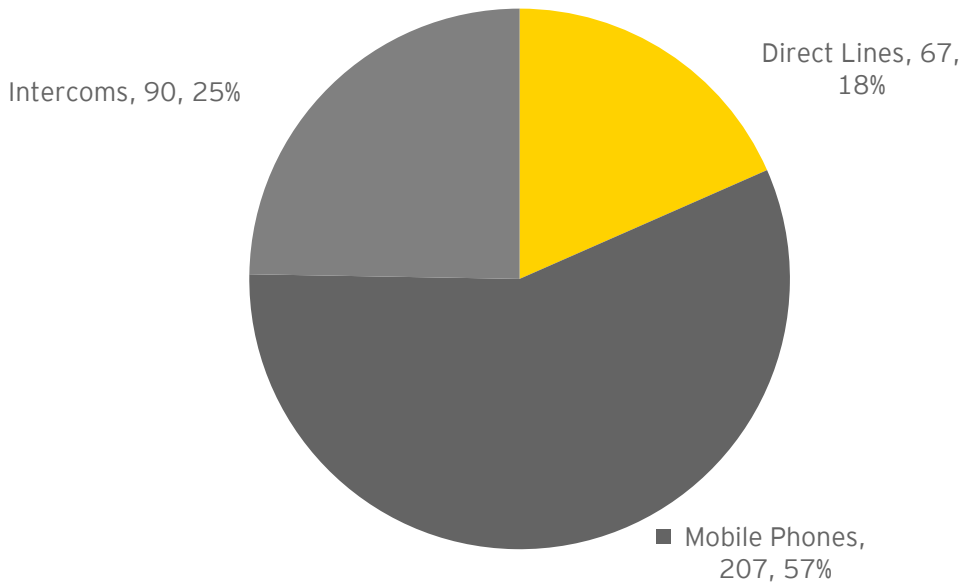


Figure 36: Average number of telephone handsets in GI

Average monthly telephone usage costs per handset in government institutions (UGX)

On average, across the 93 respondent central government institutions the average monthly usage cost per handset is:

- UGX 63,198 per direct telephone line
- UGX 29,207 per mobile phone

With the average number of direct phone lines being 67; the total monthly direct line cost per institution is UGX 4.25 million; with the annual cost per institution being UGX 51 million.

The adoption of a centrally managed phone system using IP phones for the entire Government of Uganda would significantly reduce the telephony cost for the government, **with inter-institutional phone calls being made using voice over IP across the National Backbone Network**, instead of via the costly commercial telecom companies. This would minimize the telephony budget and reduce on the monthly cash outflows from government institutions, which can be re-purposed for service delivery initiatives.

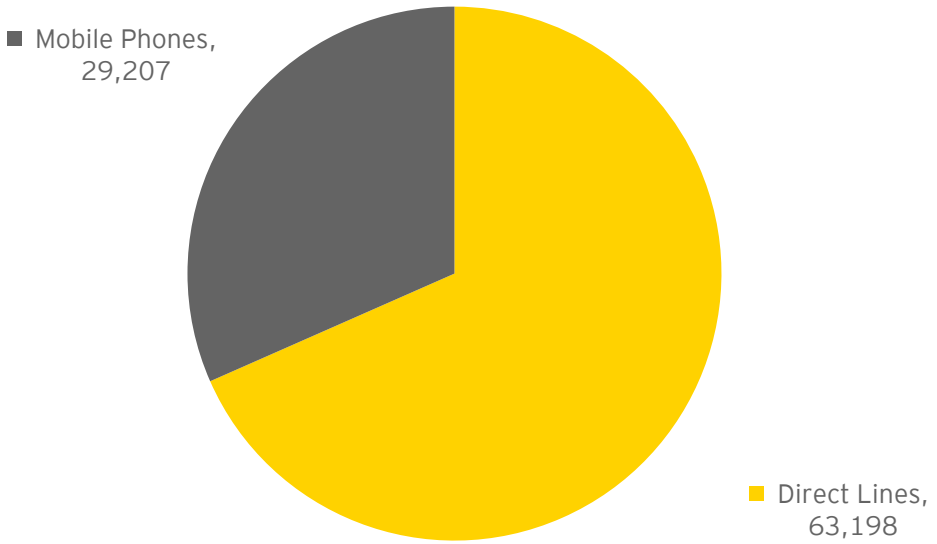


Figure 37: Average monthly telephone usage costs per handset in GI

Percentage of government institutions with a business telephone system

28.4% of the institutions use a PBX as their telephone system while 78.4% use a PBAX.

19.3% of institutions with PABX or PBX use software to operate the telephone systems

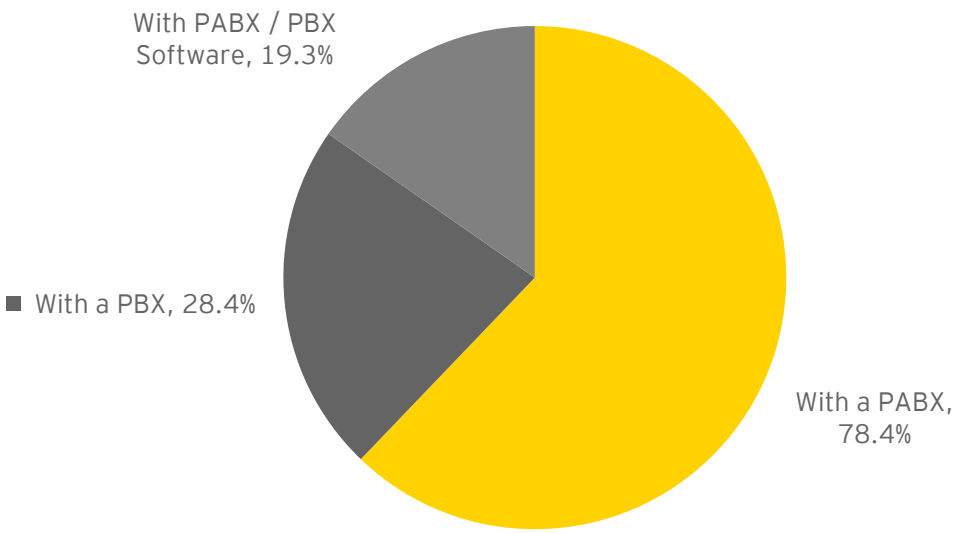


Figure 38: Percentage of GI with Telephone systems

Average number of phone lines supported by business telephone systems

Average number of phone lines supported by business telephone systems in government institutions

80.7% of government institutions have business telephone systems with VOIP capability

25.3% of government institutions have ICT equipment maintenance performed in-house

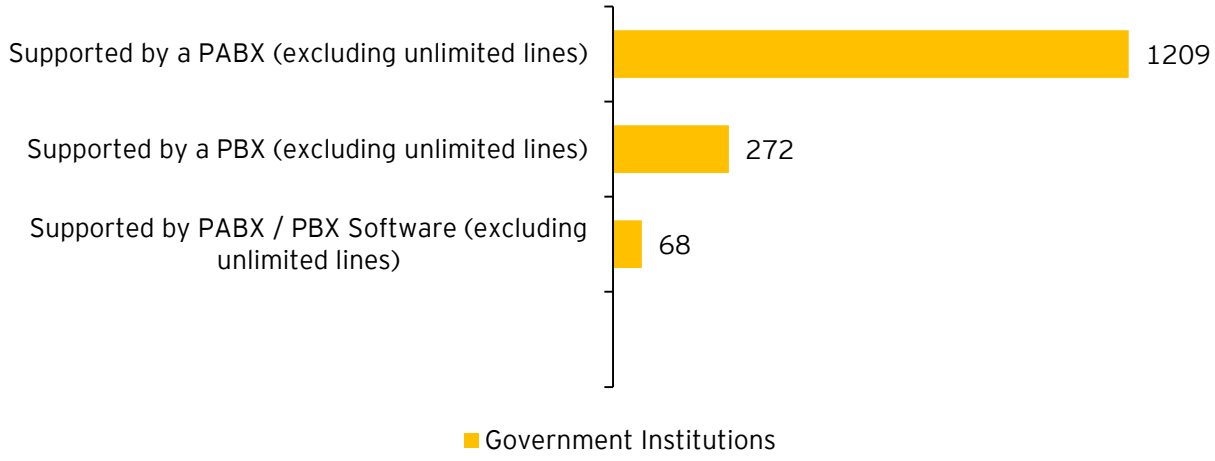


Figure 39: Average phone lines supported by business telephone systems

9.1.3 Access to Internet

Gender Distribution

- 62% of staff in government institutions with access to the internet at the office are male, while 38% are female
- This correlates with the fact that 58% of staff who have assigned computers are male and 66% of all government staff reported on in this survey are male.

Institutional Websites

- 97% of the 93 central government institutions who responded have a website, enabling the provision of information and services to businesses and citizens with access to the internet

Percentage of Staff in Government with Internet access at the office, disaggregated by gender and PWD

On average 40% of staff in central government institutions have access to the internet at the office. With 36.3% of staff in central government institutions having an assigned computer, this statistic suggests that all staff in government institutions with assigned computers have access to the internet at the office; while the additional percentage with access to the internet represent those with access to computers. 40% of staff having access to the internet at the office is very low if the ambition of the government is to deliver all major aspects of service delivery through e-Government initiatives. Consequently, just as the government needs to increase the assigned computers by 126% across central government institutions, the **number of staff with access to the internet needs to increase by 250%.**

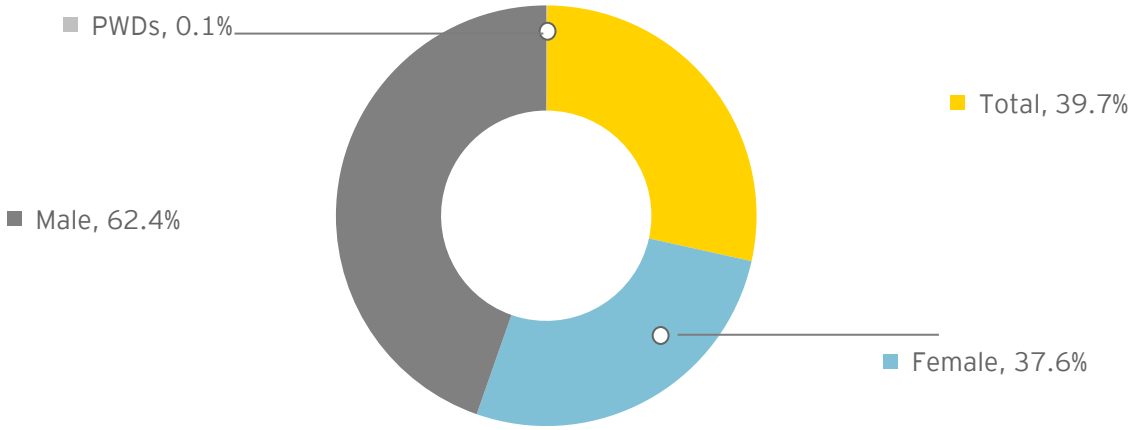


Figure 40: Staff in GI with Internet access at the office - gender and PWD

Percent of government institutions with access to the Internet by type of access

Several government institutions have more than one way of connecting to the internet; however, the majority of institutions; 51% are connected via Fixed Broadband - Fibre Optic Cable.

38% of institutions are connected via Fixed Broadband - Wireless AP, while 33% are connected via Fixed Broadband - Copper Cable

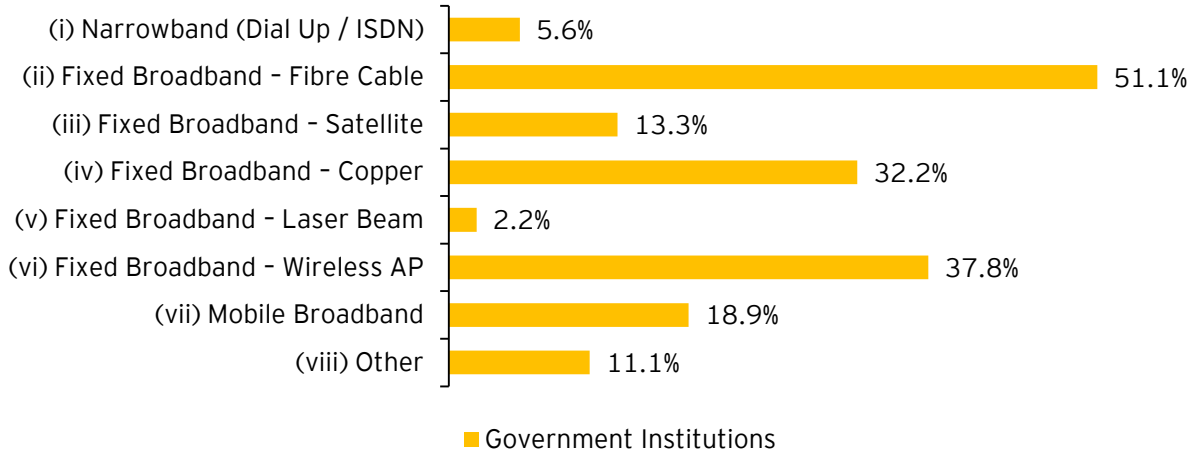


Figure 41: Percent of GI with access to the Internet by type of access

Average bandwidth usage (subscribed) by a government institution every month

Average bandwidth capacity paid for per month is 3,132 Kbps

Average bandwidth cost per month per institution is UGX 4,340,348

52% of central government institutions use 3G mobile broadband USB modems; with the average number of USB modems used per government institutions being 11

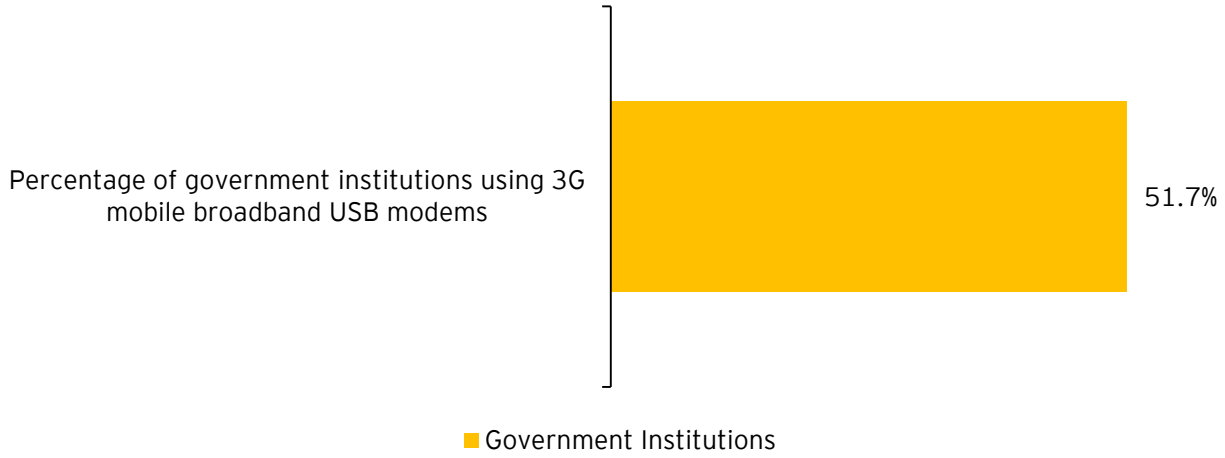


Figure 42: Average bandwidth usage (subscribed) by a GI every month

9.1.4 Information and Communications Infrastructure

Percentage of Government institutions with corporate networks (LAN, intranet, extranet)

82% of central government institutions have corporate networks; of which,

- 94% have a local area network (LAN)
- 41% are connected to a wide area network (WAN).

Of the 93 central government institutions that responded, only 11 or 14.5% are connected to the National Backbone Network (NBN).

In order for the government to achieve the envisioned benefits from setting up the National Backbone Infrastructure, **100% of government institutions should be connected to the NBN**.

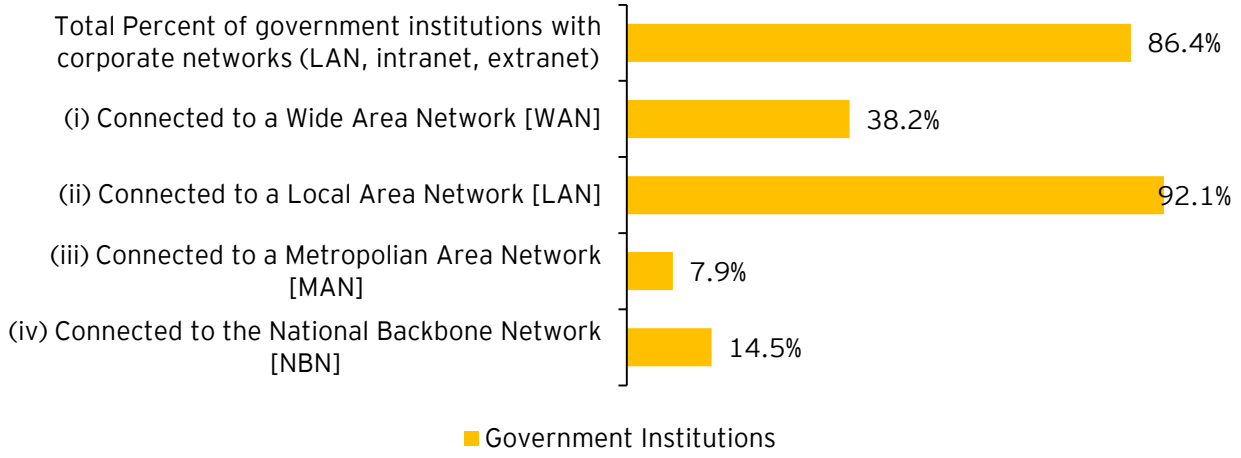


Figure 43: GI with corporate networks (LAN, intranet, extranet)

Percentage of government institutions that are currently using cloud computing based services

52% of respondents are not using cloud computing-based services and have no plans to do so in the next12 months

Of the 7% of respondents using cloud computing, none have approved policies for cloud computing

Central Government institutions appear to be cautious in their adoption of cloud computing-based services due to the lack of clarity around security implications and measures.

With the National Data Center now in place, it would be important for the government to **determine the possibility of developing cloud based shared services** for government institutions in order to enhance commonality in software used and to save hard drive space on individual computers which would enhance the performance of computers within government and enable a common environment for implementing e-Government initiatives.

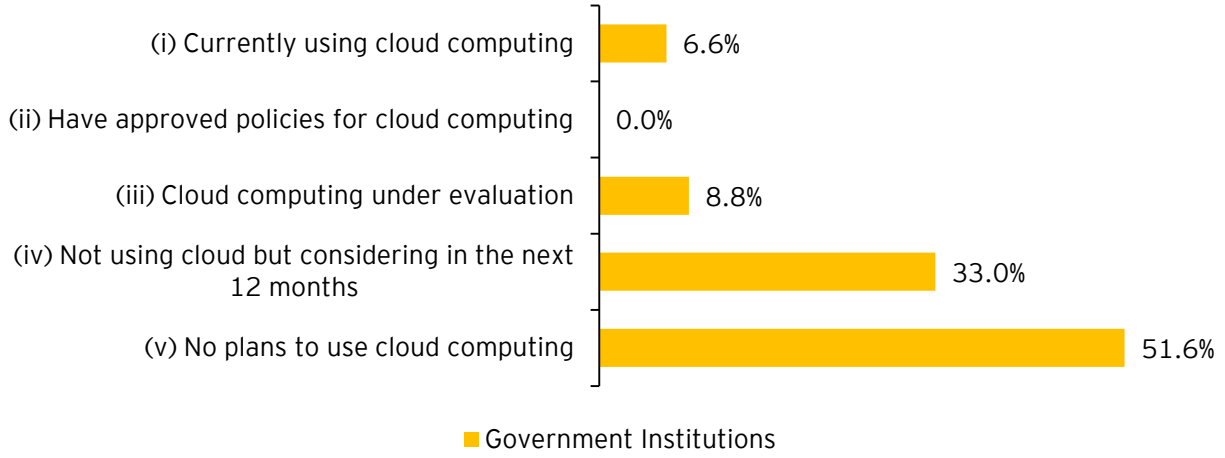


Figure 44: GI that are currently using cloud computing based services

Percentage of government institutions that are currently using virtualization

19% of respondents use virtualization, while 44% are considering using virtualization within the next 12 months.

Consequently, potentially over 60% of central government institutions will be using virtualization by the end of 2013.

With only 4.5% of respondents having approved policies for virtualization, it is important that government fast tracks the **development of standardized policies** for the use of virtualization to guide institutions in their foreseeable implementation efforts.

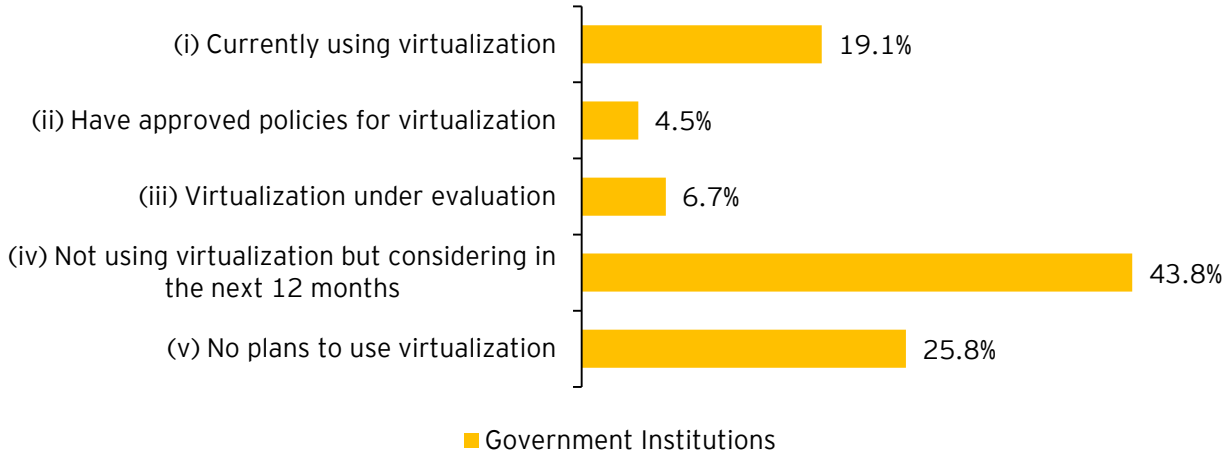


Figure 45: Percentage of GI that are currently using virtualization

9.1.5 Usage of shared IT services

Percentage of Government institutions that use IT shared services

- 77% have or use shared IT services

Selected Results

- 57% - Intranet
- 54% - Relational database management systems
- 41% - Computing.
- 34 % - Office productivity
- 33% - Unified communications
- 31% - Content management systems
- 18% - Enterprise Resource Planning (ERP) systems

Of Concern

- 20% - National Backbone
- 10% Business Continuity Management

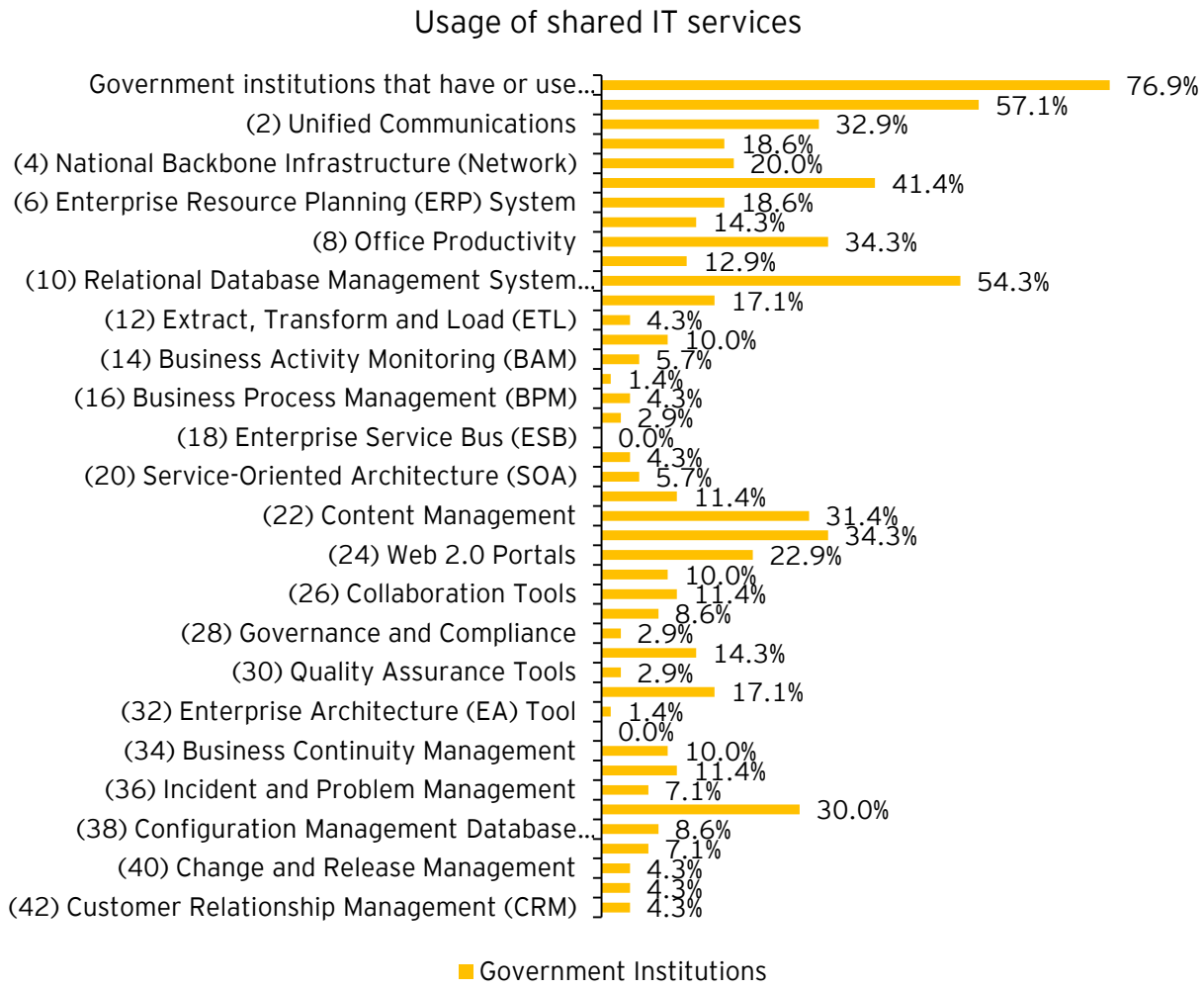


Figure 46: Percentage of GI that use IT shared services

9.1.6 Software applications

98% of government institutions have word processing applications, with 85% having web-based applications, and 75% having accounting and database applications.

30% of government institutions have ERP / CRM / IMIS systems, reflecting a need for progression in this area to enhance the re-engineering of business processes that deliver services to businesses, citizens and other government institutions.

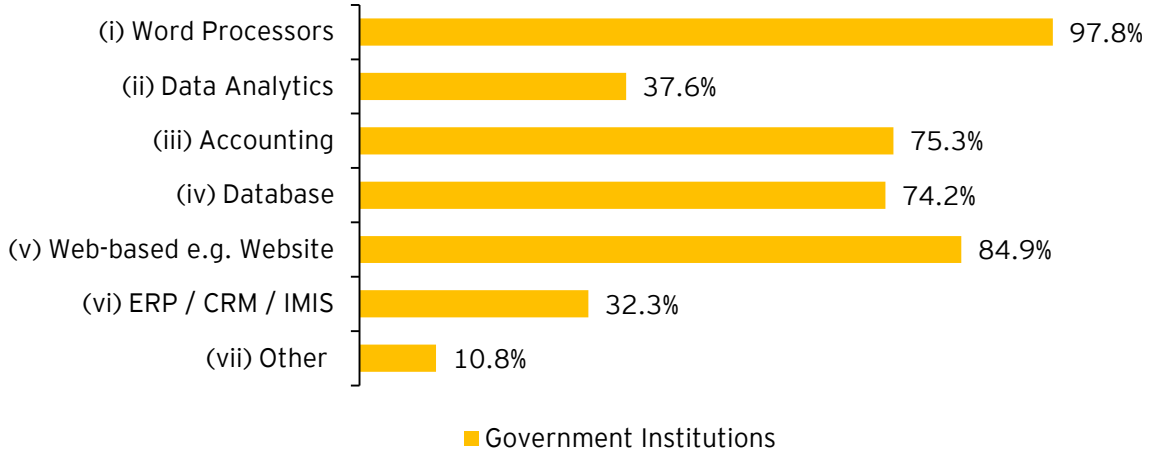


Figure 47: Percentage of GI with specific software applications

Top 5 major applications used in government institutions

Most respondents reported on using mostly Microsoft operating systems with Windows XP and Windows 7 being used by 58% and 56% respectively.

Microsoft Office is used by 66% of respondents, while Kaspersky appears to be the antivirus software solution of choice with 44% reporting its usage.

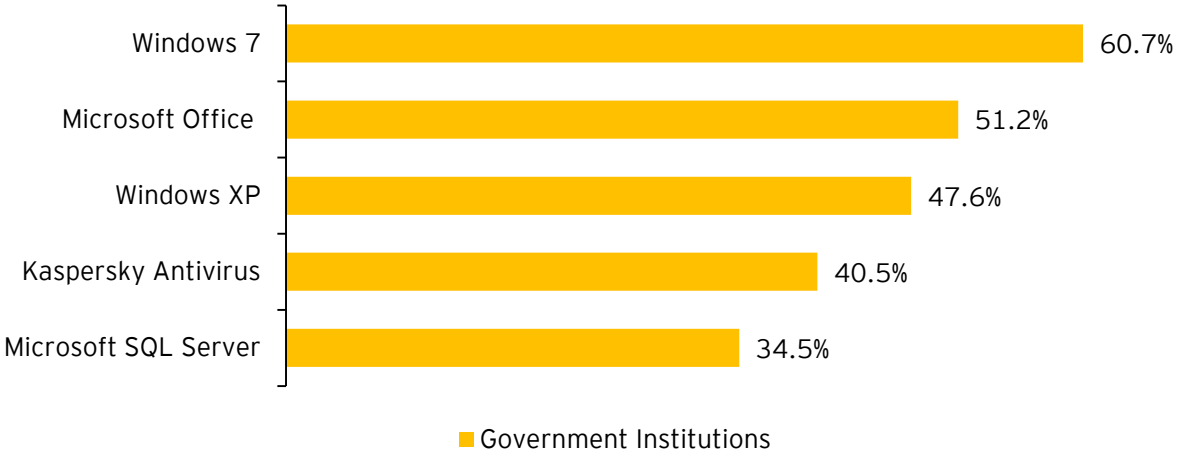


Figure 48: Top 5 major applications used in GI

9.1.7 ICT Human Resources

ICT personnel in government institutions disaggregated by gender and PWD

1.6% of staff in the respondent institutions are ICT personnel

69% of ICT personnel are male while 31% are female, which is not far off from the overall staff distribution percentages in government institutions of 66% being male while 34% are female.

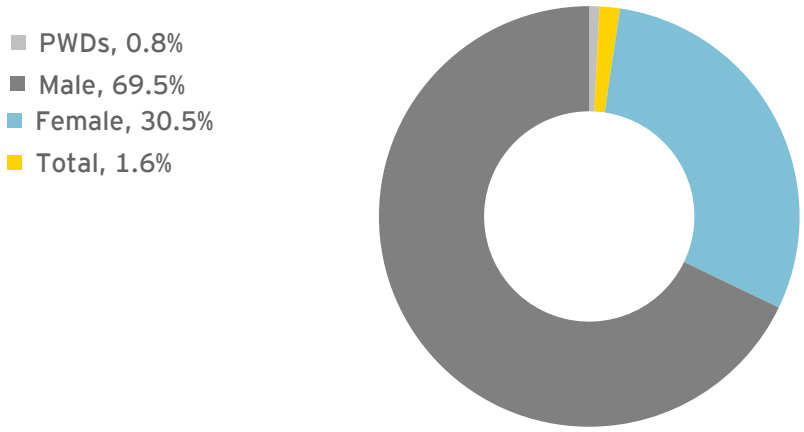


Figure 49: ICT personnel in GI - gender and PWD

ICT personnel in government institutions disaggregated by rank

2.6% of ICT personnel were revealed to rank as Directors, 16.4% ranked at managerial level, 24.7% as assistants and 10.2% as support.

Most ICT personnel (45.6%) were ranked at officer level while only 0.5% was ranked as consultants

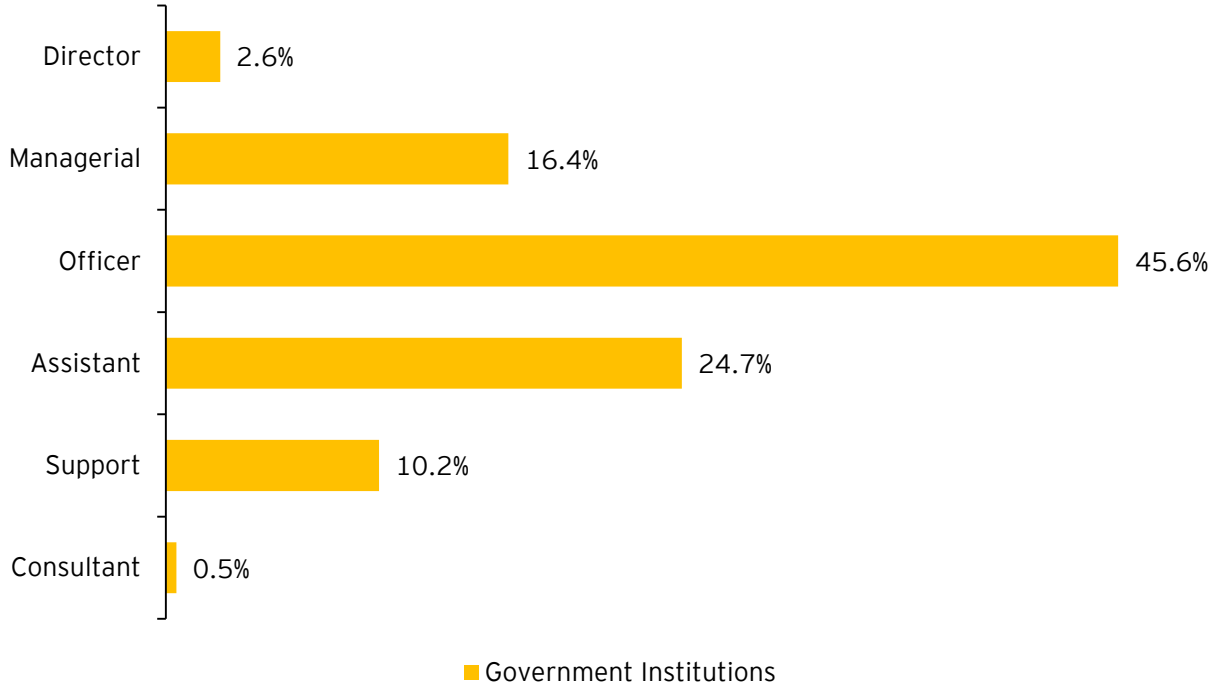


Figure 50: ICT personnel in GI - by rank

Average qualifications of ICT personnel in government institutions

Most ICT personnel (49.9%) were found to Bachelors degree holders, 17.8% had master degree, 8.5% to have professional certifications, 10.2% had ordinary diplomas, 6.7% have post graduate diplomas, 4.4% had high diplomas and 1.8% had certificates.

0.7% had PhD degrees.

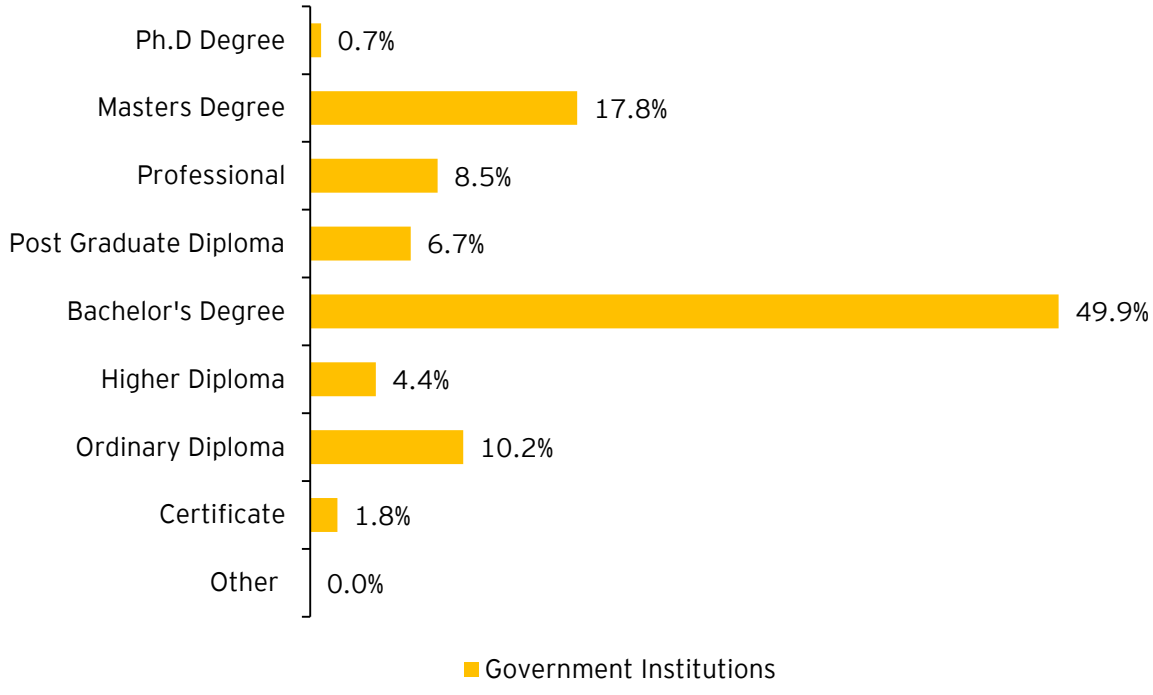


Figure 51: ICT personnel in GI - by level of education

IT Security personnel in government institutions with professional qualifications

The average number of IT security personnel per Government Ministry, Department or Agency is 1.6 Persons

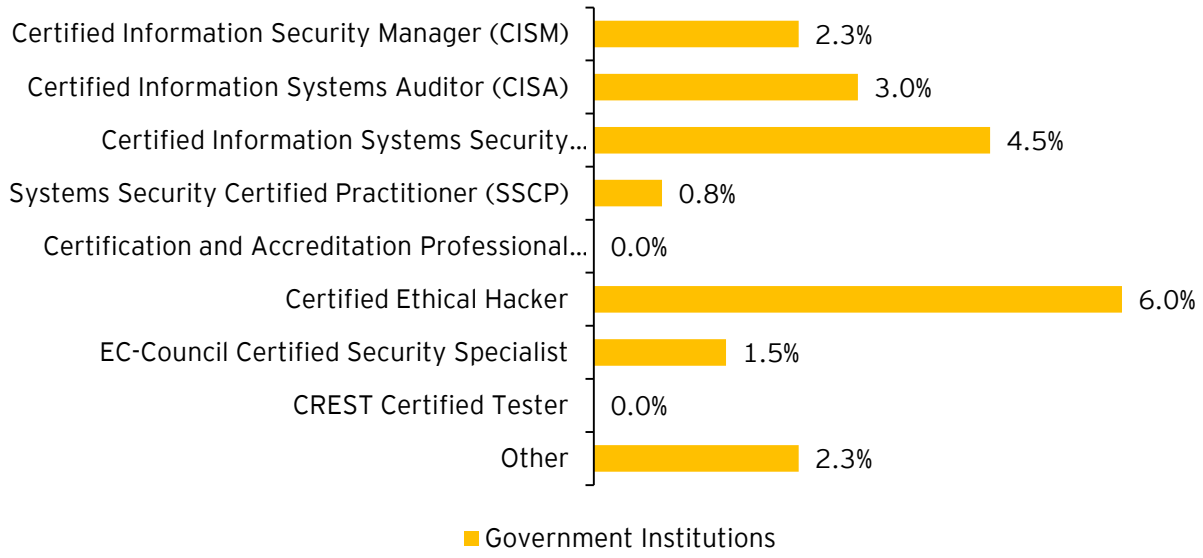


Figure 52: IT Security personnel in GI with professional qualifications

Average number of staff in a government Institution trained in the use of ICT software

Most staff had been equipped with the basic computer skills while those who had been trained in application development were least.

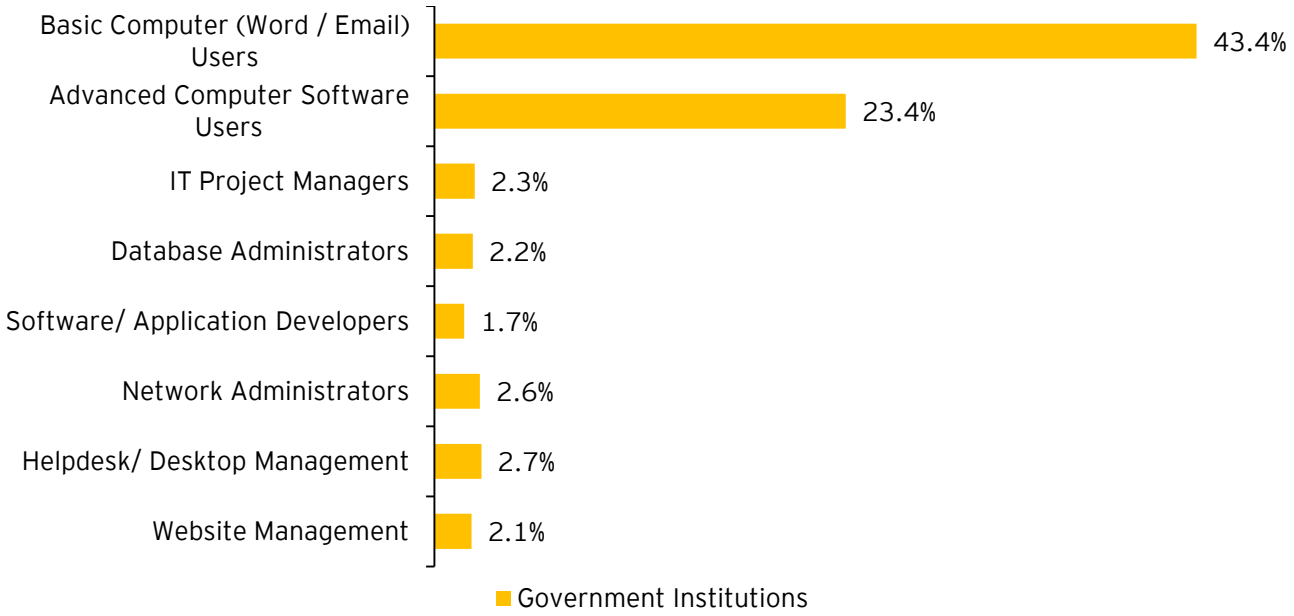


Figure 53: Average number of staff in GI trained in the use of ICT software

ICT staff in government institutions trained in the use of ICT disaggregated by gender and PWD

33% of staff in central government institutions has been trained to use ICTs.

Once again, the same approximate 2/3 male to 1/3 female proportion is noted here with the gender proportion of trained staff being 62% males and 38% females

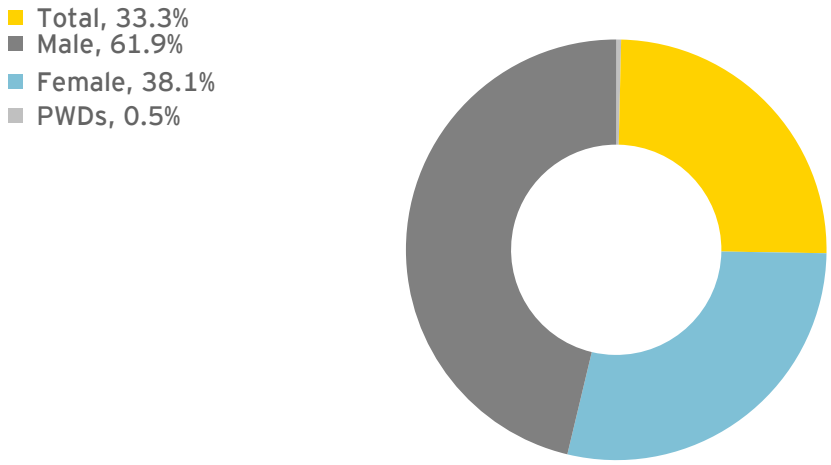


Figure 54: ICT staff in GI trained in use of ICT by gender and PWD

9.1.8 Service Delivery – Information, Communication and Infrastructure

Percent of government institutions with websites and/or databases

97% of respondent government institutions have websites.

Access to information regarding the mandate and services provided by each of these institutions is therefore readily available. This reflects that Uganda from an e-Government development perspective is at the **connected stage**, which is the first of the four "online service development" stages.

This statistics shows a readiness for the **creation of a single government information portal** allowing for links to all government institutions to be hosted on the portal, so that businesses and citizens can access all government sites via one website

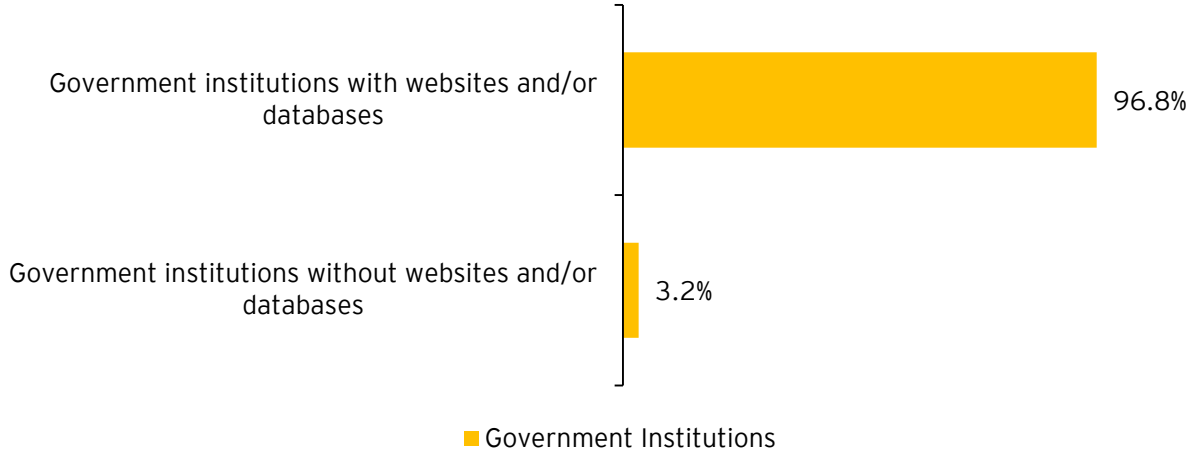


Figure 55: Percent of GI with websites and/or databases

Percent of government institutions have resources for updating their website

Only 40% of government institutions have a fully dedicated resource(s) for updating their websites, meaning that there are high chances of 60% of the websites having static data for a period of time. This suggests that there is a time lag between the occurrence of activities/initiatives and the communication of these activities/initiatives to end users of the websites - businesses and citizens

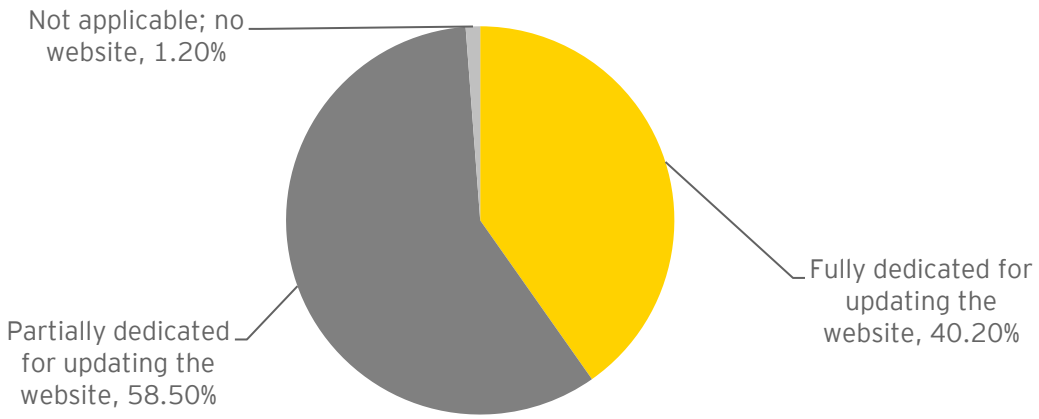


Figure 56: Percent of GI with resources for updating their website

Average frequency of government institutions updating their websites

Approximately 50% of websites are updated every week; with the remaining 50% of websites having static data with time lags from one month to one year.

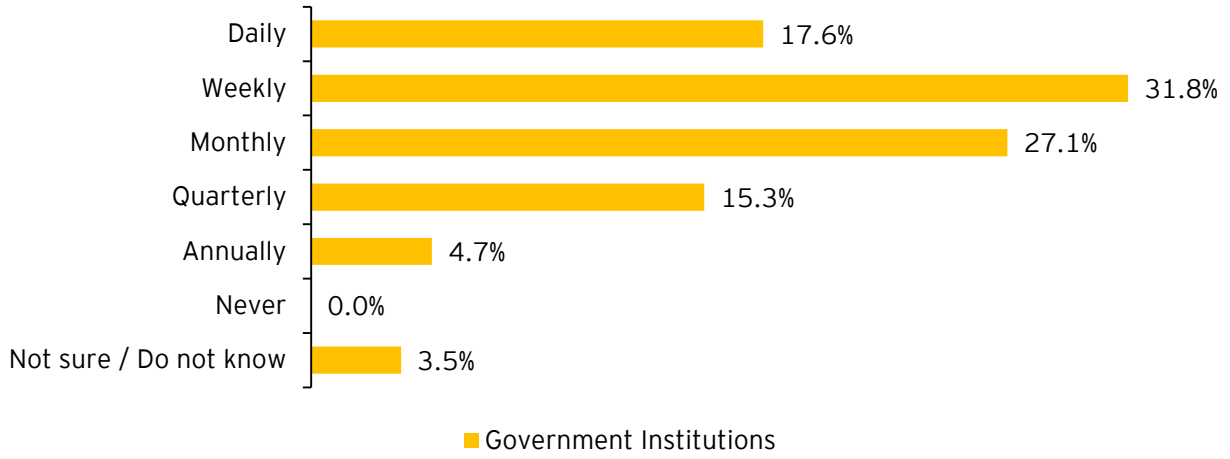


Figure 57: Average frequency of GI updating their websites

Percent of government institutions databases maintaining public information

20% of central government institutions have databases maintaining data / information of public interest that are accessible externally by the public.

As the current and planned e-Government initiatives are rolled out, it is expected that this percentage would increase significantly as government engages in transacting with businesses and citizens online.

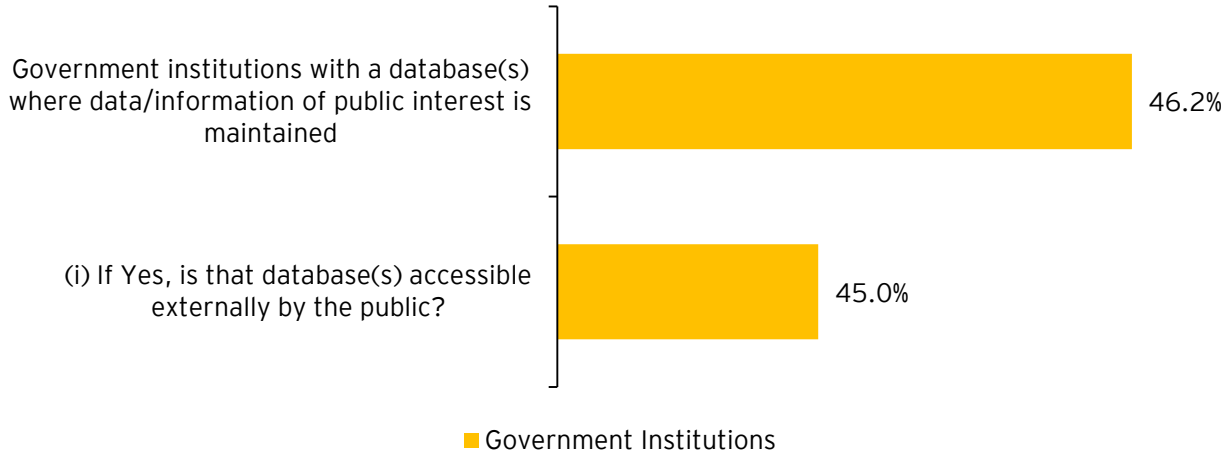


Figure 58: Percent of GI databases maintaining public information

9.1.9 Online Services

Percent of government institutions providing services online

61% of the respondents indicated that they provide services online; of those that provide such services

- 72% allow end users to download and print online forms;
- 72% allow end users to view FAQs;
- 68% allow submission of online feedback;
- 47% allow the viewing, downloading and printing of tender documents;
- 36% allow end users to complete interactive online forms and submit/upload completed forms.

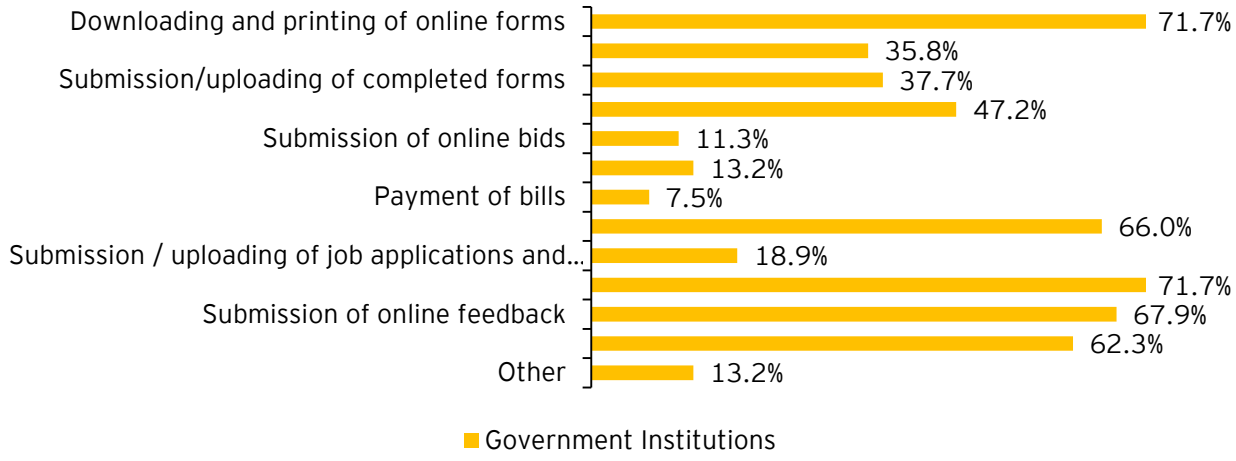


Figure 59: Percent of GI providing services online

9.1.10 E-government initiatives

With 61% of respondents planning e-Government initiatives, there is a desirable cultural shift within central government institutions to embrace the use of technology to enhance service delivery to businesses and citizens.

Further sensitization on the benefits of e-Government within government institutions will go a long way to increasing this statistic to a more desirable percentage.

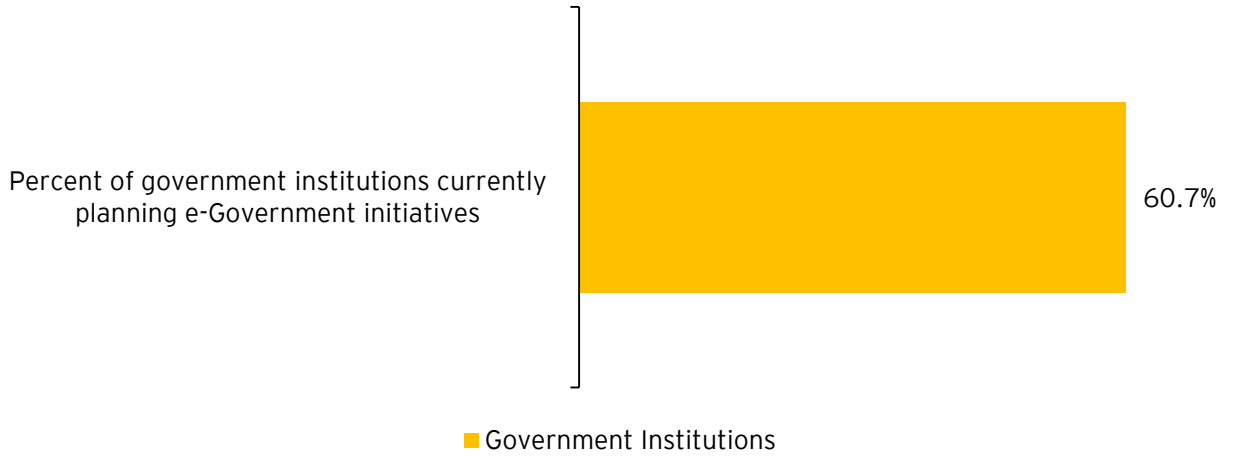


Figure 60: GI planning to provide e-government initiatives

Government institutions with existing internal road-blocks in implementing E-Governance initiatives

Budgetary allocation is ranked the strongest internal roadblock followed by lack of adequate man power among others while corruption is ranked the weakest internal road block.

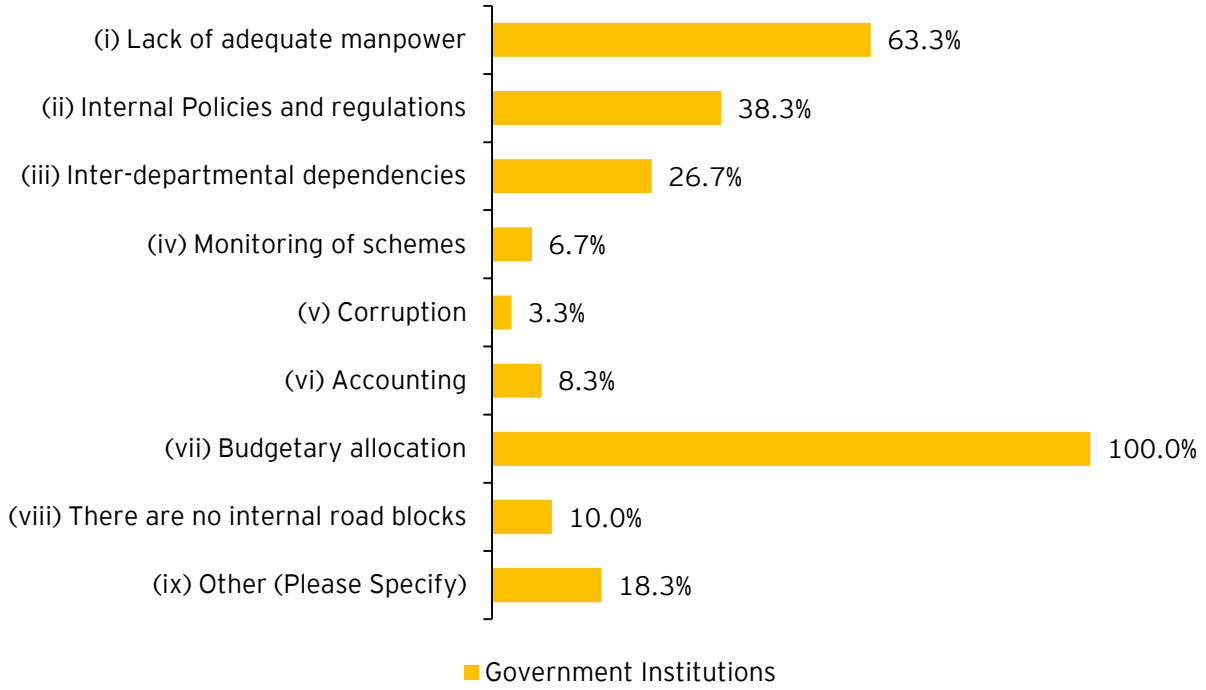


Figure 61: internal road-blocks in implementing E-Governance initiatives

Government institutions with existing external road-blocks in implementing E-Governance initiatives

Funding is ranked as an external road block by all institution while PPP Models were recognized least by institutions

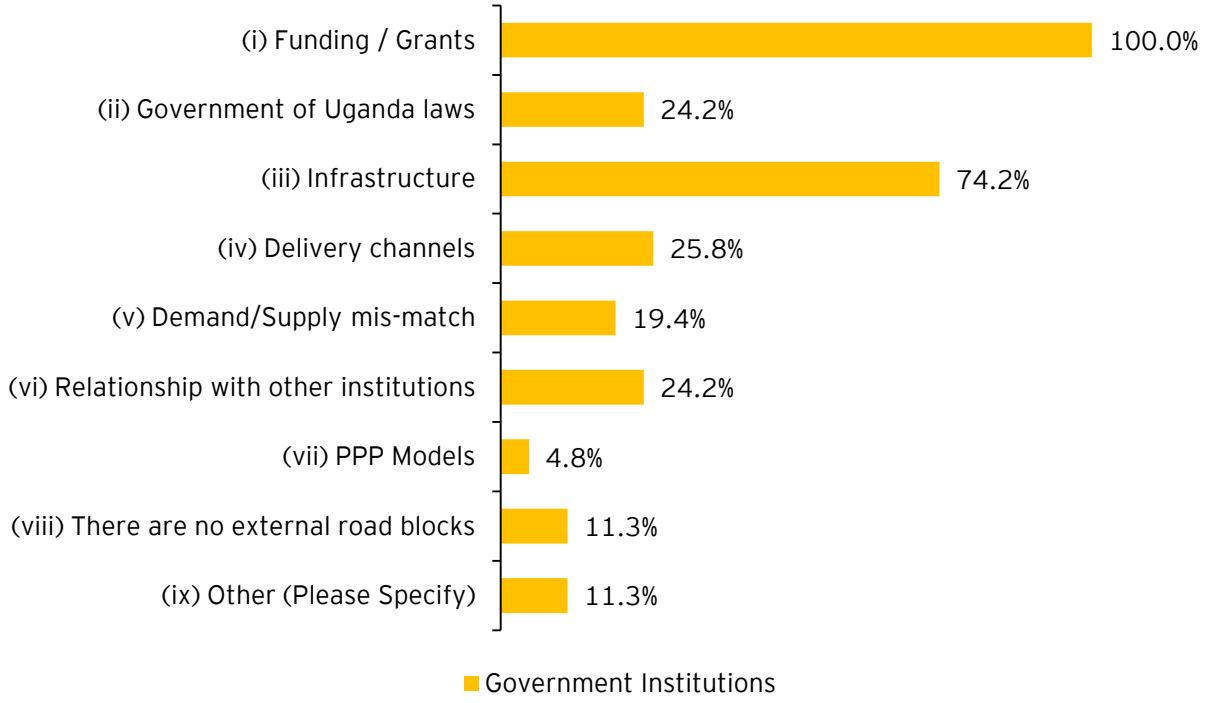


Figure 62: external road-blocks in implementing E-Governance initiatives

9.1.11 Computer and Information Security

Percentage of government institutions' computers that are protected by a firewall and antivirus

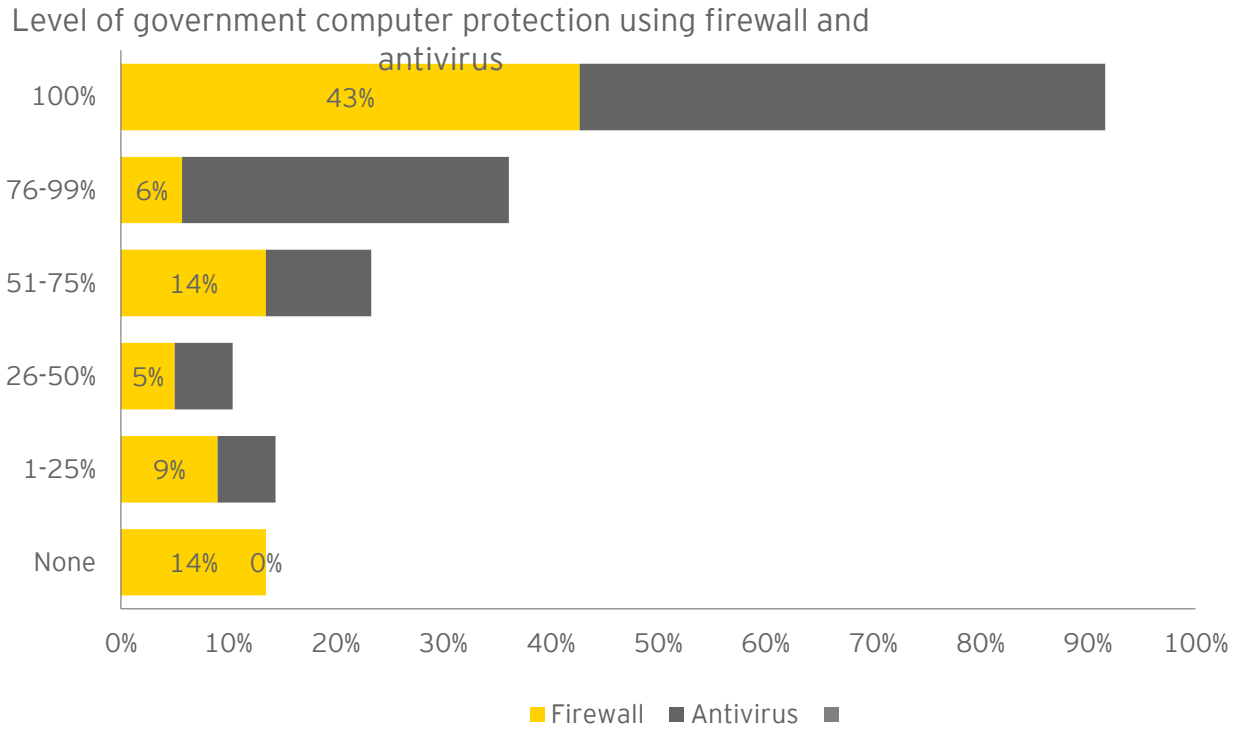


Figure 63: Percentage of GI computers protected by a firewall and antivirus

Percentage of government institutions' computers that are protected by a firewall by type of firewall

55% of the government institutions' computers are protected by a Network / packet filtering firewall.

Of concern are the 13% of institutions with no form of firewall protection.

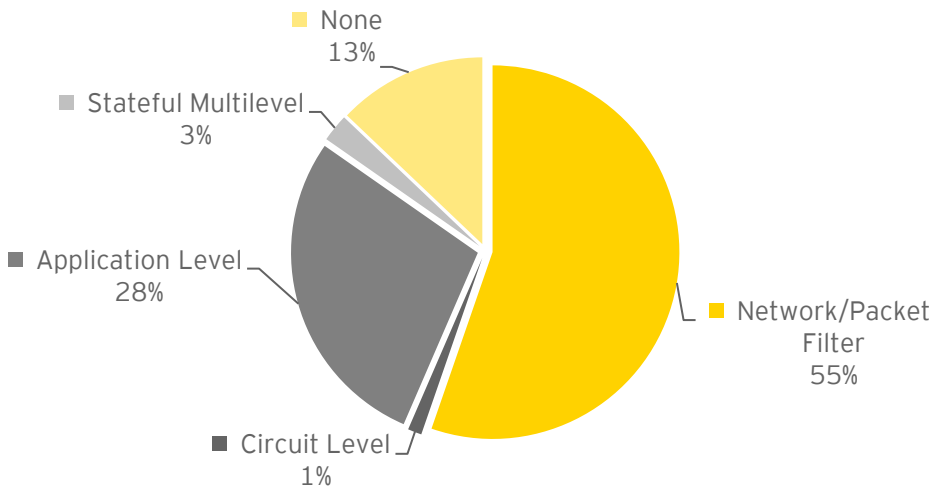


Figure 64: Percentage of GI computers with firewall protection by type of firewall

Percentage of Computers in government institutions that are running antivirus by form of antivirus protection

100% of the respondents indicated that the computers in their institutions are either protected by a computer level anti-virus program, a network level anti-virus program or both.

This is an encouraging statistic, with the basic security for government data on computers being provided for by all respondents.

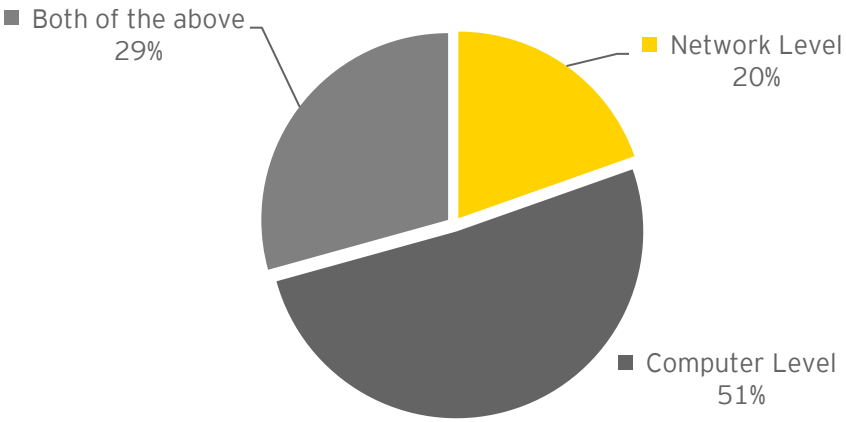


Figure 65: Percentage of Computers in GI running antivirus by antivirus form

Percentage of Computers in government institutions that have an antivirus program by type of Anti-Virus Software

Most computers were found to be running Kaspersky antivirus, followed by Symantec Norton among others.

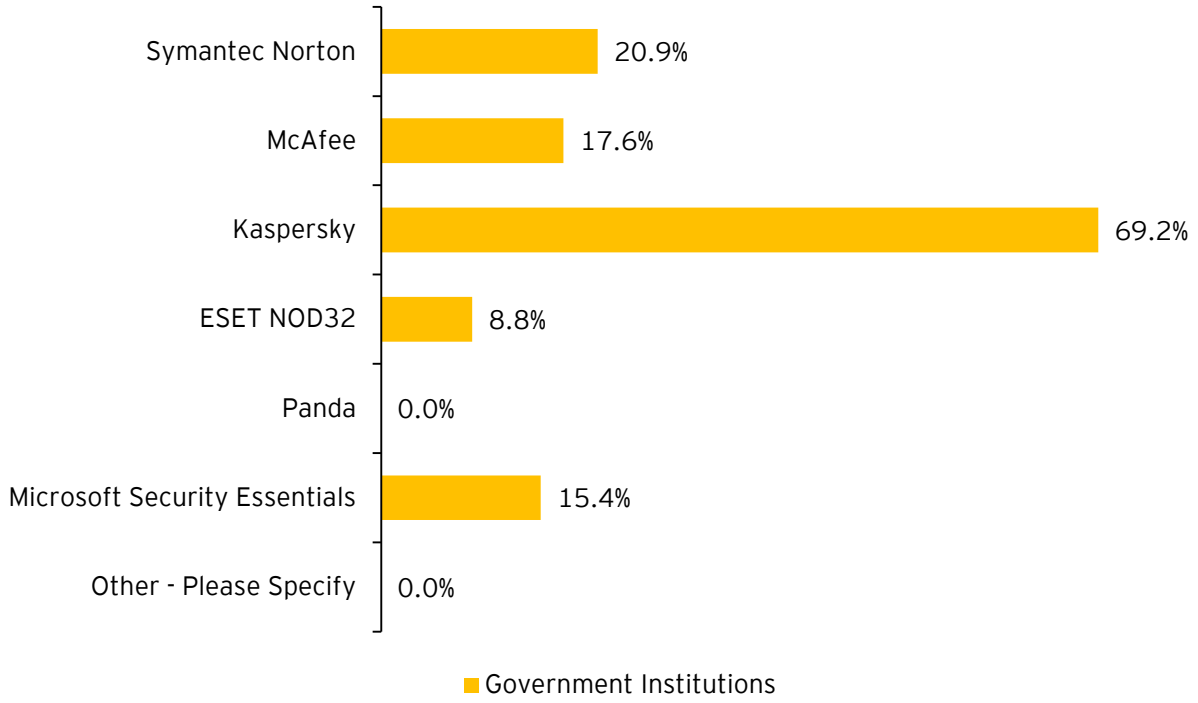


Figure 66: Percentage of Computers in GI that with an antivirus program by type

Percentage of government institutions using e-signatures or digital certificates for online services

There are currently 8 vendors supplying digital certificates to government. It is important for government institutions to:

Pay special attention to third parties with access to sensitive organizational data.

Understand what data is sent to third parties, how it is sent and if the transmission mechanisms are secure

Figure 67: Percentage of GI with e-signatures or digital certificates for online services

Percent of government institutions that have vendors supply them with digital certificates

There are currently 8 vendors supplying digital certificates to government. It is important for government institutions to:

Pay special attention to third parties with access to sensitive organizational data.

Understand what data is sent to third parties, how it is sent and if the transmission mechanisms are secure

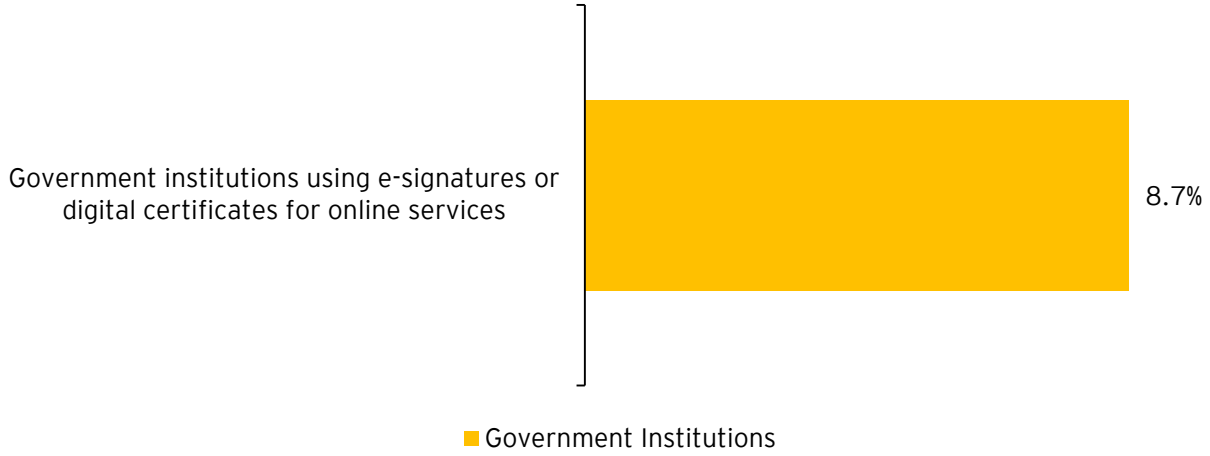


Figure 68: Percent of GI that have vendors supply them with digital certificates

9.1.12 Policies, Procedures and Guidelines

Recommendations

- Prepare for and secure business continuity plans that anticipate high-impact, low-frequency events, and determine which are integrated into a broader risk management framework that focuses on protecting institutions from catastrophic loss.
- Assess whether the business continuity plan has the right level of maturity in light of the emerging trends and new technologies.
- Test institution's business continuity plans frequently to help validate their resiliency in practice. The more complex the scenarios that are tested, the better the coverage of the test.
- Solicit the support of senior management for implementing business continuity programs.

Only 60.2% had documented IT policies, 53.4% had documented IT procedures and IT guide lines.

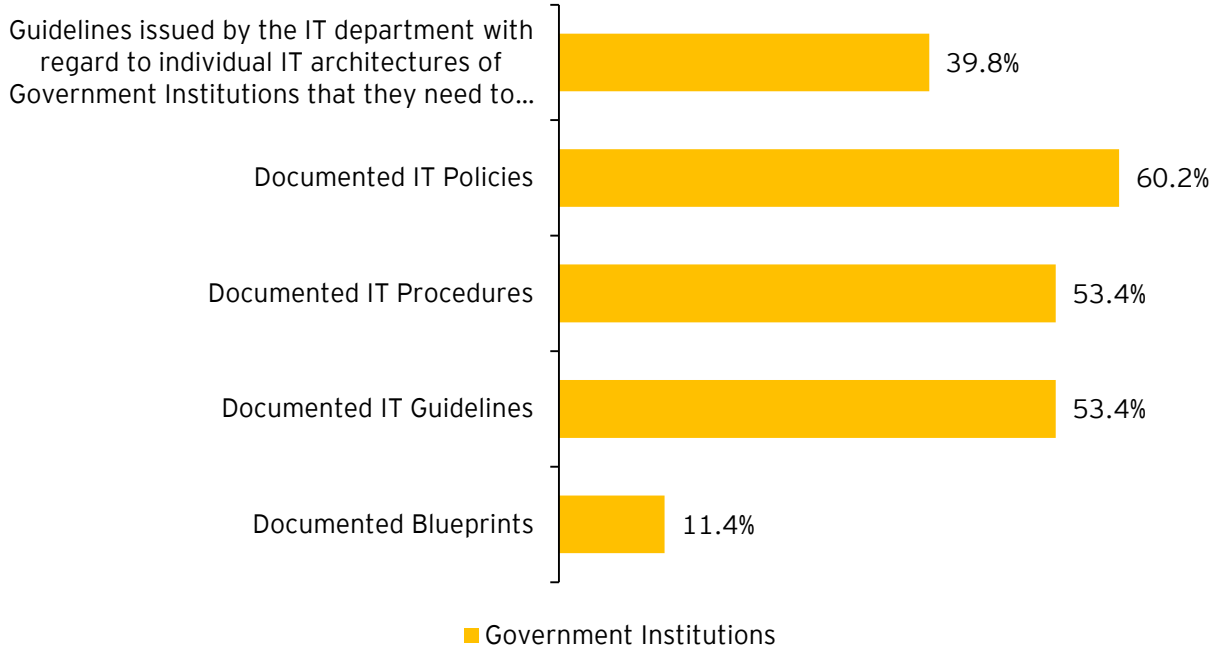


Figure 69: Percentage of GI with Policies, Procedures and Guidelines

Percent of government institutions with BCP/DRP policies and plans

Less than 25% of central government institutions have formal policies and practices in use for disaster recovery and business continuity management.

Most institutions are still unprepared for catastrophic occurrences/events.

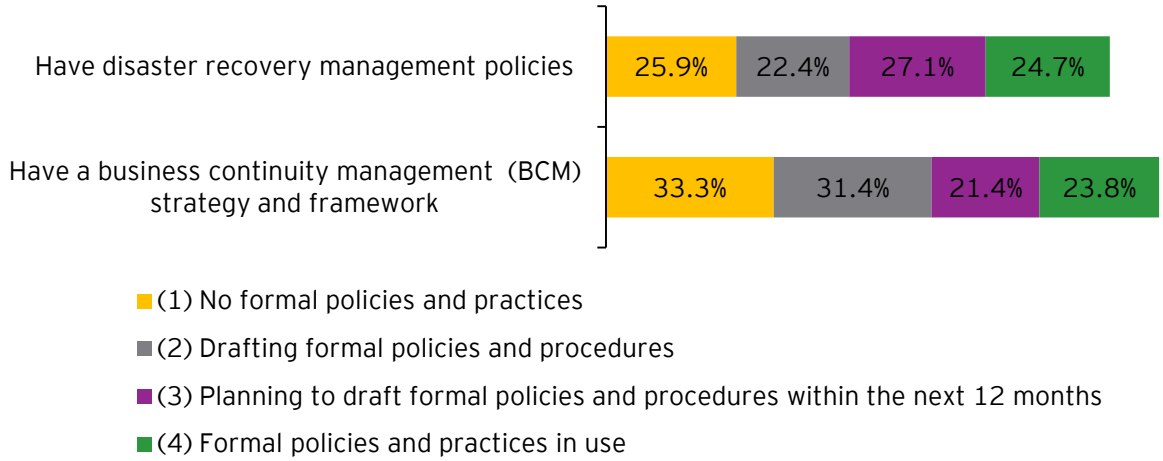


Figure 70: Percent of GI with BCP/DRP policies and plans

9.1.13 E-Records Management

7% of government institutions have an e-records management policy.

Government of Uganda does not have a policy or legal framework governing the management of e-records by Government Institutions. The policy and legal framework need to be developed and implemented.

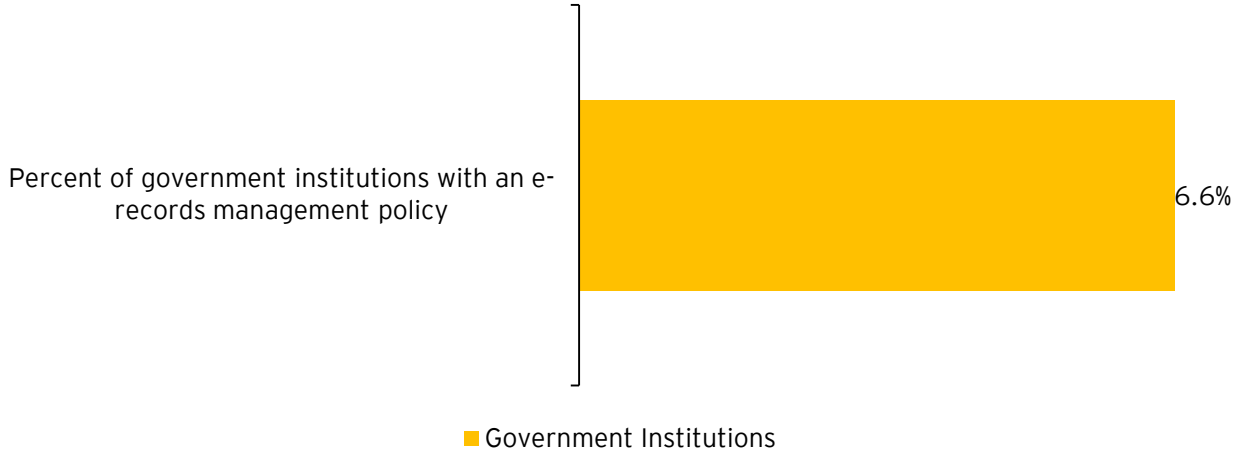


Figure 71: E-Records Management

Percent of government institutions with records computerization

Less than 4% of central government institutions have fully computerized their records management.

For e-Government to be successful, all government institutions need to fully computerize their records management.

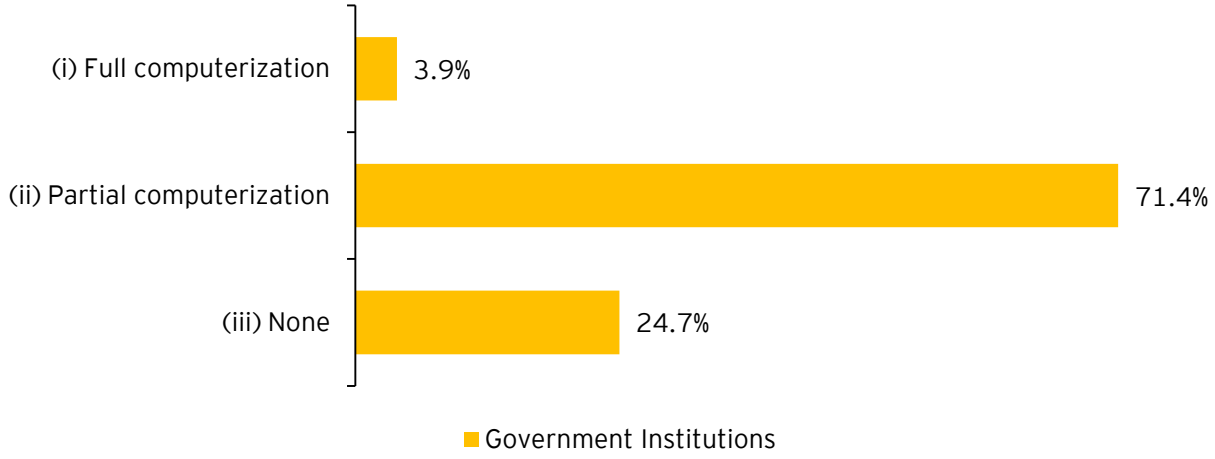


Figure 72: Percent of GI with records computerization

Average level of e-records management proficiency in government institutions

The majority of central government institutions have low levels of e-records management proficiency; with 30% of respondents having no e-records and 36% having e-records that are scattered and isolated files

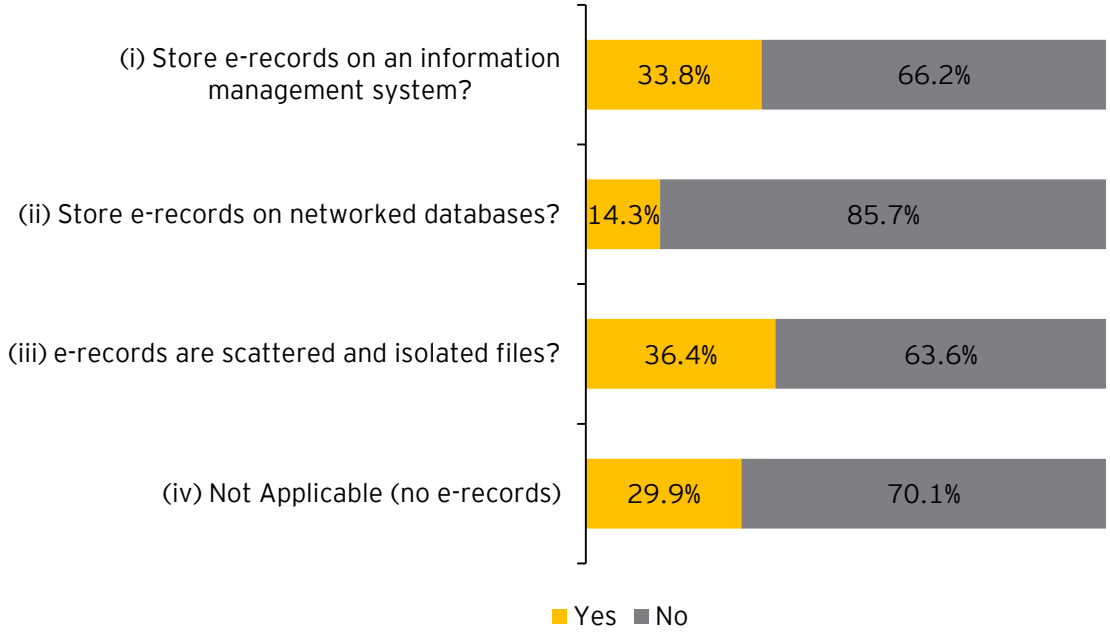


Figure 73: Average level of e-records management proficiency in GI

9.1.14 ICT Spend

Average percentage of ICT expenditure compared to total expenditure of government institutions

The average percentage of ICT expenditure compared to total expenditure of central government institutions is 1.3%. This reflects the low priority that is accorded to ICTs within central government institutions.

The National Budget allocation to the ICT sector for FY12-13 is 0.1%.

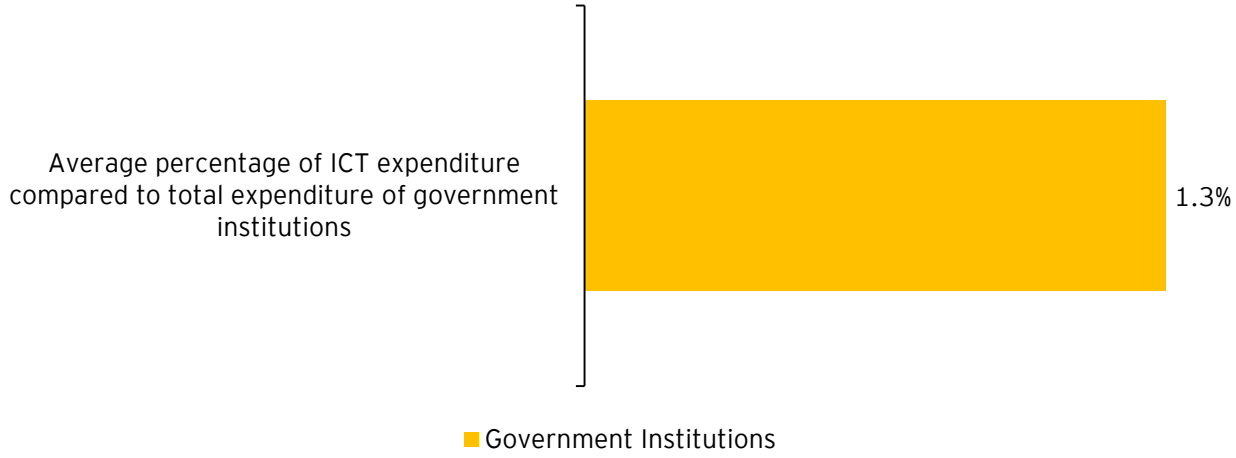


Figure 74: Percentage of ICT expenditure compared to GI total expenditure

Average percentage of major ICT budget lines expenditure compared to total

The biggest percentage of the ICT budget is allocated to ICT hardware and software while the least potion is used for information security.

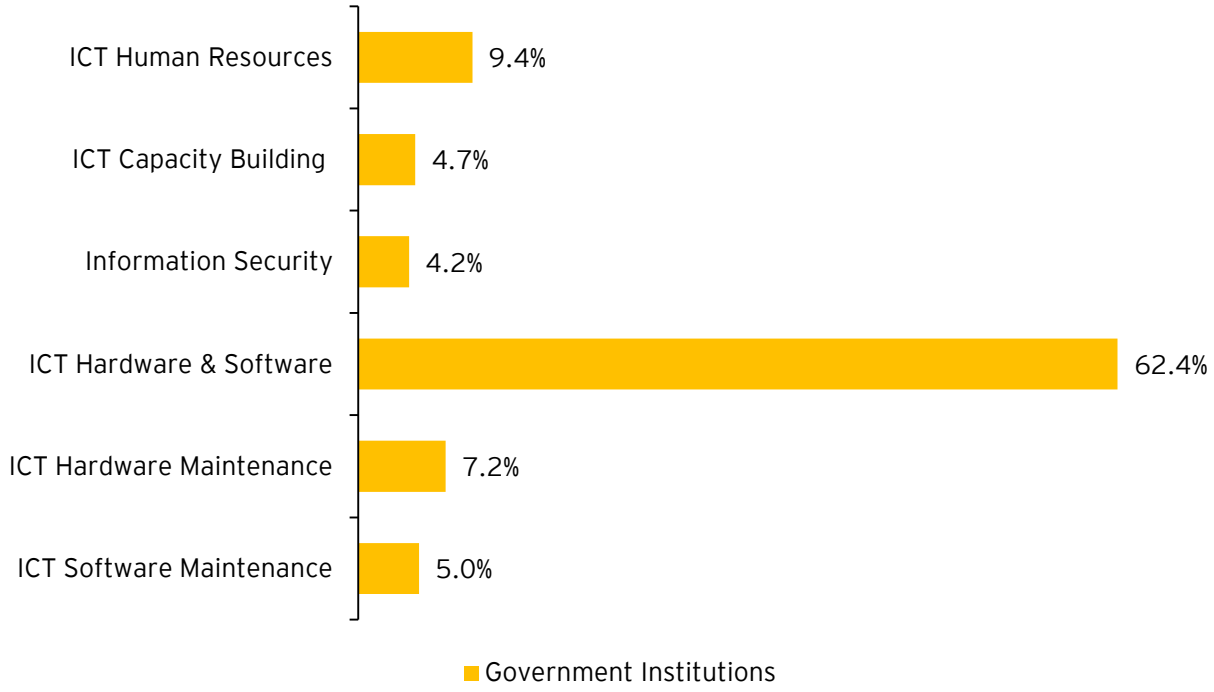


Figure 75: Percentage of major ICT budget lines expenditure compared to total

9.1.15 IT Governance, Strategy, Policies and Linkage to Business Objectives

Percentage of Government Institutions with IT Strategic Plans

55% of the respondents have a documented IT strategic plan.

For e-Government to be successful, all government institutions should have IT strategic plans that are geared towards enabling the institutions to provide high quality online service delivery that is aligned to the business objectives of the institutions.

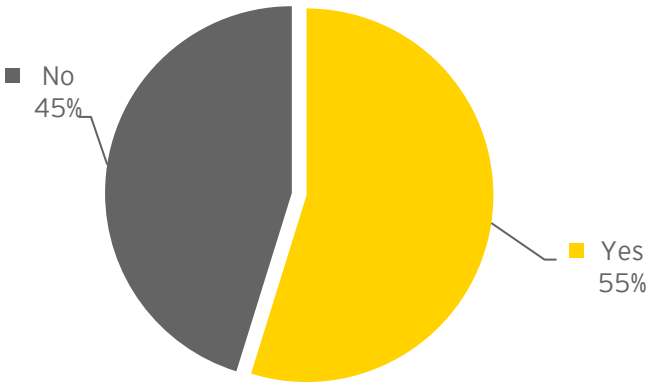


Figure 76: Percentage of GI with IT Strategic Plans

Extent to which the IT Strategic Plan supports government institutions' business objectives

Only 54% of respondents believe their IT strategy adequately supports business objectives

Considering that only 55% of government institutions have strategic plans; it can be inferred that only 30% of central government institutions have strategic plans that support their business objectives to a large or very large extent.

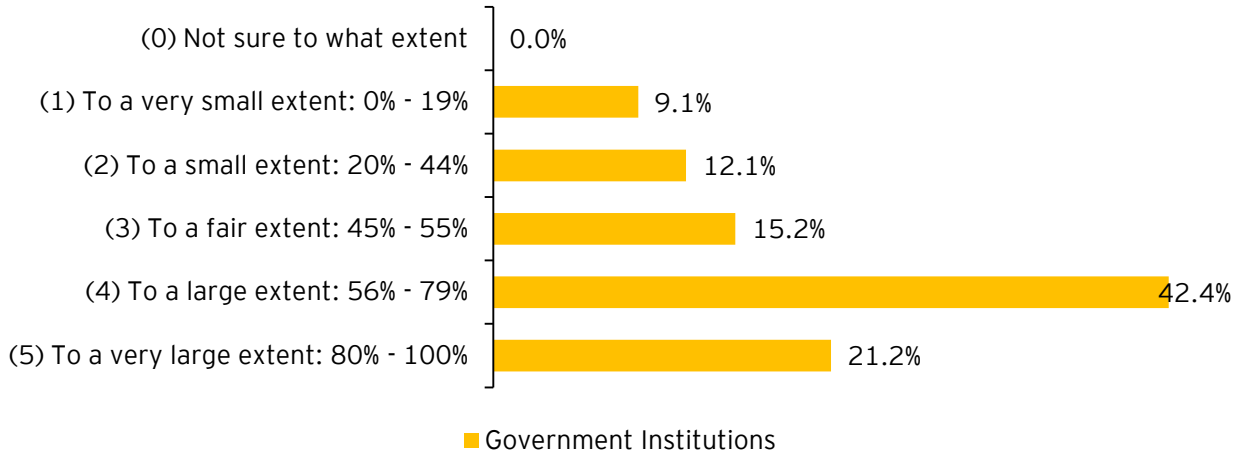


Figure 77: Extent to which the IT Strategic Plan supports GI business objectives

Percent of internal functions supported by government institutions' IT Strategic Plan

The IT strategic plans in government institutions mainly address communication and financial management.

Only 9 central government institutions indicated that their risk management programs are addressed by their IT strategic plans. This indicates that few institutions recognize the importance of an IT risk management program.

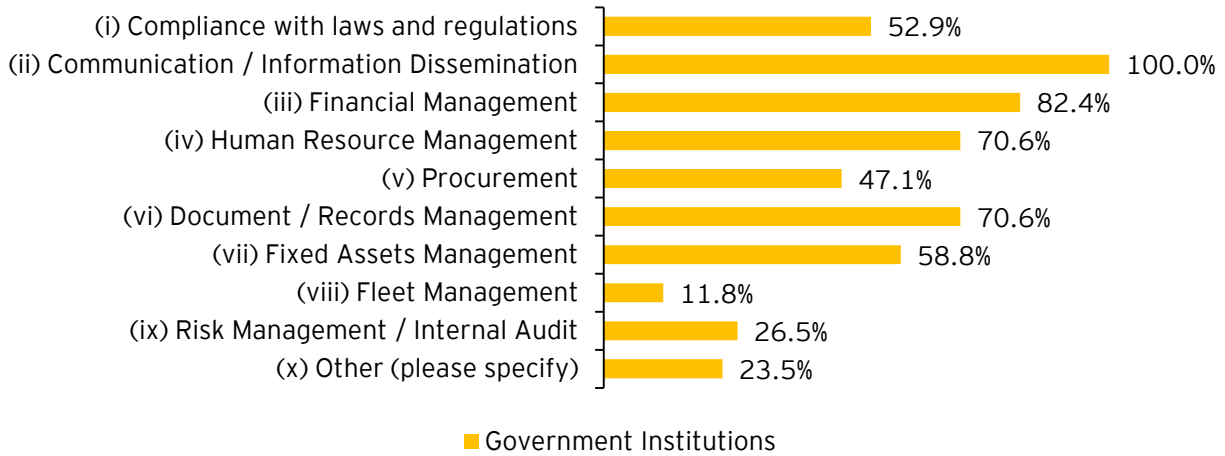


Figure 78: Percent of internal functions supported by GI IT Strategic Plan

Percent of government institutions with an information security strategy

Only 40% of the respondents have a documented information security strategy.

60% of central government institutions need to develop an information security strategy, while the 40% with such strategies need to revisit their strategies to ensure that they:

- Conform to the current risk landscape.
- Address the entire IT risk universe in government institutions.

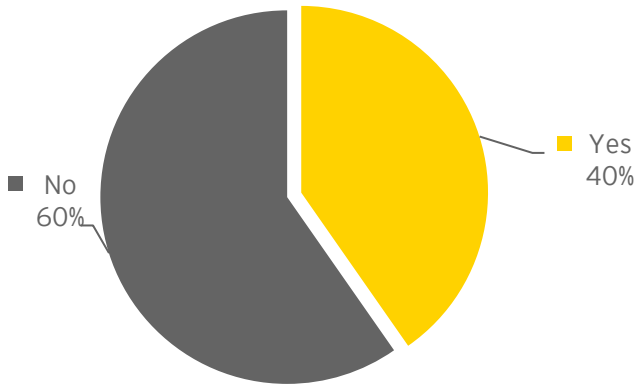


Figure 79: Percent of GI with an information security strategy

Extent to which the IT Strategic Plan supports government institutions' business objectives

It was revealed that most IT strategic plan plans meet disaster recovery while most respondents revealed that their IT strategies least meet Governance related objectives.

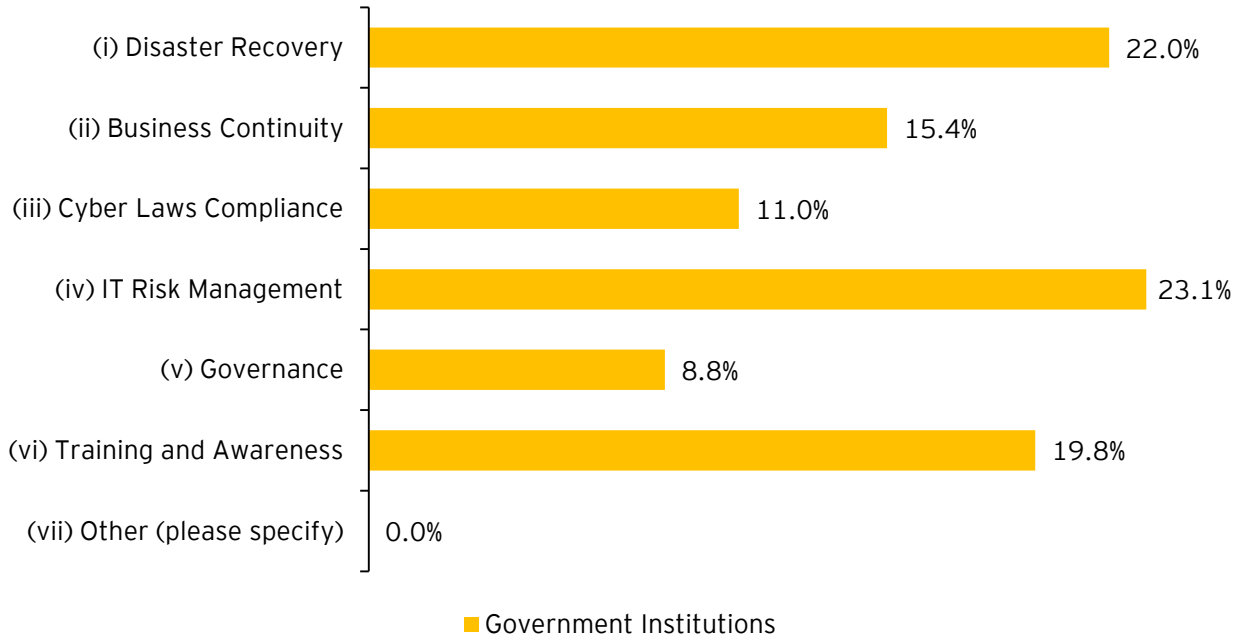


Figure 80: Extent to which the IT Strategic Plan supports GI specific business objectives

Average technical specifications for the purchase of computers by government institutions

Only 57% of government institutions have a policy for the purchase of computers that specifies minimum technical specifications for RAM, Processor Speed and Hard Disk Space.

With the introduction of further e-Government initiatives, the average RAM of 2.3GB for the current average computer in central government institutions will be inadequate.

A minimum of 4GB RAM for all new computers purchased by government should be observed until a policy outlining the standard requirements for RAM, processor speed and hard disk space are developed, communicated and implemented.

Item Description	Unit of Measure	Value
Random Access Memory	Gigabytes (Gb)	2.3
Processor speed	Gigahertz (GHz)	2.3
Hard disk space	Gigabytes (Gb)	294

Percentage of government institutions that have documented formal IT policies.

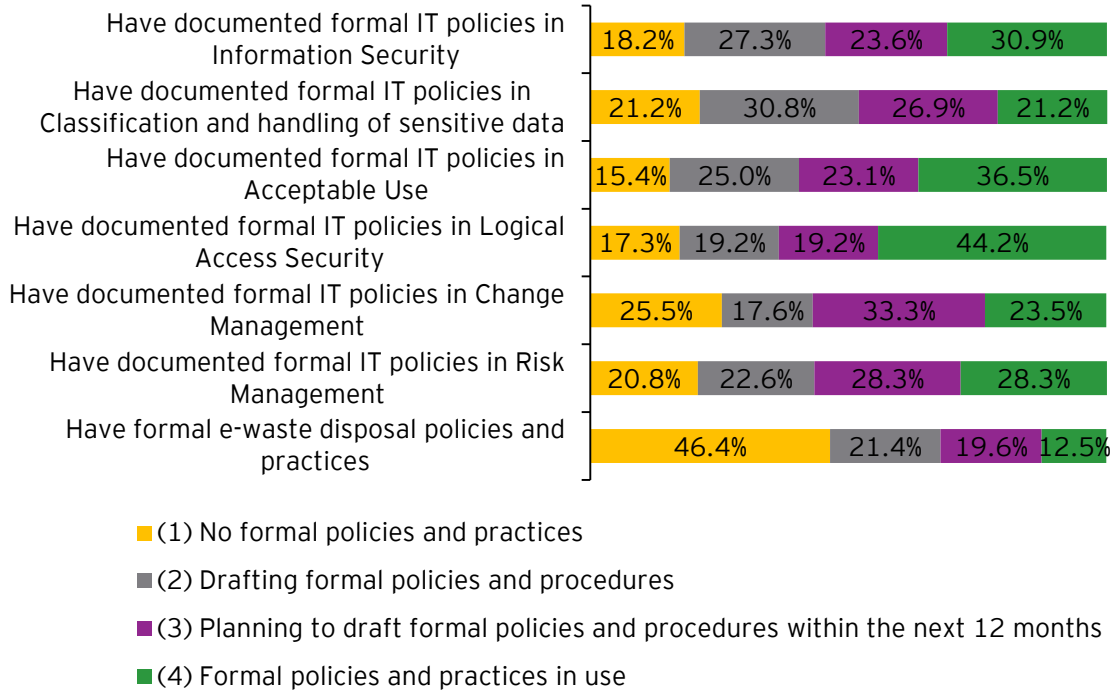


Figure 81: Percentage of GI that have documented formal IT policies.

Average manner in which government institutions dispose of e-waste

The government needs to develop an e-waste policy; considering that the majority of institutions use regular waste and scrap sale disposal methods for dealing with e-waste.

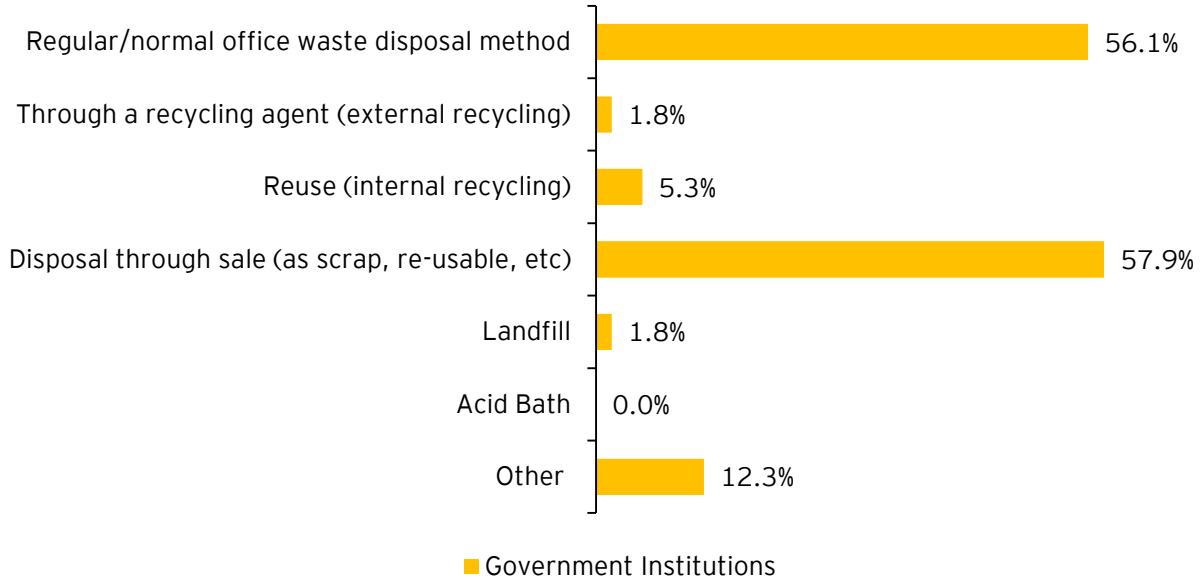


Figure 82: Average manner in which GI dispose of e-waste

9.1.16 Organizational Network and Leased Lines

Average manner in which offices of government institutions are connected from an IT perspective

That majority of central government offices are connected through leased lines and wide area networks. Only 4% of the respondents are connected through the National Backbone Network; rendering its development ineffective in the current state. 100% of government institutions should be connected via the National Backbone Network in order for the government to realize the benefits envisaged in the massive cost of setting up the infrastructure.

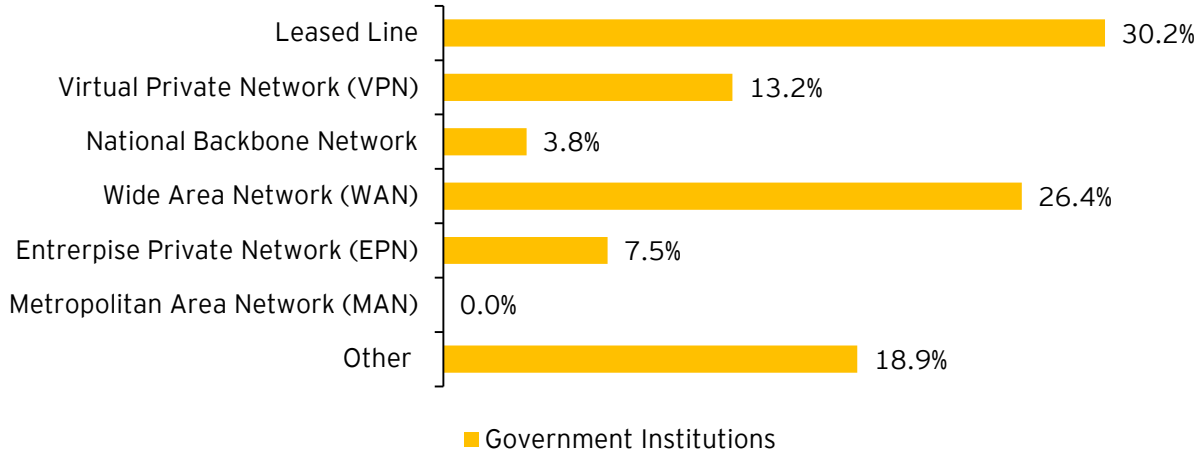


Figure 83: Average manner in which offices of GI are connected from an IT perspective

9.1.17 ICT indicators on ICT Infrastructure and Access

Item Description	Value
Fixed telephone lines per 100 inhabitants	1.2
Mobile cellular telephone suscriptions per 100 in habitants	48.9
Fixed Internet subscribers per 100 inhabitants	0.3
Fixed broadband Internet subscribers per 100 inhabitants	0.1
Mobile broadband subscriptions per 100 inhabitants	1.1
International Internet bandwidth per inhabitant (bits/second/inhabitant)	No Response
Percentage of the population covered by a mobile cellular telephone network	No Response
Number of IT enabled services which are offered on mobile applications by Telecommunication Service Providers segregated by regional coverage	No Response
Fixed broadband Internet access tariffs per month: In UGX as a percentage of monthly *per capita* income	No Response
Mobile/cellular telephone prepaid tariffs per month: In UGX as a percentage of monthly *per capita* income	No Response
(i) Average cost of mobile telephone prepaid tariff per minute in UGX	240
Percentage of localities with public Internet access centres (PIACs)	No response

9.1.18 Government to Businesses (G2B) and Government to Citizens (G2C) Indicators

Understanding and awareness of e-government by Businesses and Citizens

Less than 50% of businesses and citizens have a general understanding of e-Government, with only 42% of them aware of the current e-Government services provided by government institutions.

There is a need to conduct nation-wide sensitization of businesses and citizens on what e-Government is and of its benefits to businesses and citizens.

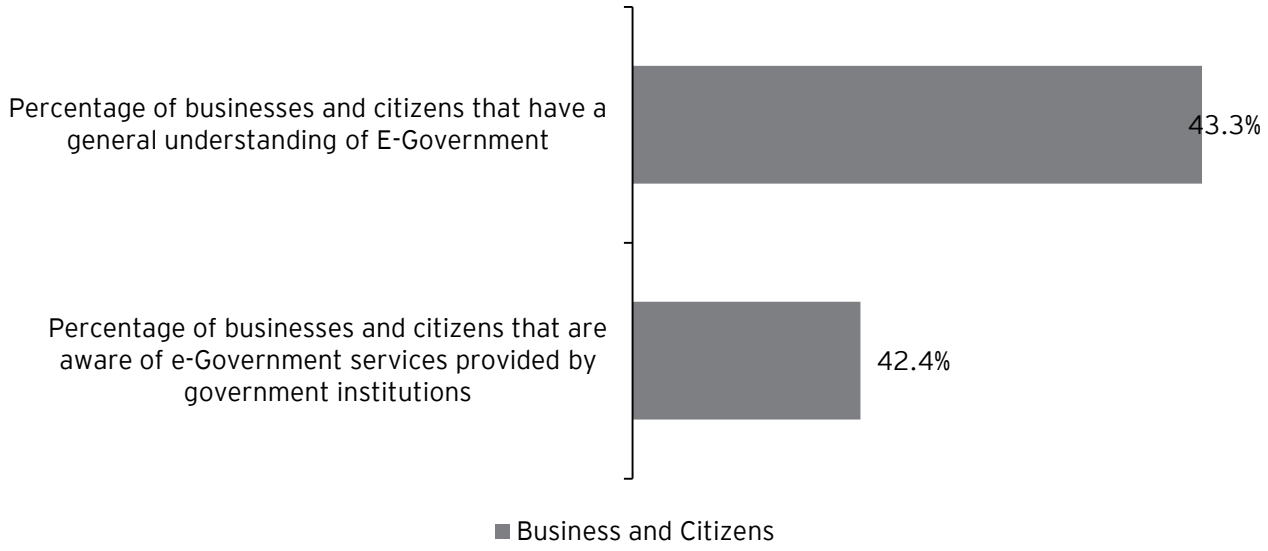


Figure 84: Understanding and awareness of e-government by B&C

Degree of satisfaction of e-government service users with established e-Government services

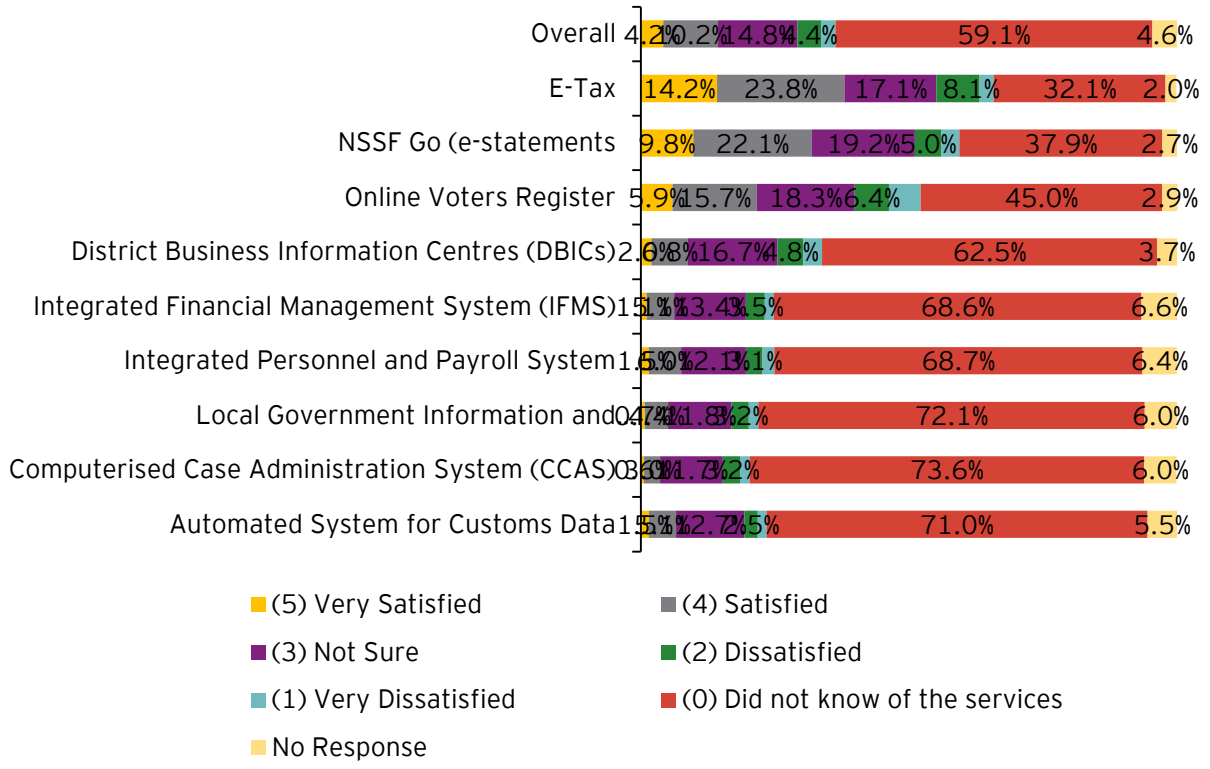


Figure 85: Degree of satisfaction among users with established e-Government services

User priority of current and planned e-government services

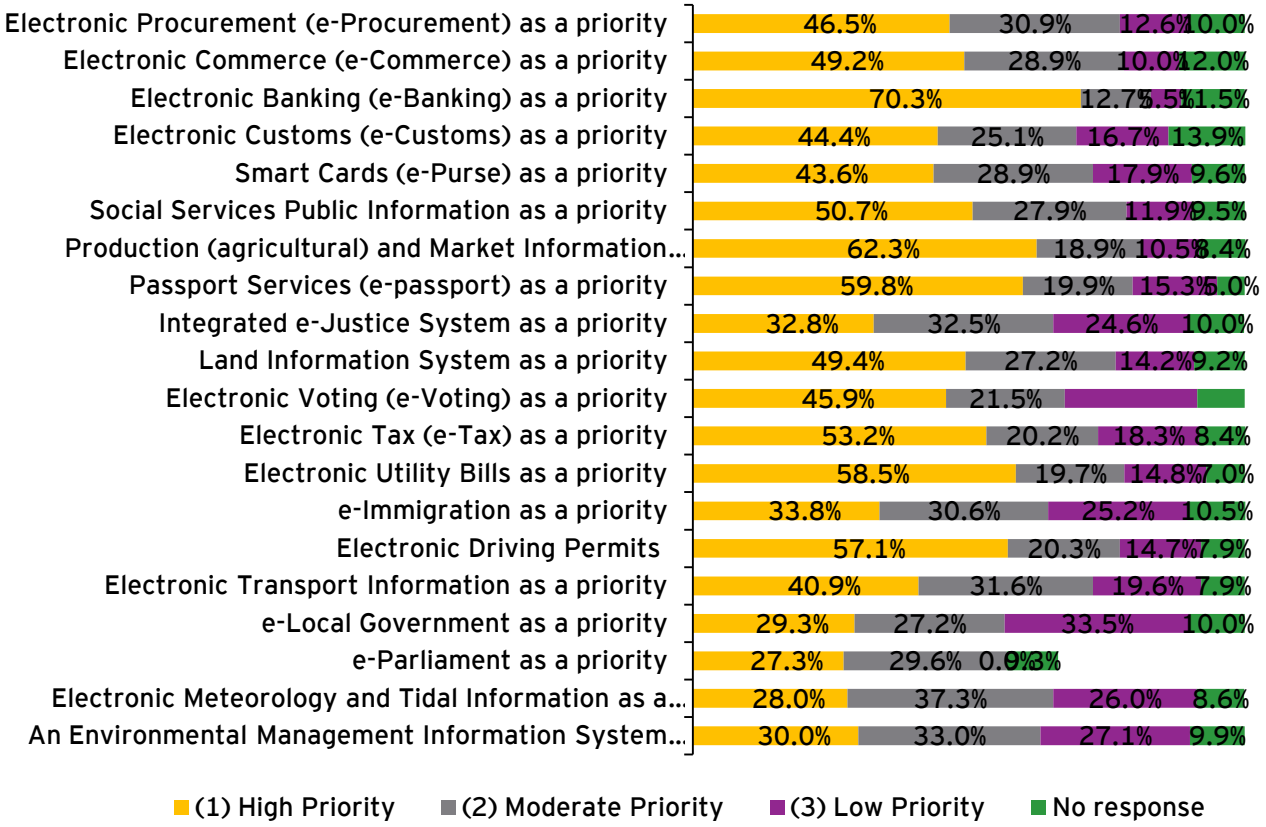


Figure 86: User priority of current and planned e-government services

Top 3 e-Government services that Businesses and Citizens would like the government provide

Less than 50% of businesses and citizens have a general understanding of e-Government, with only 42% of them aware of the current e-Government services provided by government institutions.

There is a need to conduct nation-wide sensitization of businesses and citizens on what e-Government is and of its benefits to businesses and citizens.

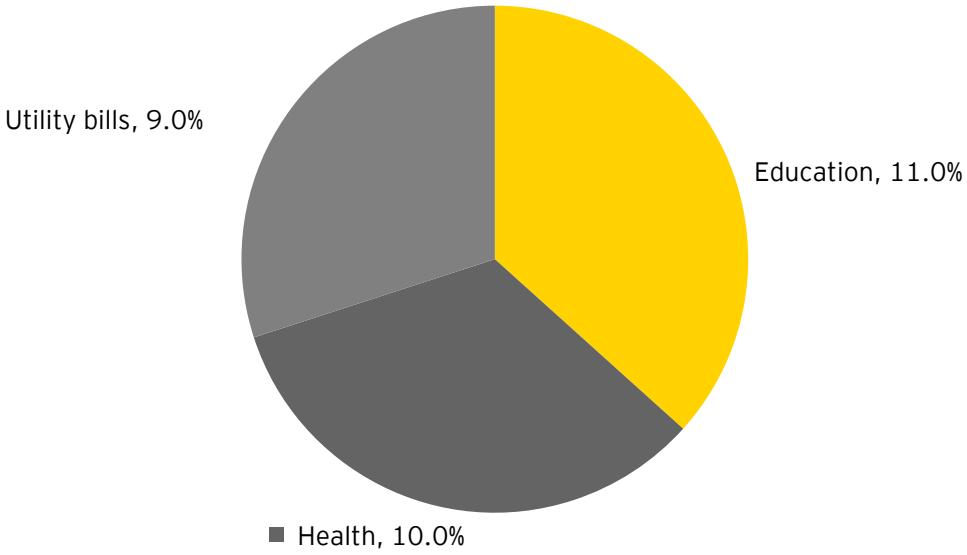


Figure 87: Top 3 e-Government services that B&C would like the government provide

9.1.19 E-Government Readiness Assessment Detailed Indicator-specific Results

No.	Code	Indicator	Question		Score	Responses
ICT Equipment and Staff Access to ICT Equipment						
1	EG1	Percent of staff in government institutions with a computer, disaggregated by gender, age and PWD	ITM.1			
		(i) Total			24.4%	50
		(ii) Male			58.2%	63
		(iii) Female			41.8%	63
		(iv) PWDs			0.5%	57
2	UEGQ1	Percent of staff in government institutions with no assigned computers, but require computers to do their work	ITM.2		8.1%	54
3	USEG8	Percentage of staff in government institutions with access to computers	ITM.3		26.5%	54
4	USEG1	Percentage of working computers in government institutions	ITM.4&5		68.8%	88
5	USEG2	Average age of computers in government institutions	ITM.6			
		(i) 0-1 year			3.5%	87
		(ii) 1-3 years			54.7%	87
		(iii) 3-5 years			34.1%	87
		(iv) 5-7 years			5.8%	87
		(v) Above 7 years			1.9%	87
		(vi) Average year in which the last major purchase of computers was made	ITM.7		2,010	86
6	UGE5	Percentage of government institutions with ICT equipment	ITM.8			

No.	Code	Indicator	Question		Score	Responses
		(i) Desktop computers			97.7%	88
		(ii) Laptop computers			96.6%	88
		(iii) Tablet computers			17.0%	88
		(iv) Single function desktop printers			87.5%	88
		(v) Multifunctional Business Printers (print, copy, scan, fax)			80.7%	88
		(vi) Standalone scanners			81.8%	88
		(vii) Fixed Line Analogue Phones			71.6%	88
		(viii) Fixed Line IP Phones			27.3%	88
		(ix) Mobile Phones and PDAs			35.2%	88
		(x) Standalone Fax Machines			75.0%	88
		(xi) Projectors			90.9%	88
		(xii) Servers			90.9%	88
		(xiii) Network Switches/Hubs			87.5%	88
		(xiv) LCD TVs			58.0%	88
		(xv) Video Phones			27.3%	88
		(xvi) Video Conferencing Equipment			27.3%	88
		(xvii) other			12.5%	88
7	UEG24	Percent of government institutions permitting use of tablet computers for business use	ITM.9			
		Staff use tablet computers			23.6%	89

No.	Code	Indicator	Question		Score	Responses
		There are approved policies for the use of tablet computers			13.6%	81
8	UEGQ2	Average number of telephone handsets in government institutions	ITM.10			
		Direct Lines			67	81
		Mobile Phones			207	37
		Intercoms			90	43
9	UEGQ3	Average monthly telephone usage costs per handset in government institutions (UGX)				
		Direct Lines			63,198	81
		Mobile Phones			29,207	37
10	UEGQ4	Percentage of government institutions with a business telephone system	ITM.11			
		With a PABX			78.4%	69
		With a PBX			28.4%	25
		With PABX / PBX Software			19.3%	17
11	UEGQ5	Average number of phone lines supported by business telephone systems in government institutions				
		Supported by a PABX (excluding unlimited lines)			1,209	68
		Supported by a PBX (excluding unlimited lines)			272	24
		Supported by PABX / PBX Software (excluding unlimited lines)			68	12
12	UEGQ6	Percentage of government institutions with business telephone systems that have VOIP capability				
13	UEG6	Percentage of government institutions ICT equipment maintenance performed in-house	ITM.12		25.3%	83

No.	Code	Indicator	Question		Score	Responses
Access to the Internet						
14	EG2	Percent of staff in government institutions with Internet access at the office, disaggregated by gender, age and PWD	ITM.13			
		(i) Total			32.9%	55
		(ii) Male			62.5%	62
		(iii) Female			37.5%	62
		(iv) PWDs			0.2%	58
15	EG11	Percent of government institutions with access to the Internet by type of access	ITM.14			
		(i) Narrowband (Dial Up / ISDN)			5.8%	86
		(ii) Fixed Broadband – Fibre Cable			51.2%	86
		(iii) Fixed Broadband – Satellite			14.0%	86
		(iv) Fixed Broadband – Copper			32.6%	86
		(v) Fixed Broadband – Laser Beam			2.3%	86
		(vi) Fixed Broadband – Wireless AP			38.4%	86
		(vii) Mobile Broadband			19.8%	86
		(viii) Other (please specify)			10.5%	86
16	USEG3	Average bandwidth used (subscribed) by a government institution every month	ITM.15			
		(i) Average bandwith capacity paid for per month			3,132	83
		(ii) Average bandwith cost per month			4,340,348	77

No.	Code	Indicator	Question		Score	Responses
17	UEGQ7	Percentage of government institutions using 3G mobile broadband USB modems	ITM.16			
		(i) Percentage of government institutions using 3G mobile broadband USB modems			55.7%	79
		(ii) Average number of 3G mobile broadband USB modems used by government institutions			12	79
Information and Communication Infrastructure						
18	EG4	Percent of government institutions with corporate networks (LAN, intranet, extranet)	ITM.17		80.7%	88
		(i) Connected to a Wide Area Network [WAN]			33.0%	88
		(ii) Connected to a Local Area Network [LAN]			76.1%	88
		(iii) Connected to a Metropolitan Area Network [MAN]			5.7%	88
		(iv) Connected to the National Backbone Network [NBN]			11.4%	88
ICT indicators on ICT Infrastructure and Access						
61	A1	Fixed telephone lines per 100 inhabitants	UCC.1		1.2	1
62	A2	Mobile cellular telephone subscriptions per 100 inhabitants	UCC.5		50.7	1
63	A3	Fixed Internet subscribers per 100 inhabitants	UCC.2		0.3	1
64	A4	Fixed broadband Internet subscribers per 100 inhabitants	UCC.3		0.1	1
65	A5	Mobile broadband subscriptions per 100 inhabitants	UCC.4		1.2	1
66	A6	International Internet bandwidth per inhabitant (bits/second/inhabitant)	UCC.5		No data	0
67	A7	Percentage of the population covered by a mobile cellular telephone network	UCC.9		No data	0
68	A8	Fixed broadband Internet access tariffs per month: In UGX as a percentage of monthly *per*	UCC.7		No data	0

No.	Code	Indicator	Question		Score	Responses
		capita income				
69	A9	Mobile/cellular telephone prepaid tariffs per month: In UGX as a percentage of monthly *per capita* income	UCC.8		No data	0
		(i) Average cost of mobile telephone prepaid tariff per minute in UGX	UCC.8		240	1
70	A10	Percentage of localities with public Internet access centres (PIACs)	UBOS.3-6		No Response	0
Business' and Citizens						
71	UEGQ7	Percentage of businesses and citizens that have a general understanding of E-Government	B&C.1		43.3%	1145
72	UEGQ8	Percentage of businesses and citizens that are aware of e-Government services provided by government institutions	B&C.2		42.4%	1145
73	EG18	Degree of satisfaction of e-government service users	B&C.3			
	EG18a	Percentage of businesses and citizens that are satisfied with e-tax				
		(5) Very Satisfied			14.2%	1145
		(4) Satisfied			23.8%	1145
		(3) Not sure			17.1%	1145
		(2) Dissatisfied			8.1%	1145
		(1) Very Dissatisfied			2.6%	1145
		(0) Did not know of the service			32.1%	1145
		No Response			2.0%	1145
	EG18b	Percentage of businesses and citizens that are satisfied with NSSF Go (e-Statements)	B&C.3			

No.	Code	Indicator	Question		Score	Responses
		(5) Very Satisfied			9.8%	1145
		(4) Satisfied			22.1%	1145
		(3) Not sure			19.2%	1145
		(2) Dissatisfied			5.0%	1145
		(1) Very Dissatisfied			3.3%	1145
		(0) Did not know of the service			37.9%	1145
		No Response			2.7%	1145
	EG18c	Percentage of businesses and citizens that are satisfied with the Online Voters Register	B&C.3			
		(5) Very Satisfied			5.9%	1145
		(4) Satisfied			15.7%	1145
		(3) Not sure			18.3%	1145
		(2) Dissatisfied			6.4%	1145
		(1) Very Dissatisfied			5.9%	1145
		(0) Did not know of the service			45.0%	1145
		No Response			2.9%	1145
	EG18d	Percentage of businesses and citizens that are satisfied with District Business Information Centres (DBICs)	B&C.3			
		(5) Very Satisfied			2.0%	1145
		(4) Satisfied			6.8%	1145

No.	Code	Indicator	Question		Score	Responses
		(3) Not sure			16.7%	1145
		(2) Dissatisfied			4.8%	1145
		(1) Very Dissatisfied			3.5%	1145
		(0) Did not know of the service			62.5%	1145
		No Response			3.7%	1145
	EG18e	Percentage of businesses and citizens that are satisfied with IFMS (Integrated Financial Management System)	B&C.3			
		(5) Very Satisfied			1.1%	1145
		(4) Satisfied			5.1%	1145
		(3) Not sure			13.4%	1145
		(2) Dissatisfied			3.5%	1145
		(1) Very Dissatisfied			1.7%	1145
		(0) Did not know of the service			68.6%	1145
		No Response			6.6%	1145
	EG18f	Percentage of businesses and citizens that are satisfied with IPPS (Integrated Personnel and Payroll System)	B&C.3			
		(5) Very Satisfied			1.5%	1145
		(4) Satisfied			6.0%	1145
		(3) Not sure			12.1%	1145
		(2) Dissatisfied			3.1%	1145

No.	Code	Indicator	Question		Score	Responses
		(1) Very Dissatisfied			2.2%	1145
		(0) Did not know of the service			68.7%	1145
		No Response			6.4%	1145
	EG18g	Percentage of businesses and citizens that are satisfied with LoGICS (Local Government Information and Communication System)	B&C.3			
		(5) Very Satisfied			0.7%	1145
		(4) Satisfied			4.4%	1145
		(3) Not sure			11.8%	1145
		(2) Dissatisfied			3.2%	1145
		(1) Very Dissatisfied			1.8%	1145
		(0) Did not know of the service			72.1%	1145
		No Response			6.0%	1145
	EG18h	Percentage of businesses and citizens that are satisfied with CCAS (Computerized Case Administration System)	B&C.3			
		(5) Very Satisfied			0.6%	1145
		(4) Satisfied			3.0%	1145
		(3) Not sure			11.7%	1145
		(2) Dissatisfied			3.2%	1145
		(1) Very Dissatisfied			1.8%	1145
		(0) Did not know of the service			73.6%	1145

No.	Code	Indicator	Question		Score	Responses
		No Response			6.0%	1145
	EG18i	Percentage of businesses and citizens that are satisfied with ASYCUDA (Automated System for Customs Data)	B&C.3			
		(5) Very Satisfied			1.5%	1145
		(4) Satisfied			5.1%	1145
		(3) Not sure			12.7%	1145
		(2) Dissatisfied			2.5%	1145
		(1) Very Dissatisfied			1.7%	1145
		(0) Did not know of the service			71.0%	1145
		No Response			5.5%	1145
74	UEGQ9	User priority of current and planned e-government services	B&C.4			
	UEGQ9a	Percentage of businesses and citizens that regard Electronic Procurement (e-Procurement) as a priority				
		(1) High Priority			46.5%	1145
		(2) Moderate Priority			30.9%	1145
		(3) Low Priority			12.6%	1145
		No Response			10.0%	1145
	UEGQ9b	Percentage of businesses and citizens that regard Electronic Commerce (e-Commerce) as a priority	B&C.4			
		(1) High Priority			49.2%	1145

No.	Code	Indicator	Question		Score	Responses
		(2) Moderate Priority			28.9%	1145
		(3) Low Priority			10.0%	1145
		No Response			12.0%	1145
	UEGQ9c	Percentage of businesses and citizens that regard Electronic Banking (e-Banking) as a priority	B&C.4			
		(1) High Priority			70.3%	1145
		(2) Moderate Priority			12.7%	1145
		(3) Low Priority			5.5%	1145
		No Response			11.5%	1145
	UEGQ9d	Percentage of businesses and citizens that regard Electronic Customs (e-Customs) as a priority	B&C.4			
		(1) High Priority			44.4%	1145
		(2) Moderate Priority			25.1%	1145
		(3) Low Priority			16.7%	1145
		No Response			13.9%	1145
	UEGQ9e	Percentage of business' and citizens that regard Smart Cards (e-Purse) as a priority	B&C.4			
		(1) High Priority			43.6%	1145
		(2) Moderate Priority			28.9%	1145
		(3) Low Priority			17.9%	1145
		No Response			9.6%	1145

No.	Code	Indicator	Question		Score	Responses
	UEGQ9f	Percentage of businesses and citizens that regard Social Services Public Information as a priority	B&C.4			
		(1) High Priority			50.7%	1145
		(2) Moderate Priority			27.9%	1145
		(3) Low Priority			11.9%	1145
		No Response			9.5%	1145
	UEGQ9g	Percentage of businesses and citizens that regard Production (agricultural) and Market Information Services as a priority	B&C.4			
		(1) High Priority			62.3%	1145
		(2) Moderate Priority			18.9%	1145
		(3) Low Priority			10.5%	1145
		No Response			8.4%	1145
	UEGQ9h	Percentage of business' and citizens that regard Passport Services as a priority	B&C.4			
		(1) High Priority			59.8%	1145
		(2) Moderate Priority			19.9%	1145
		(3) Low Priority			15.3%	1145
		No Response			5.0%	1145
	UEGQ9i	Percentage of businesses and citizens that regard an Integrated e-Justice System as a priority	B&C.4			
		(1) High Priority			32.8%	1145
		(2) Moderate Priority			32.5%	1145

No.	Code	Indicator	Question		Score	Responses
		(3) Low Priority			24.6%	1145
		No Response			10.0%	1145
	UEGQ9j	Percentage of businesses and citizens that regard a Land Information System as a priority	B&C.4			
		(1) High Priority			49.4%	1145
		(2) Moderate Priority			27.2%	1145
		(3) Low Priority			14.2%	1145
		No Response			9.2%	1145
	UEGQ9k	Percentage of businesses and citizens that regard Electronic Voting (e-Voting) as a priority	B&C.4			
		(1) High Priority			45.9%	1145
		(2) Moderate Priority			21.5%	1145
		(3) Low Priority			24.0%	1145
		No Response			8.6%	1145
	UEGQ9l	Percentage of business' and citizens that regard Electronic Tax (e-Tax) as a priority	B&C.4			
		(1) High Priority			53.2%	1145
		(2) Moderate Priority			20.2%	1145
		(3) Low Priority			18.3%	1145
		No Response			8.4%	1145
	UEGQ9m	Percentage of businesses and citizens that regard Electronic Utility Bills as a priority	B&C.4			
		(1) High Priority			58.5%	1145

No.	Code	Indicator	Question		Score	Responses
		(2) Moderate Priority			19.7%	1145
		(3) Low Priority			14.8%	1145
		No Response			7.0%	1145
	UEGQ9n	Percentage of businesses and citizens that regard e-Immigration as a priority	B&C.4			
		(1) High Priority			33.8%	1145
		(2) Moderate Priority			30.6%	1145
		(3) Low Priority			25.2%	1145
		No Response			10.5%	1145
	UEGQ9o	Percentage of businesses and citizens that regard Electronic Driving Permits as a priority	B&C.4			
		(1) High Priority			57.1%	1145
		(2) Moderate Priority			20.3%	1145
		(3) Low Priority			14.7%	1145
		No Response			7.9%	1145
	UEGQ9p	Percentage of business' and citizens that regard Electronic Transport Information as a priority	B&C.4			
		(1) High Priority			40.9%	1145
		(2) Moderate Priority			31.6%	1145
		(3) Low Priority			19.6%	1145
		No Response			7.9%	1145
	UEGQ9q	Percentage of businesses and citizens that regard e-Local Government as a priority	B&C.4			

No.	Code	Indicator	Question		Score	Responses
		(1) High Priority			29.3%	1145
		(2) Moderate Priority			27.2%	1145
		(3) Low Priority			33.5%	1145
		No Response			10.0%	1145
	UEGQ9r	Percentage of businesses and citizens that regard e-Parliament as a priority	B&C.4			
		(1) High Priority			27.3%	1145
		(2) Moderate Priority			29.6%	1145
		(3) Low Priority			33.7%	1145
		No Response			9.3%	1145
	UEGQ9s	Percentage of businesses and citizens that regard Electronic Meteorology and Tidal Information as a priority	B&C.4			
		(1) High Priority			28.0%	1145
		(2) Moderate Priority			37.3%	1145
		(3) Low Priority			26.0%	1145
		No Response			8.6%	1145
	UEGQ9t	Percentage of businesses and citizens that regard an Environmental Management Information System as a priority	B&C.4			
		(1) High Priority			30.0%	1145
		(2) Moderate Priority			33.0%	1145
		(3) Low Priority			27.1%	1145

No.	Code	Indicator	Question		Score	Responses
		No Response			9.9%	1145

9.2 Observations and Recommendations

9.2.1 Ernst & Young's Observations and Recommendations

Indicator-specific areas	Observations and Recommendations
Staff access to computers in government	▶ Considering only answers from the heads of IT of 88 government institutions, there is 11,257 government staff who need computers to do their work, but do not have them. ▶ On average, 128 staff in every government institution needs a computer to do their work but does not have one as per the heads of IT, while 137 staff have an assigned computer to do their work. ▶ Hence 48% of staff who need computers, to do their work do not have them. ▶ When considering only answers from the heads of IT and comparing the number of staff who need computers to do their work against those who have been assigned computers, we find that only 52% of staff who need computers to do their work have computers assigned to them to do their work. ▶ On average, 43% of staff in government institutions have access to computers. Therefore, with 38% having assigned computers and with 43% having access to computers, we get a total percentage of 81% of staff either have assigned computers or access to computers. Hence 19% of all government staff neither have an assigned computer, nor access to one. ▶ This finding correlates to the finding on the comparison of staff with assigned computers compared to staff without computers, but need them to do their work.

Indicator-specific areas	Observations and Recommendations
	▶ Consequently, we can infer that only approximately 50% of staff in government institutions who need computers to do their work have them. ▶ Hence, in order to meet the objectives of e-government, the number of computers within government of Uganda needs to increase by 100% to meet current state demands. ▶ Survey feedback from 88 government institutions suggests that there are 13,577 working computers of which 12,067 have been assigned to staff. ▶ Thus another approximately 12,000 computers need to be purchased to meet current needs. These tallies with the number of people who need computers to do their work, but do not have them of 11,257 as per the heads of IT in government institutions.
Average age of computers in government institutions	▶ This statistic is favourable in relation to modern day software demands on computers requiring high-end technical specifications for computers in use. ▶ However, with the fact that the government has only half of the computers it currently needs, this presents an opportunity for the government to develop global standard specifications for the purchase of computer hardware - to be implemented by all government institutions to ensure/promote hardware and software compatibility across the government. ▶ In the event that such standards do not exist or have not been approved, NITA-U should publish on its website proposed best practice hardware standards that all government institutions should be encouraged to adopt as a minimum standard for any impending hardware purchase until such

Indicator-specific areas	Observations and Recommendations
	standards have been approved and implemented.
Percentage of government institutions with ICT equipment	▶ In total, there are 15,642 desktops, laptops and tablet computers of which 84% are desktops, 15% are laptops and 1% are tablet computers. ▶ This reflects the desire by government institutions to maintain non-portable computing devices, which may be due to the tradition of having cabled network connections requiring specific non-movable end points and security concerns. ▶ With the upsurge of wireless networks (LANs, 3G mobile, etc), cloud computing, and a cultural shift away from non-portable computing devices, the government will need to revisit her policies around the mix of non-portable computing devices in consideration of the emerging culture of a mobile work force in Uganda. ▶ 88% of government institutions have single function desktop printers totalling to 3,654; with 82% having a total of 952 standalone scanners; and 75% having a total of 281 fax machines - compared to 81% of institutions with 535 multifunctional business printers. ▶ Considering that this survey did not request for information on photocopying machines, it is safe to assume that a large number of standalone photocopiers exists within government. ▶ In view of technology trends, it is important for the government to encourage the purchase of multifunctional business printers that can print, copy, scan and fax and phase out the standalone machines to save on the overall purchase costs, space allocation and maintenance costs.

Indicator-specific areas	Observations and Recommendations
	▶ Government needs to consider shifting away from having its current 4,808 fixed line analogue phone present in 72% of government institutions and increase on the fixed line IP phones which are only present in 27% of institutions and are 1,431 in total to save on the overall cost of telephony. ▶ A few standardized fixed phone lines managed centrally, with dialling codes for each government institution would save the government a lot of money spent on maintaining direct lines; through the utilization of the National Backbone Infrastructure to provide no-cost inter-departmental phone calls across all government institutions using fixed line IP phones
Mobile computing trends	▶ While personal adaptation rises, business use for tablet computers lags. ▶ For the first time, consumer technology trends are driving business technology demands. ▶ However, as the use of tablets continues to rise, institutions struggle to find ways to keep pace with the security concerns that come with them ▶ Establish governance and guidance for the use of both mobile devices and their associated security software products. ▶ Banning the use of mobile devices may actually increase your risk exposure.
Access to Internet	▶ Considering that 97% of 88 institutions, or 85 out of 88 government institutions have a website, it is plausible to conclude that all government institutions have access to the internet, and hence all staff with assigned computers have access to the internet. ▶ 63% of staff in government institutions with access to the internet at the office are male, while 37% are female, which correlates with the fact that

Indicator-specific areas	Observations and Recommendations
	60% of staff who have assigned computers are male and 66% of all government staff reported on in this survey are male.
Access to internet by type of access	▶ The fibre optic cable, wireless AP and the copper cable, all on fixed broadband are the most common connection options. ▶ 20% of government institutions connect via mobile broadband reflecting the increasing important of mobile computing and the transition to a mobile workforce in government. ▶ Of concern is the 6% of institutions still connected via Narrowband (Dial Up).
Software applications	▶ With the vast majority of government institutions having applications that can support online transactions, it is important that the development of e-Government initiatives that support online processes that will benefit businesses and citizens is considered as a priority. ▶ The survey did not reflect a consistency in government institutions using other software applications outside of the commonly used MS Office products and Microsoft Operating Systems. ▶ Less than half (45%) of respondents indicated having a software upgrade strategy or policy or guidelines governing software upgrades
ICT Personnel in government institutions	▶ This shows a consistency with the distributions of how computers are assigned to staff and how staff have access to the internet from a gender distribution perspective. ▶ From the results, 0.9% of ICT personnel are persons with disability. This correlates positively with the fact that 0.7% of staff in government

Indicator-specific areas	Observations and Recommendations
	institutions are persons with disability. ▶ As can be seen, the PWD percentage among ICT personnel is higher that the general average by 0.2%. ▶ This means that there are more PWDs in ICT compared to most of the other departments in government institutions. This may be due to the nature of ICT work which in some cases allows for staff to remain in one location for most of the day, especially in large IT departments. ▶ From an e-Government promotion perspective this (32.1%) is a low percentage and there is a need for government institutions to engage a higher percentage of their staff in the use of ICTs. ▶ This percentage is not a surprise however, with 37.5% of government staff have assigned computers. Hence to improve on this percentage there is a need to first increase the percentage of staff in government institutions with assigned working computers. ▶ Once again, of the 4,178 staff across 56 government trained in the use of ICTs, 62% are male and 38% are female, which is consistent with earlier gender distributions noted in this study; while the percentage of PWDs trained in the use of ICTs also remains consistently around the 0.5% mark.
Average frequency of government institutions updating their websites	▶ The results imply that most websites maintained by government institutions are primarily for basic information communication and not for transactions with businesses and citizens. ▶ Consequently we can infer that most processes involving interactions between government institutions and businesses and citizens are paper-based and manual in nature.

Indicator-specific areas	Observations and Recommendations
	▶ This is evident from the fact that less than 40% of staff in government institutions have an assigned computer and have access to the internet. ▶ For e-Government to develop to the next stage of maturity, the percentage of staff with computers and access to the internet needs to double in the short term, appropriate technology tools need to be adopted and business processes need to be re-engineered and computerized. ▶ Subsequently, the majority of transaction related processes with businesses and citizens need to be conducted online via the institutions websites. ▶ This would require institutions to increase on the number of people fully dedicated to updating the websites, and having the websites updated more regularly. ▶
Percent of government institutions providing services online	▶ Only 12% or 6 institutions allow for end users to submit online bids; while only 8% or 4 institutions allow for payment of bills online. ▶ The findings for this indicator reflect that e-Government is still at an early stage in Uganda with most institutions providing end users with online information; but do not have the necessary processes in place for an end user to initiate and complete a full transaction without physically interacting with the institution using a manual paper-based process
Disaster Recovery and Business Continuity management	▶ Prepare for and secure business continuity plans that anticipate high-impact, low-frequency events, and determine which are integrated into a broader risk management framework that focuses on protecting the organization from catastrophic loss.

Indicator-specific areas	Observations and Recommendations
	▶ Assess whether the business continuity plan has the right level of maturity in light of the emerging trends and new technologies. ▶ Test the organization's business continuity plan frequently to help validate your business resiliency in practice. The more complex the scenarios that are tested, the better the coverage of the test. ▶ Solicit the support of senior management for implementing business continuity programs.
ICT indicators on ICT Infrastructure and Access	▶ With only 1 person in every 100 people having a fixed telephone line or 1% of the population; there is a high likelihood that due to the infrastructure requirements for having a fixed telephone line, more and more people will use mobile phones to meet their communication needs due to the mobile nature of the modern workforce. Consequently, e-Government initiatives should be geared toward developing mobile phone technology accessible platforms as opposed to focusing on using fixed telephone line technology. ▶ With a 51% mobile phone penetration rate nation-wide, more than half of the Ugandan population is ready to access e-Government services via the mobile phone. ▶ The majority of the fixed internet subscribers are mostly likely to be medium and large size businesses as well as government institutions. As can be noted from indicator A5 below, mobile broadband subscriptions are 4 times the number of fixed internet subscribers and 12 times the number of fixed broadband internet subscribers. ▶ Consequently, the earlier recommendations for government to develop E-Government initiatives with mobile technology accessible platforms is still

Indicator-specific areas	Observations and Recommendations
	valid.
User priority of current and planned e-government services	▶ About half (47%) of the respondents want to have the ability to view tender documents online; download bidding documents; upload bids; track the status of their bids; and find out who the best evaluated bidders are; and who the tender is awarded to online. ▶ About half (49%) of the respondents want to have the ability to buy and sell products and services online. ▶ 70% of businesses and citizens regard e-Banking as a high priority. This represents the highest score of all current and planned e-Government initiatives; with respondents wanting to be able to make payments and receive monies online without having to go to the banking hall. This is an indication of banking hall fatigue. ▶ Less than half (44%) of the respondents want to have the ability to declare their imports and exports online and make the necessary payments. ▶ Less than half (44%) of the respondents want to have the ability to carry around plastic cards as an alternate form of money for low value transactions or in order to accumulate loyalty points for later redemption. ▶ Slightly over half (51%) of the respondents want to have the ability to access social services public information online. ▶ More than half (62%) of the respondents want to have the ability to access Production (agricultural) and Market Information Services online. ▶ Over half (60%) of the respondents want to have the ability to apply for passports and renew them online. ▶ One third (33%) of the respondents want to have the ability to file cases

Indicator-specific areas	Observations and Recommendations
	with court and obtain updates on the developments in their cases online. ▶ About half (49%) of the respondents want to have the ability to apply for land titles, view existing titles and access information regarding available land and land sales online. ▶ Slightly less than half (46%) of the respondents want to have the ability to register to vote, confirm polling data and vote online. ▶ More than half (53%) of the respondents want to have the ability to register for tax, submit tax returns and pay for tax online. ▶ Over half (59%) of the respondents want to have the ability to receive electronic utility bills, make payments and track their status online. ▶ Over half (57%) of the respondents want to have the ability to apply for driving permits and renew driving permits online. ▶ Less than half (41%) of the respondents want to have the ability to obtain transport information online. ▶ Less than one third (29%) of the respondents want to have the ability to obtain Local Government information online. ▶ Less than one third (27%) of the respondents want to have the ability to obtain parliamentary information, proceedings and updates on the development, debating and approval of legislation online. ▶ Less than one third (28%) of the respondents want to have the ability to obtain weather and climate information online. ▶ Less than one third (30%) of the respondents want to have the ability to obtain environmental management information online.
Top 3 e-Government services that Businesses and Citizens would like the	▶ Education has a 15.2% share of the national budget for the fiscal year

Indicator-specific areas	Observations and Recommendations
government provide	2012/13 or UGX 1,624.6 billion, while Health has a 7.7% share of the budget or UGX 828.5 billion. ▶ Combined, the two sectors take up 22.9% of the national budget or UGX 2,453.1 billion. Consequently the aspirations of the Ugandan people in relation to Education and Heath being the top two concerns for businesses and citizens is reflected in the national budget priorities. ▶ Businesses and citizens are interested in e-Education and e-Learning, as well as obtaining information on health and medicine - including locations of hospitals, clinics, health centres and pharmacies. They also want to know about HIV/AIDS, sex education, prescription drugs and over-the-counter drugs, as well as preventative health care. ▶ Businesses and citizens are also interested in obtaining utility invoices/bills online or via phone and making payments for utility bills online and by phone.

9.2.2 Stakeholders' Comments and Recommendations

Indicator	Key Highlights	Recommendations on addressing the highlights	Challenges	Suggestions for future survey
Percentage of businesses and citizens that have a general understanding of E-Government Degree of satisfaction with the current E-government services	There is not enough awareness on E-government People don't know about the E-government services available The current E-government services are not meeting the particular needs of the citizens Services are not fully online and therefore not reliable to the users	Using awareness campaign: ▶ Using media ▶ Seminars ▶ Workshops ▶ launches Putting in place a holistic legal and regulatory environment Ensuring usability by involving intuitive user interface design when developing the interface Improving reliability by providing sound infrastructure.	Funding Computer literacy Accessibility of E-government services Literacy levels Infrastructures Adaption to change	Accessibility to services Increase in sample size Survey should make respondents propose alternative services
User priority of current and planned E-government services	E-banking and Agriculture are top ranked in priority because of fame gained through mobile money services while agriculture is known to support the economy and Passport-59, utility bills-58, driving	Information security needs to be adequately addressed to maintain eagerness amongst citizens The citizens are dissatisfied with the traditional procedures of providing these services government services	Full automation of the process of providing services e.g. E-tax where slips have to be printed Expedite the completion of the National backbone infrastructure	Assign business indicators to business and citizen indicators to citizens

Indicator	Key Highlights	Recommendations on addressing the highlights	Challenges	Suggestions for future survey
	permits-57 and e-tax-53			
Ranking of the top three E-government services that businesses and citizens would like government to provide	Its true education is ranked highest because everyone is a stakeholder in education		Reliable internet Computer literacy Literate teachers	
Average percentage of ICT expenditure compared to total expenditure of government institutions	There is Lack of prioritization of IT spend in government institutions .They only spent 0.5 % because they don't understand the value of IT in the organisations	Sensitization on IT spend Change management on the whole systems values and impacts Complete planning and budgeting for IT Better enforcement and monitoring of IT policy		Disseminate information on surveys and the questionnaire in a more timely manner. Use focus groups and more interactive sessions such as sector retreats than paper distributed Prepare more focused questionnaires and cover specific concerns dealing with one at a time e.g. security, capacity, expenditure. IT should be employed to support more functions in the organisation and not just information and communication dissemination. Political will to Adopt New ideas and

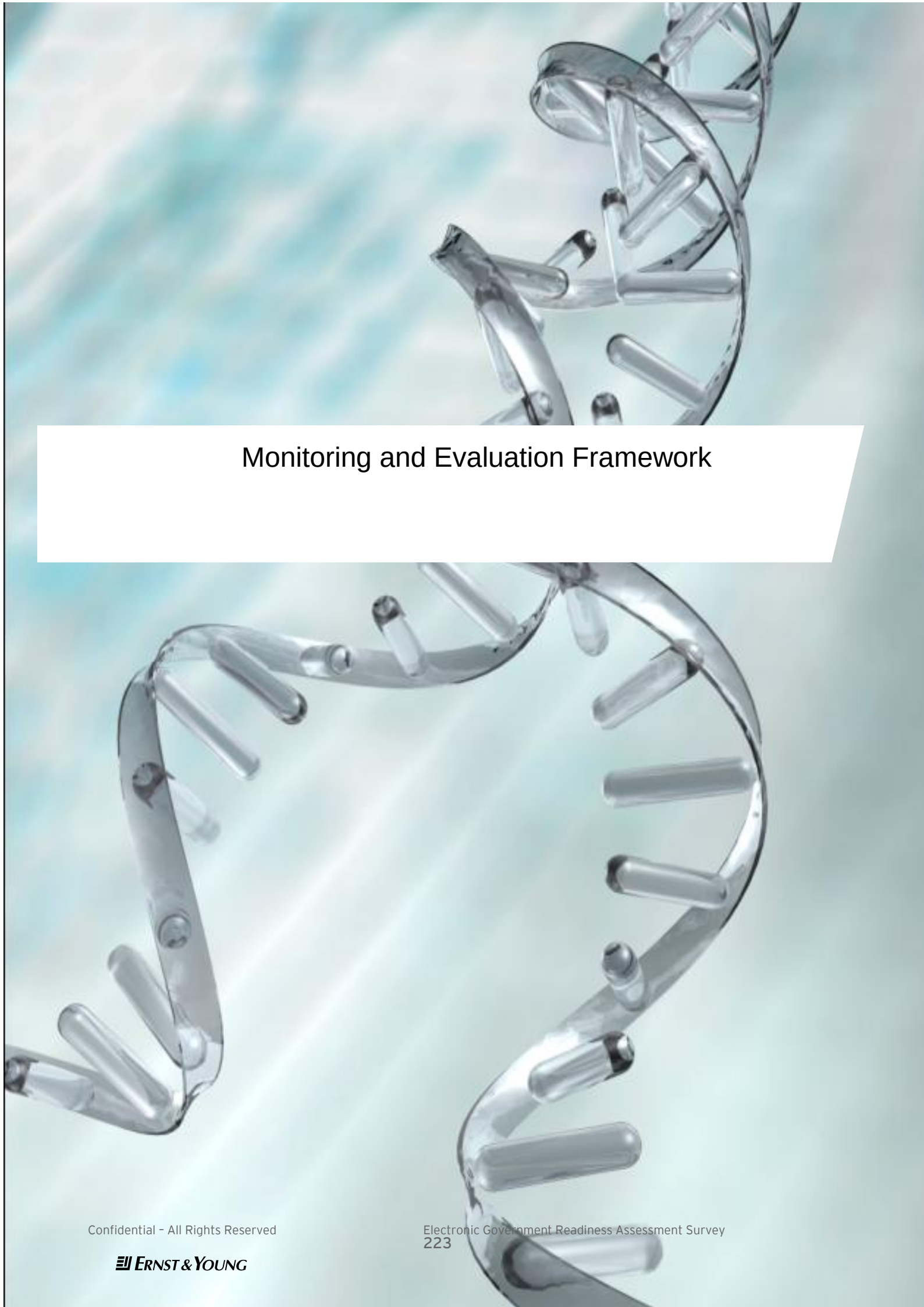
Indicator	Key Highlights	Recommendations on addressing the highlights	Challenges	Suggestions for future survey
				incorporate them Especially IT related..
Average percentage of ICT expenditure budget lines compared the total ICT budget	Most of the ICT spend is on hardware and software.	Raise awareness on what constitutes an IT environment Increase visibility of the IT function to present directly and to be represented directly		
	Information Technology seems to be applied in few areas	Increase awareness Increase visibility of IT function in Org structures Emphasize Change Management programmes Appropriate new ideas in all business areas		
Connectivity between offices	On connectivity between offices /branches, the largest percentage uses leased lines but also 22.9 % reported using (WAN) so it should be cleared where the WAN is overall.	fast track the NBI project ad ensure all stakeholders are put on board Sensitize more on the existence of alternative communication technologies available e.g. Wifi , Wimax etc	Lack of vision and strategy Inadequate funding Lack of IT skills in leadership at the forefront Limited capacity (IT skills ,Vision) Lack of planning for IT The E-Government project is moving too slowly Communication costs are still too	Disseminate information on surveys and the questionnaire in a timelier manner. Use focus groups and more interactive sessions such as sector retreats than paper distributed Prepare more focused questionnaires and cover specific concerns dealing with one at a time e.g. security,

Indicator	Key Highlights	Recommendations on addressing the highlights	Challenges	Suggestions for future survey
			high. e.g. bandwidth over Wi-Fi and Wimax technology .	capacity, expenditure. IT should be employed to support more functions in the organisation and not just information and communication dissemination. Political will to Adopt New ideas and incorporate them Especially IT related.
	Very low ratio of the ICT staff in the total number of staff A low number of operational staff 49% OF Bachelors degree does not clearly tell us the qualification s of the ICT staff because there are no numbers of degrees. Also specifics as to which degree since ICT degree could mean IT, engineering EST. Number of consultants is very low at this formative	Priorities: Institutions should shift from static web pages to contact management systems Front track the implementation of the national data bank NITA should take led role in addressing the external roadblocks, advocacy, sensitization	Budget constraints. Key concern for future survey Break down Metrics into Sub criteria that can give more detailed and relevant data ie PhD qualification was not very relevant to the ICT staff and also break down of the Bachelors degree categories.	

Indicator	Key Highlights	Recommendations on addressing the highlights	Challenges	Suggestions for future survey
	stage when new projects are coming up			
Service delivery information, communication and infrastructure.	Management and updating of websites is not good enough Organisations require more multi-taskers in IT rather than dedicated personnel for each service to do all duties not just update websites Management of websites can be outsourced No policies and proper mechanisms in place for accessing public information Database are not accessible by the general public	Institutions should shift from static web pages to contact management systems Front track the implementation of the national data bank NITA should take led role in addressing the external roadblocks, advocacy, sensitization	Fear of loss of control by the MDAs of their local data. Lack of infrastructure Lack of Sensitization and Training.	Take into consideration the public's view as far as websites are considered.
Information security, Disaster Recovery and	percentage of institution computers that are protected by firewalls is	Hardware level firewalls should be encouraged Initiate and commitment from	Budgetary constraints Lack of Qualified personnel Government is a Natural target	

Indicator	Key Highlights	Recommendations on addressing the highlights	Challenges	Suggestions for future survey
Business Continuity.	very low Most protection is at network level and that is not good enough 50% of organisations don't have active antivirus is very worrying. Business Continuity Management and Planning is not specific to IT so this needs to be revised as it would be misinterpreted.	management to ensure information security is taken as a priority NITA to take the lead in the standardisation of the laws governing electronic signatures.	for hacker so IT security is very complex and needs to be Lack of sensitization of information security Validate the E-procurement finding since it s governed by the PPDA law.	
	ICT equipment and staff access to equipment (computers) i.e. 1 and 3 seem to address the same aspect but have different results Govt to embrace new technologies e.g. N-computing, Get multi function equipment, shared		ICT equipment and staff access to equipment (computers) i.e. 1 and 3 seem to address the same aspect but have different results Govt to embrace new technologies e.g. N-computing, Get multi function equipment, shared equipment Too many questions VOIP record is not correct. The % is too high as compared to what is	

Indicator	Key Highlights	Recommendations on addressing the highlights	Challenges	Suggestions for future survey
	equipment Too many questions VOIP record is not correct. The % is too high as compared to what is existing .Most ministries have them but in boxes that is they are not being used . Inconsistent number of responses implying a problem with the tool. Should have been taken out as a model first Access to the internet in percentages is very low Most ICT equipment is Absolute. Win 7 and XP were considered under applications yet they are not.		existing .Most ministries have them but in boxes that is they are not being used . Inconsistent number of responses implying a problem with the tool. Should have been taken out as a model first Access to the internet in percentages is very low Most ICT equipment is Absolute. Win 7 and XP were considered under applications yet they are not.	



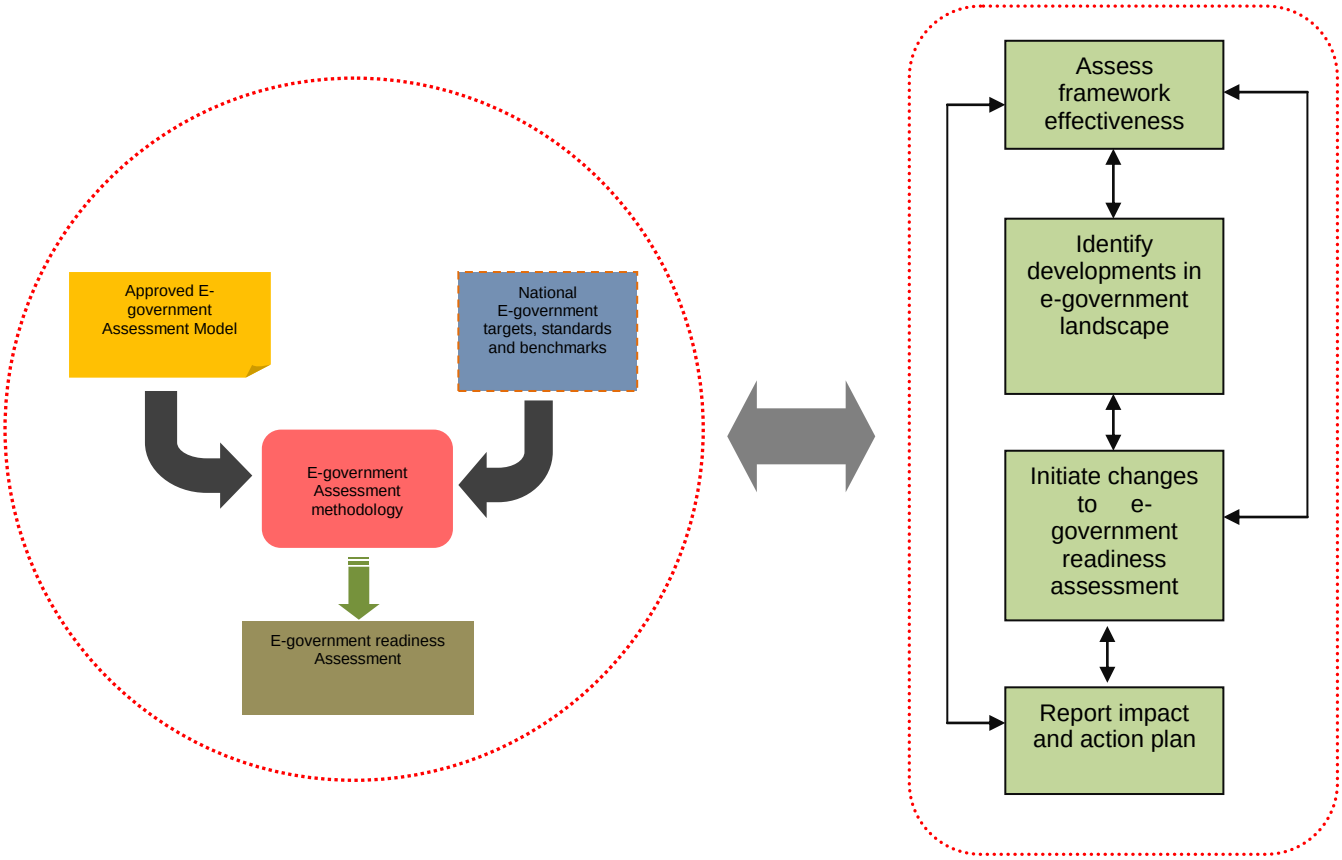
Monitoring and Evaluation Framework

Ernst & Young

10. E-government Readiness Assessment Monitoring and Evaluation Framework

The E-Government readiness assessment monitoring and evaluation framework will essentially be designed to evaluate the E-Government readiness assessment framework by monitoring the component based e-government assessment model and confirming relevance based on the e-government landscape changes, as well as developments in the NITA-U and Ministry of ICT that may have an impact on e-government targets, standards and benchmarks. It will also aim to assess to regulate the process of e-government readiness assessment based on the e-government readiness framework.

Below is an illustration of the E-Government readiness assessment Monitoring and evaluation framework



10.1 Monitoring and Evaluation Framework for E-government

The current E-government framework is based on the following;

10.2 E-government Indicators.

Effective measure of e-government depends on the identification of key indicators to measure e-government readiness in Uganda.

10.2.1 Key Considerations in developing indicators

- Global best practice indicators (e.g. United Nations e-readiness survey)
- Government of Uganda millennium goals
- Mandate and goals of National Information technology Authority
- We also consulted our stakeholders which includes - Government institutions , Business & Citizens (e.g. Head of institutions, ICT professionals, Academia, Politicians, Students) through a consultative workshop
- Reviewed regional and global initiatives and progress on e-government (Interviews, Literature review e.t.c.).

10.2.2 Identified Indicators

- Total of 96 Main Indicators were identified
- Main indicators Distribution;
    - 80 Indicators for Government to Government
    - 11 indicators for Information Communication technology
    - 5 Indicators for Government to Business and Government to Citizen
- Of the main 96 indicators 29 Sub-Indicators where developed where developed totalling to 125 indicators in total.
- We had a total of 30 iterations that resulted in the final set of Indicators.

10.2.3 Indicators Monitoring and Evaluation

Based on the basis the indicators that the were developed the following are the primary activities that should be considered as part of the review of the indicators in the next survey(s);

1) Review the findings of the 2012 survey and assess the relevance of the survey results in developing national ICT related strategies and interventions.
2) Review periodic changes in government policies, technological trends, regional and global shifts in policies related to ICT, and socio-economic environment.

The indicators should be reviewed by a team from the NITA-U in consultation with stakeholders using the proposed method below;

	Activity	Timeframe	Responsibility
1.	Set-up e-government readiness review team (*ideally comprised of NITA-U, Ministry of ICT, UCC, Government, Business and Citizens)*	Within 1 month of delivery of final e-government readiness assessment report	*e-government PIT and Steering Committee*
2.	Identify key government events, interventions that have an impact on e-government	Quarterly	*e-government readiness review team*
3.	Identify regional and international e-government policies, initiatives and trends	Quarterly	*e-government readiness review team*
4.	Review e-government indicators and identify opportunities for revision	Quarterly	*e-government readiness review team*
5.	Conduct indicators consultation meetings to discuss proposals of indicators amendments	Quarterly	*e-government readiness review team*
6.	Update e-government indicators based on change management procedures	Half yearly	*e-government readiness review team*
7.	Report on changes in E-government landscape	Half yearly	*e-government readiness review team*

10.3 Questionnaires for the Survey and Online Survey tool

Questionnaires are a primary output of the size and type of indicators identified and presently there were 4 set of questionnaires for government, 1 for businesses and citizens, 1 for Uganda Communications Commission and 1 for Uganda Bureau of Statistics.

Given the number of indicators and sub-indicators identified in the 2012 e-government survey the result has been a significant number of questionnaires modeled for the survey as physical paper based questionnaires as well as online survey tool. Whilst the survey achieved a lot in collecting significant information the respondents viewed the questionnaires as long and cumbersome, and required a lot of referral information to complete. This was reflected in feedback from the workshop as well as they survey process.

The following is a proposal in addressing updating the questionnaires.

	Activity	Timeframe	Responsibility
1.	Train NITA-U ICT team on maintenance of the survey tool	Within 1 month on submission of the final survey tool	*NITA-U PIT Team and Ernst & Young*
2.	Updated e-government indicators based on change management procedures	Half Yearly	*e-government readiness review team*
3.	Review impact of changes to indicators on questionnaires	Half Yearly	*e-government readiness review team*
4.	Document proposed changes to questionnaires	Half Yearly	*e-government readiness review team*
5.	Update questionnaires and Online survey tool post confirmation of approval within three months but not exceeding four months before the e-government survey	Based on the next e-government survey	*e-government readiness review team*

The online Survey tool already maintains a list of stakeholders that were used to collect the data and shall be used as a database of respondents for the future.

11. Appendices

11.1 E-government Survey Questionnaires

11.2E-government Assessment – Inception Report


Inception Report

11.3E-government Assessment - Current State Report

Current State
Assessment Report

11.4E-government Assessment - Survey Design


Survey Design

11.5E-government Assessment - Cluster Sampling Write-up

Cluster Sampling

11.6E-government Assessment - Evolution of Districts in Uganda

Evolution of Districts

11.7E-government Assessment – Sectors of Government Institutions


Sectors of GIs

11.8E-government Assessment – List of Government Institutions

SN	Institution	Head	Location
	Ministries		
1	Ministry of Agriculture, Animal Industry and Fisheries (MAAIF)	The Permanent secretary	Plot 14/18 Lugard Avenue Entebbe
2	Ministry of Defence	The Permanent secretary	Mbuya-Nakawa
3	Ministry of East African community Affairs (MEACA)	The Permanent secretary	Plot 67/75 Yusuf Lule Road Postal Building 2nd Floor
4	Ministry of Education & Sports	The Permanent secretary	King George Way Embassy House
5	Ministry of Energy and Minerals	The Permanent secretary	Plot 29/33 Kampala Road Amber House
6	Ministry of Finance, Planning and Economic Development (MoFPED)	The Permanent secretary	Plot 2/12 Apollo Kaggwa Road Road Treasury Building
7	Ministry of Foreign Affairs	The Permanent secretary	Plot 2A/B Apollo Kaggwa Road
8	Ministry of Gender Labour and Social Development (MoGLSD)	The Permanent secretary	Plot 2 Lumumba Avenue Simbamanyo House
9	Ministry of Health	The Permanent secretary	Plot 6 Lourdel Road Nakasero
10	Ministry of Information and Communications Technology	The Permanent secretary	Plot 4 Jinja Road Social Security House, 4th Floor
11	Ministry of Internal Affairs (MoIA)	The Permanent secretary	Plot 75 Jinja Road
12	Ministry of Justice and Constitutional Affairs (MoJCA)	The Permanent secretary	Plot 1 Parliament Avenue Queens Chambers
13	Ministry of Lands, Housing and Urban Development (MoLHUD)	The Permanent secretary	Plot 13-15 Parliament Avenue
14	Ministry of Local Government (MoLG)	The Permanent secretary	Workers house
15	Ministry of Public Service (MoPS)	The Permanent secretary	Plot 12 Nakasero Hill Road

SN	Institution	Head	Location
			Wandegeya
16	Ministry of Tourism, Trade and Industry (MTTI)	The Permanent secretary	Plot 6/8 Parliament Avenue Farmers House
17	Ministry of Water and Environment	The Permanent secretary	Plot 21/28 Port Bell Road Luzira
18	Ministry of Works and Transport	The Permanent secretary	Plot 4/6 Airport Road Entebbe
19	Office of the President	The Permanent secretary	Parliament building
20	Office of the Prime Minister	The Permanent secretary	Postal Building, 6th Floor Yusuf Lule Road
21	Office of the Vice President	The Permanent secretary	Parliament building
	Agencies		
22	Auditor General	The Auditor General	Plot 2/4, Apollo Kaggwa Road, Treasury building
23	Bank of Uganda (BoU)	The Governor	Plot 37/45 Kampala Road
24	Chieftaincy of Military Intelligence (CMI)	The Chief	Mbuya
25	Control of Trypanosomiasis in Uganda (COCTU)	The Director	Buganda Road near FAO
26	Directorate for Ethics and Integrity (DEI)	The Director	2nd Floor, Northern Wing, Social Security house
27	Directorate of Public Prosecutions (DPP)	The Director	Workers house 11th & 12th Floor
28	Export Promotion Board (EPB)	The Executive Director	Plot 22 Entebbe Road Conrad Plaza 5th Floor
29	External Security Organization (ESO)	The Director	Kintu Road opp Barclays
30	Inspectorate of Government (IGG)	The Inspector General of Government	Plot 14 Parliament Avenue Jubilee Insurance Centre
31	Internal Security Organization (ISO)	The Director	After Okello House
32	Judiciary	The Permanent secretary	Kampala High Court Building,

SN	Institution	Head	Location
			Lumumba Avenue
33	Parliament of Uganda	The Clerk to Parliament	Plot 16/18 Parliamentary Avenue Parliament Building
34	State house	The Comptroller	Okello house
35	Rural Electrification Agency (REA)	The Executive Director	Workers house 10th floor
	Authorities (Agencies)		
36	Capital Markets Authority (CMA)	The Executive Director	8th Floor, Jubilee Insurance Centre, 14 Parliament Avenue
37	Civil Aviation Authority (CAA)	The Managing Director	Airport Road Entebbe International Airport
38	Diary Development Authority (DDA)	The Executive Director	Plot 1 Kafu Road (Next to Fairway Hotel)
39	Electricity Regulatory Authority (ERA)	The Executive Director	ERA House Plot 15, Shimon Rd Nakasero
40	Insurance Regulatory Authority of Uganda	The Executive Director	Plot5, Kyadondo Road, Nakasero 2nd Floor, Legacy Towers,
41	Kampala Capital City Authority (KCCA)	The Executive Director	Apollo Kaggwa Road
42	National Drug Authority (NDA)	The Executive Director	Plot 46/48 Lumumba Avenue
43	National Environment Management Authority (NEMA)	The Executive Director	NEMA House, Plot 17/19/21 JINJA ROAD
44	National Forest Authority (NFA)	The Executive Director	Plot 10/20 Spring Road Nakawa
45	Public Procurement and Disposal of Public Assets Authority (PPDA)	The Executive Director	Nakasero Towers, Plot 39,Nakasero Road
46	Uganda Coffee Development Authority (UCDA)	The Executive Director	Coffee House, Plot 35, Jinja Road
47	Uganda Investment Authority (UIA)	The Executive Director	Plot 22B Lumumba Avenue TWED

SN	Institution	Head	Location
			Plaza
48	Uganda National Roads Authority (UNRA)	The Executive Director	Plot 5 Lourdel Road, Nakasero
49	Uganda Revenue Authority (URA)	The Commissioner General	5th Street Nakawa Industrial Area NIP Building
50	Uganda Wildlife Authority (UWA)	The Executive Director	Plot 7 Kira Road, Kamwokya
	Departments		
51	Department of Administrator General	The Administrator General	Plot 5 George Street Amamu house
52	Meteorological Department	The Director	Postal Building, 10th Floor Yusuf Lule Road
53	National Agricultural Advisory Services (NAADS)	The Executive Director	Plot 5 Kyadondo Rd, Block B, Legacy Towers, Nakasero
54	National Citizenship Immigration Control		
55	National Council for Higher Education (NCHE)	The Executive Director	Plot 34 Cavers Crescent Kyambogo
56	National Council of Sports	The Executive Director	Plot 2 - 10 Coronation Avenue Lugogo
57	National Curriculum Development Centre (NCDC)	The Executive Director	Kyambogo
58	National Enterprise Corporation (NEC)	The Managing Director	Plot 58 6th Street Industrial Area
59	National Housing and Construction Company Limited (NHCC)	The Managing Director	Plot 3/5, Seventh Street Industrial Area
60	National Medical Stores (NMS)	The Managing Director	Plot 4-12 Nsamizi Rd Entebbe
61	National Planning Authority (NPA)	The Executive Director	NPA building, Plot 15B Clement Hill road
62	National Social Security Fund (NSSF)	The Managing Director	Workers house 14th floor

SN	Institution	Head	Location
63	National Water and Sewerage Corporation (NWSC)	The Managing Director	Plot 39, Jinja Road
64	Population Secretariat (Popsec)	The Director	Plot 9 Colville Street Statistics House 2nd Floor
65	Posta Uganda	The Managing Director	Plot 35 Kampala Road
66	Privatisation and Utility Sector Reform Project (PUSRP)	The Director	Plot 1 Colville Street Communication building 2nd, 3rd floor
67	Uganda Electricity Transmission Company Limited (UETCL)	The Managing Director	Plot No.10, Hannington Road
68	Uganda Blood Transfusion Services (UBTS)	The Director	Nakasero Blood Bank
69	Uganda Bureau of Statistics (UBOS)	The Executive Director	Plot 9 Colville Street Statistics House
70	Uganda Cotton Development Organisation	The Managing Director	Plot 15 Clement Hill Road Cotton House
71	Uganda Electricity Distribution Company Limited (UEDCL)	The Managing Director	Plot 29/33 Kampala Rd Amber House
72	Uganda Electricity Generation Company Limited (UEGCL)	The Managing Director	Plot 18-20 Faraday Road, Jinja
73	Uganda Institute of Information and Communications Technology (UICT)	The Principal	Plot 9 - 21, Port Bell Road, Nakawa
74	Uganda Media Center	The Executive Director	Plot 36 Clement Hill Rd
75	Uganda National Bureau of Standards (UNBS)	The Executive Director	Plot M217 Nakawa Industrial Area
76	Uganda National Chamber of Commerce & Industry (UNCCI)	The President	Plot 1A Kira Road Opp. Mulago Hospital
77	Uganda National Council for Science and Technology (UNCST)	The Executive Director	Plot 6, Kimera Road, Ntinda
78	Uganda National Examinations Board (UNEB)	The Executive secretary	Plot 35 Martyrs Way, Ntinda
79	Uganda Police Force	The Inspector General of Police	Parliamentary Avenue
80	Uganda Prisons Service	The Commissioner General	Plot 13/15 Parliament Avenue

SN	Institution	Head	Location
			Parliament Road
81	Uganda Property Holdings Limited (UPHL)	The Managing Director	Suite G 12, Ground floor, Farmers House
82	Uganda Registration Services Bureau	The Registrar General	George Street Amamu House 4th & 5th Floor
83	Uganda Road Fund	The Executive Director	5th Floor Soliz House Plot 23 Lumumba
84	Uganda Securities Exchange (USE)	The Chief Executive Officer	Worker's House, 2nd Floor, Northern Wing
85	Uganda Tourist Board (UTB)	The Chief Executive Officer	Plot 42 Windsor Crescent, Kololo
86	Uganda Wildlife Education Centre (UWEC)	The Executive Director	Plot 56/57 Johnstone Street, off the main Kampala to Entebbe International Airport road
	Commissions		
87	Amnesty Commission	The Secretary	Plot 97 Buganda Road Wandegeya
88	Education Service Commission	The Secretary	Farmers house
89	Electoral Commission (EC)	The Secretary	Plot 53/56 Jinja Road
90	Health Service Commission (HSC)	The Secretary	Pilkington Road Workers House 3rd Floor
91	Judicial Service commission	The Secretary	Plot 6/8 Parliament Avenue Farmers House Ground Floor
92	Law Reform Commission	The Executive secretary	Workers house 8th Floor
93	Local Government Finance Commission	The Secretary	Workers House 10th Floor
94	Public Service Commission	The Secretary	Plot 6 - 8 Parliament Avenue, Farmers house

SN	Institution	Head	Location
95	Uganda AIDS Commission (UAC)	The Director General	Plot 1–3 Salim Bey Road, Ntinda
96	Uganda Communications Commission (UCC)	The Executive Director	Plot 42 - 44 Spring Road Bugolobi
97	Ugandan Human Rights Commission (UHRC)	The Chairperson	Plot 20/22/24 Buganda Road, Opposite African Crafts Village
98	Uganda Land Commission		
	Hospitals		
99	Mulago Hospital Complex		
	Universities		
100	Busitema University		
101	Gulu University		
102	Kyambogo University		
103	Makerere University		
104	Mbarara University		
	Schools		
105	Law Development Centre		
106	Makerere University Business School		
107	Uganda Management Institute		
	Research Institutions		
108	National Agricultural Genetic Research Center (NAGRIC)	The Executive Director	Entebbe after National Medical stores
109	National Agricultural Research Organisation (NARO)	The Executive Director	Plot 1 - 3 Lugard Avenue NARO Building
110	Presidential Initiative on Banana Industrial Development (PIBID)	The Director	26A Lumumba Avenue Nakasero, opp Redcross
111	Uganda Cancer Institute		

SN	Institution	Head	Location
112	Uganda Heart Institute		
113	Uganda Industrial Research Institute (UIRI)	The Executive Director	Plot 42A Mukabya Road, Nakawa Industrial Area
114	Uganda Virus Research Institute (UVRI)	The Director	Entebbe
115	Uganda National Health Research Organization (UNHRO)	The Executive Director	Entebbe after Ministry of Agriculture

11.9 E-government Assessment – List of Districts

	Number of District	112													
	Total Population	24,138,751													
	(red)				(green)				(yellow)				(blue)		
No.	Map	District	pop.	No.	Map	District	pop.	No.	Map	District	pop.	No.	Map	District	pop.
1	82	Buikwe	329,858	1	4	Amuria	180,022	1	1	Abim	51,903	1	81	Buhweju	82,881
2	84	Bukomansimbi	139,556	2	7	Budaka	136,489	2	2	Adjumani	202,290	2	10	Buliisa	63,363
3	86	Butambala	86,755	3	49	Bududa	123,103	3	78	Agago	184,018	3	11	Bundibugyo	158,909
4	87	Buvuma	42,483	4	8	Bugiri	266,944	4	79	Alebtong	163,047	4	12	Bushenyi	205,671
5	89	Gomba	133,264	5	83	Bukedea	122,433	5	3	Amolatar	96,189	5	18	Hoima	343,618
6	27	Kalangala	34,766	6	9	Bukwa	48,952	6	80	Amudat	63,572	6	19	Ibanda	198,635
7	90	Kalungu	160,684	7	85	Bulambuli	97,273	7	39	Amuru	135,723	7	26	Isingiro	316,025
8	29	Kampala	1,189,142	8	13	Busia	225,008	8	5	Apac	249,656	8	23	Kabale	458,318
9	36	Kayunga	294,613	9	15	Butaleja	157,489	9	6	Arua	559,075	9	24	Kabarole	356,914
10	38	Kiboga	108,897	10	88	Buyende	191,266	10	16	Dokolo	129,385	10	31	Kamwenge	263,730

11	**95**	Kyankwanzi	120,575	11	**20**	Iganga	355,473	11	**17**	Gulu	298,527	11	**32**	Kanungu	204,732
12	**48**	Luweero	341,317	12	**21**	Jinja	387,573	12	**22**	Kaabong	202,757	12	**34**	Kasese	523,033
13	**99**	Lwengo	242,252	13	**25**	Kaberamaido	131,650	13	**42**	Kitgum	167,030	13	**37**	Kibaale	405,882
14	**100**	Lyantonde	66,039	14	**28**	Kaliro	154,667	14	**43**	Koboko	129,148	14	**40**	Kiruhura	212,219
15	**51**	Masaka	228,170	15	**30**	Kamuli	361,399	15	**93**	Kole	165,922	15	**92**	Kiryandongo	187,707
16	**56**	Mityana	266,108	16	**33**	Kapchorwa	74,268	16	**44**	Kotido	122,442	16	**41**	Kisoro	220,312
17	**59**	Mpigi	187,771	17	**35**	Katakwi	118,928	17	**97**	Lamwo	115,345	17	**96**	Kyegegwa	110,925
18	**60**	Mubende	423,422	18	**91**	Kibuku	128,219	18	**47**	Lira	290,601	18	**46**	Kyenjojo	266,246
19	**61**	Mukono	423,052	19	**45**	Kumi	165,365	19	**50**	Maracha	145,705	19	**52**	Masindi	208,420
20	**63**	Nakaseke	137,278	20	**94**	Kween	67,171	20	**57**	Moroto	77,243	20	**55**	Mbarara	361,477
21	**64**	Nakasongola	127,064	21	**98**	Luuka	185,526	21	**58**	Moyo	194,778	21	**102**	Mitooma	160,802
22	**70**	Rakai	404,326	22	**101**	Manafwa	262,566	22	**62**	Nakapiripirit	90,922	22	**106**	Ntoroko	51,069
23	**72**	Sembabule	180,045	23	**53**	Mayuge	324,674	23	**104**	Napak	112,697	23	**66**	Ntungamo	379,987
24	**76**	Wakiso	907,988	24	**54**	Mbale	332,571	24	**65**	Nebbi	266,312	24	**109**	Rubirizi	101,804
				25	**103**	Namayingo	145,451	25	**107**	Nwoya	41,010	25	**71**	Rukungiri	275,162
				26	**14**	Namutumba	167,691	26	**108**	Otuke	62,018	26	**111**	Sheema	180,234
				27	**105**	Ngora	101,867	27	**67**	Oyam	268,415				
				28	**69**	Pallisa	255,870	28	**68**	Pader	142,320				
				29	**110**	Serere	176,479	29	**77**	Yumbe	251,784				
				30	**73**	Sironko	97,273	30	**112**	Zombo	169,048				
				31	**74**	Soroti	193,310								
				32	**75**	Tororo	379,399								

Total Population	6,575,425	6,116,369	5,148,882	6,298,075

11.10 E-government Assessment - Data Collection Time Statistics for Enumerators

AO	150	45	1	4	8	32	4.7		
	respondents	mins	hour	per day	days	respondents / enumerator	enumerators		
PPO	150	20	0.5	6	8	48	3.1		
	respondents	mins	hour	per day	days	respondents / enumerator	enumerators		
ITM	150	120	2	2	8	16	9.4		
	respondents	mins	hour	per day	days	respondents / enumerator	enumerators		
ISM	150	5	0.5	6	8	48	3.1		
	respondents	mins	hour	per day	days	respondents / enumerator	enumerators		
B	379	3	0.25	24	8	192	2.0		
	respondents	mins	hour	per day	days	respondents / enumerator	enumerators		
C	664	3	0.25	24	8	192	3.5		
	respondents	mins	hour	per day	days	respondents / enumerator	enumerators		
NITA	AO	PPO	ITM	ISM	B	C	UCC	UBOS	**Enumerators**
1	5	3	10	3	2	4	1	1	30
								Required	**28**
Note: Only one enumerator required for the NITA, UCC and UBOS questionnaires. Subtract 2 from the total									

11.11 E--government Assessment - Data Entry Time Statistics

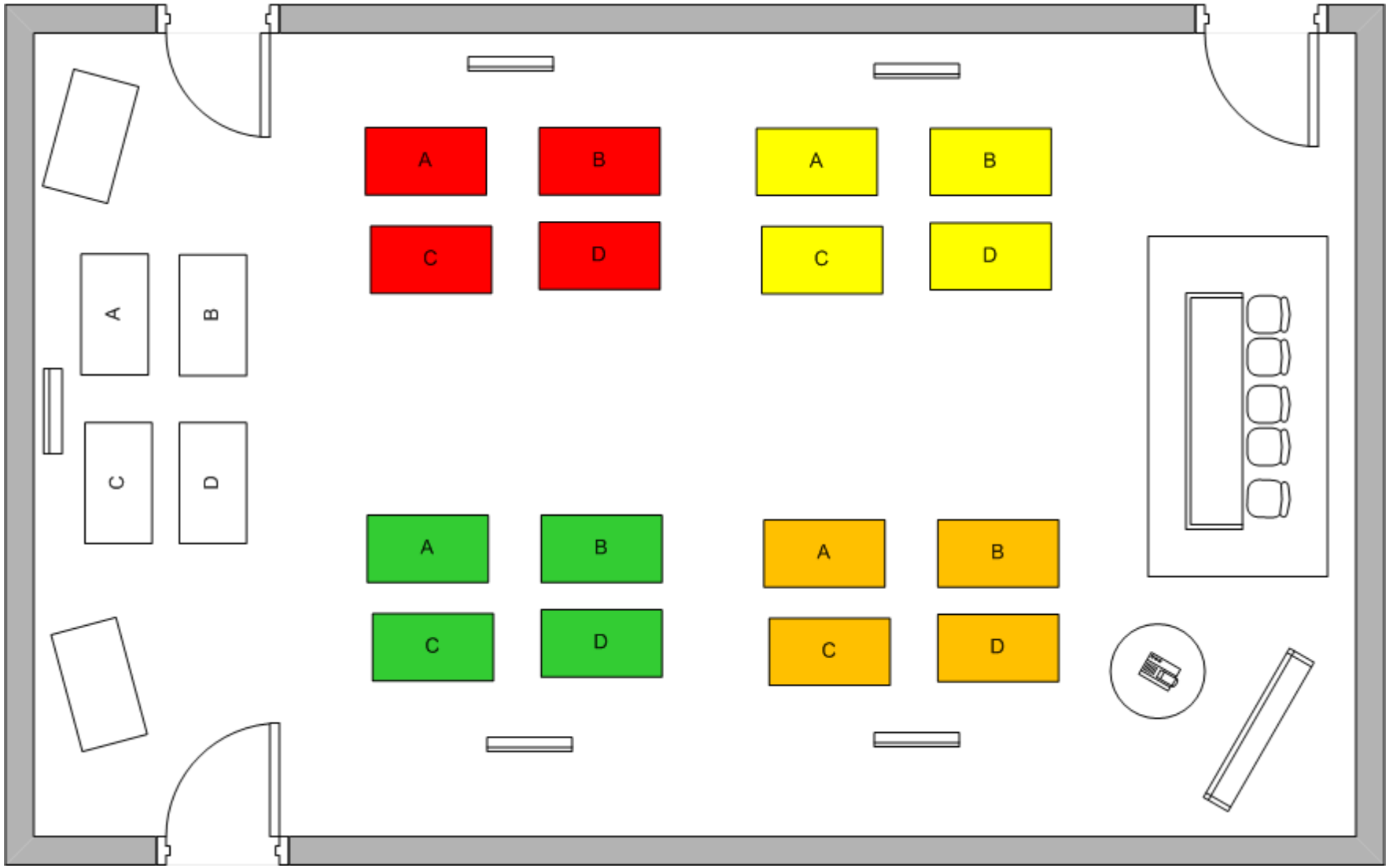
AO	150	45	1	8	40	3.8			
	respondents	mins	hour	per day	per week	Data Entrants			
PPO	150	20	0.5	16	80	1.9			
	respondents	mins	hour	per day	per week	Data Entrants			
ITM	150	120	2	4	20	7.5			
	respondents	mins	hour	per day	per week	Data Entrants			
ISM	150	5	0.5	16	80	1.9			
	respondents	mins	hour	per day	per week	Data Entrants			
B	379	3	0.25	32	160	2.4			
	respondents	mins	hour	per day	per week	Data Entrants			
C	664	3	0.25	32	160	4.2			
	respondents	mins	hour	per day	per week	Data Entrants			
NITA	AO	PPO	ITM	ISM	B	C	UCC	UBOS	**Data Entrants**
1	4	2	8	2	3	4	1	1	26
								Required	**24**
Note: Only one entrant required for the NITA, UCC and UBOS questionnaires. Subtract 2 from the total									

11.12 E-government Assessment - Survey Fieldwork Timeline

				Start		End		Status
		Responsible	Duration	Day	Date	Day	Date	
	Week Ending Friday 30 March							
1	Test Data Entry Tool (Online Survey Tool) - UAT	NITA-U	1 day	Thursday	29-Mar-12	Thursday	29-Mar-12	Complete
2	Update Online Survey Tool (1st Iteration)	EY	3 days	Friday	30-Mar-12	Wednesday	04-Apr-12	In Progress
	Week Ending Thursday 5 April							
3	Approve Survey Design	NITA-U	1 day	Monday	02-Apr-12	Monday	02-Apr-12	Complete
4	Recruit 28 Enumerators, 4 Regional Supervisors, 4 Assistants and 1 National Survey Coordinator (37 people)	EY & NITA-U	3 days	Tuesday	03-Apr-12	Thursday	05-Apr-12	
5	Recruit 24 Data Entrants, 4 Supervisors, 1 Assistant and 1 Data Entry Coordinator (30 people)	EY & NITA-U	3 days	Tuesday	03-Apr-12	Thursday	05-Apr-12	
6	Inform Pilot Survey Respondents of Date and Time of Pilot Survey	NITA-U	1 day	Wednesday	04-Apr-12	Wednesday	04-Apr-12	
7	Sensitize respondents and the public	NITA-U	1 day	Thursday	05-Apr-12	Thursday	05-Apr-12	
8	Update Online Survey Tool (2nd and Final Iteration)	EY	1 day	Thursday	05-Apr-12	Thursday	05-Apr-12	
	Week Ending Friday 13 April							
9	Train Data Collection and Data Entry Teams	EY & NITA-U	2 days	Tuesday	10-Apr-12	Wednesday	11-Apr-12	
10	Conduct Pilot Survey (Morning), Debrief (Afternoon)	EY & NITA-U	1 day	Wednesday	11-Apr-12	Wednesday	11-Apr-12	
11	Update Online Survey Tool (3rd and Final Iteration)	EY	1 day	Thursday	12-Apr-12	Thursday	12-Apr-12	
12	Make logistical arrangements	EY & NITA-U	3 days	Wednesday	11-Apr-12	Friday	13-Apr-12	
	a) Hire Vehicles							
	b) Book Hotels							
	c) Print Introductory Letters from NITA-U for the data collectors							

	d) Arrange payment of data collectors and entrants							
13	Approve Final Questionnaires and Online Survey Tool (Morning)	NITA-U	1 day	Thursday	12-Apr-12	Thursday	12-Apr-12	
14	Print Questionnaires (Afternoon)	EY & NITA-U	1 day	Thursday	12-Apr-12	Thursday	12-Apr-12	
	Week Ending Friday 20 April							
15	Data Collection - Week 1	EY	5 days	Monday	16-Apr-12	Friday	20-Apr-12	
	a) Eastern Uganda							
	b) Northern Uganda							
	c) Western Uganda							
	d) Central Uganda (excluding Government Institutions in Kampala)							
16	Prepare and test Data Entry Center	EY & NITA-U	2 days	Wednesday	18-Apr-12	Thursday	19-Apr-12	
	Week Ending Friday 27 April							
17	Data Collection - Week 2	EY	5 days	Monday	23-Apr-12	Friday	27-Apr-12	
	e) Kampala							
18	Data Entry - Upcountry and Kampala		5 days	Monday	23-Apr-12	Friday	27-Apr-12	
	Week Starting Monday 30 April							
18	Data Entry - Kampala	EY	1 day	Monday	30-Apr-12	Monday	30-Apr-12	

11.13 E-government Assessment - Stakeholder Workshop Layout



11.14 E-government Assessment – Indicators Tracking

Task Group on E-Government of the Partnership on Measuring ICT for Development – Draft list of core e-government indicators adopted by the United Nations for Global E-Government Surveys

Capacity indicators

No.	Code	Proposed Indicator	Relevance	Measurement (MDAs)	Information Source
56.	EG1	Percent of staff in government institutions with a computer, disaggregated by gender, age and PWD	Basic ICT Infrastructure Capacity	▶ Number of current staff segregated by age, gender, PWD ▶ Number of computers in issue segregated by users age, gender and PWD ▶	▶ NITA-U ▶ HR Managers ▶ IT Managers
57.	EG2	Percent of staff in government institutions with Internet access at the office, disaggregated by gender, age and PWD	Connectivity to the internet	▶ Number of current staff segregated by age, gender, PWD ▶ Number of staff with access to the internet (regardless of whether they have access to a full time computer) segregated by gender, age and PWD	▶ HR Managers ▶ IT Managers
58.	EG3	Percent of government institutions with websites and/or databases	Information portals and repositories	▶ List of government institutions URLs ▶ List of government institutions databases	▶ IT Managers
59.	EG4	Percent of government institutions with corporate networks (LAN, intranet, extranet)	G2G internal connectivity	▶ Connectivity Scenarios	▶ IT Managers

No.	Code	Proposed Indicator	Relevance	Measurement (MDAs)	Information Source
60.	EG5	Percent of government institutions offering mobile phone technology accessible platforms	Mobile Phone Application Technology	▶ List of mobile phone technology accessibility platforms by institution	▶ IT Managers
61.	EG6	Percent of ICT personnel in government institutions, disaggregated by gender, age and PWD	ICT Resource Capacity	▶ Number of ICT staff per institution segregated by age, gender and PWD	▶ HR Managers
62.	EG9	Percent of expenditure on ICT per total expenditure of government institutions	ICT Spend	▶ ICT expenditure in FY 2010-11 per MDA ▶ Total expenditure in FY 2010-11 per MDA ▶ Spend per major ICT Categories per MDA (including human resource, information security, ICT Equipment Maintenance) ▶ Specific spend on software maintenance	▶ Accounting Officers
63.	EG10	Percent of ICT budget spent on institutional capacity-building and human resource development	ICT Resource / Capacity Development	▶ ICT expenditure in FY 2010-11 per MDA on ICT staff training and development ▶ ICT expenditure in FY 2010-11 per MDA	▶ Accounting Officers
64.	EG11	Percent of government institutions with access to the Internet by type of access (narrowband, fixed broadband, mobile broadband)	Internet Connectivity Scenarios	▶ Internet connectivity scenarios per MDA	▶ IT Managers

Usage indicators

No.	Code	Proposed Indicator	Relevance	Measurement (MDAs)	Information Source

No.	Code	Proposed Indicator	Relevance	Measurement (MDAs)	Information Source
65.	EG12	Percent of open source software vis-à-vis proprietary	ICT Build or buy decisions	▶ List/Number of software applications per MDA segregated by open source and proprietary applications including: ○ Cost of software license ○ Frequency of software upgrades	▶ IT Managers
66.	EG13	Percent and type of applications used, e.g. word processing, accounting, data base, website	Software functionality	▶ List of software applications used segregated by type/nature of application (functionality)	▶ IT Managers
67.	EG14	Percent of staff in government institutions who are trained on use of ICTs, disaggregated by gender, age and PWD	ICT usage capability	▶ Number of current staff segregated by age, gender, PWD trained on use of ICTs	▶ HR Managers

Transformation indicators

No.	Code	Proposed Indicator	Relevance	Measurement (MDAs)	Information Source
68.	EG15	Percent of government institutions providing services online and type of services; e.g. retrieval and printing of online forms, use of interactive online forms, online bids, payment of bills, tax filing applications, company registration, car registration, voting, public grievance systems, online feedback	Current Online Service Capability	▶ List of institutions with websites and services provided online segregated by type of service	▶ IT Managers
69.	EG16	Percent of requests processed using ICTs vis-à-	Request	▶ List of types of requests processed by	▶ IT Managers

No.	Code	Proposed Indicator	Relevance	Measurement (MDAs)	Information Source
		vis overall number of requests	Processing – ICT (online and offline) usage Capacity	MDA; both manually and using ICTs ▶ List of types of requests capable of being processed using ICTs ▶ Number of total requests processed using ICTs in FY 2010-11 ▶ Total number of requests processed in FY 2010-11 both manually and using ICTs	▶ Process Owners
70.	EG17	Percent of requests processed online vis-à-vis overall number of requests processed using ICTs	Request Processing – Online only Capacity	▶ List of types of requests processed by MDA; both offline and online ▶ List of types of requests capable of being processed online ▶ Number of total requests processed online in FY 2010-11 ▶ Total number of requests processed in FY 2010-11 both offline and online	▶ IT Managers ▶ Process Owners
71.	EG18	Degree of satisfaction of e-government service users, disaggregated by gender, age and PWD	e-Government users satisfaction levels	▶ List of e-government services in operation at 30 June 2011 e.g. e-Tax ▶ Lists of key functionalities of the e-government services e.g. for e-Tax; registration, filing returns, etc ▶ List of Satisfaction level criteria	▶ MDAs staff and managers ▶ Business owners / managers ▶ Citizens

Source: Partnership on Measuring ICT for Development (2009)

Global E-Government Capacity Indicators – Recommended for exclusion from the Survey

No.	Code	Indicator	Rationale
A.	EG7	Number of intrusions and hacking of networks and websites of government institutions	Not easy to measure the number of intrusions and hacking incidents if such incidents are not currently tracked by MDAs
B.	EG8	Percent of spam messages per total email messages received	Not easy to measure the percentage of spam messages if MDAs IT administrators are not currently tracking such information

List of E-Government Indicators provided by NITA-U

No.	Code	Indicator	Relevance	Measurement (MDAs)	Information Source
72.	UEG1	Percentage of government institutions with network firewalls	Information Security and Business Continuity	▶ Type of firewall used by each MDA	▶ IT Managers ▶ Major ICT learning institutions in Uganda
73.	UEG2	Percentage of ICT staff in government institutions with the ability to handle security either through formal training or on-the-job learning segregated by gender, age and PWD	Information Security and Business Continuity	▶ List of available courses in Uganda covering ICT security ▶ Number of ICT staff who have ICT security skills/knowledge based on	▶ IT Staff

No.	Code	Indicator	Relevance	Measurement (MDAs)	Information Source
				receiving formal training or on-the-job learning segregated by gender, age and PWD	
74.	UEG3	Percentage of government institutions with formal e-waste disposal policies and practices	e-waste disposal	▶ Number/List of institutions with formal e-waste disposal policies and practices as follows: ○ No formal policies and practices ○ Drafting formal policies and procedures ○ Planning to draft formal policies and procedures within the next 12 months ○ Formal policies and practices in use	▶ IT Managers
75.	UEG4	Average computer processor speed specifications across government institutions	Systems compatibility	▶ Number of computers and their processor speeds per institution	▶ IT Manager
76.	UGE5	Percentage of government institutions with ICT equipment	Basic ICT Infrastructure Capacity	▶ Number and type of ICT equipment in use per institution including: ○ Computers segregated by desktop and laptop ○ Printers segregated by multifunctional business printers (print, copy, scan, fax) and single	▶ IT Manager

No.	Code	Indicator	Relevance	Measurement (MDAs)	Information Source
				function desktop printers ○ Standalone Scanners ○ Fixed line telephones segregated by type – IP or Analogue ○ Issued mobile phones and PDAs ○ Fax machines ○ Projectors ○ Servers ○ Network Switches/Hubs	
77.	UEG6	Percentage of government institutions ICT equipment maintenance performed in-house	ICT Infrastructure Sustainability	▶ List of types of ICT equipment maintenance performed segregated by in-house and outsourced maintenance per institution ▶ Number of ICT equipment maintenance tickets/jobs completed in FY 2010-11 segregated by type of maintenance performed per institution	▶ IT Manager
78.	UEG7 (Refer to EG9)	Percentage of ICT budget spent on ICT equipment maintenance	ICT Infrastructure Sustainability	▶ Cost of ICT equipment maintenance performed segregated by in-house and outsourced maintenance in FY 2010-11 per institution ▶ ICT actual spend FY 2010-11 by	▶ IT Manager

No.	Code	Indicator	Relevance	Measurement (MDAs)	Information Source
				institution	
79.	UEG8	Number of push and pull mobile technology applications available to all geographic regions of the country per government institution	Mobile Technology Platform Use	▶ List of mobile technology applications used to serve citizens and businesses across all regions of the country e.g. use of a mobile phone to tell your polling station; get your NSSF balance; pay your water bill, etc	▶ IT Manager
80.	UEG9	Number of users connected to e-systems established by government institutions	Web & Mobile Technology Platform Use	▶ List of web and mobile technology applications used to serve citizens and businesses across all regions of the country e.g. e-Tax; and the number of subscribers to each system segregated by government institution, business and citizen	▶ IT Manager
81.	UEG10	Number of IT enabled services which are offered on mobile applications by Telecommunication Service Providers segregated by regional coverage	Mobile Application Service Platforms	▶ List of all telecommunication service providers in Uganda ▶ List of all mobile application services provided per telecom company by regional coverage (e.g. mobile money, mobile banking, etc)	▶ Telecom Companies ▶ UCC
82.	UEG11	Average number of IT security personnel per Government Ministry, Department or Agency	Cyber Laws	▶ Number of IT security staff per institution	▶ IT Manager

No.	Code	Indicator	Relevance	Measurement (MDAs)	Information Source
83.	UEG12	Number of cyber security incidences responded to by the National Computer Incident Response Team	Cyber Laws	▶ Number of cyber security incidences responded to by the National Computer Incident Response Team in FY 10-11	▶ Head of National Cyber Security Team
84.	UEG13	Average level of records management proficiency in government institutions	Records Management	▶ Status of records management per institution indicating: ○ Existing records management manual / policy document ○ Types of records maintained segregated by electronic and/or paper based records ○ Records Security Policies ○ Records Retrieval Polices and number of steps ○ Quality of records and archive systems	▶ Head of Records Department ▶ Information Systems Manager
85.	UEG14	Level of e-records management in government institutions	Records Management	▶ Status of e-records management per institution indicating: ○ Existing e-records management policy ○ Level of records computerization – none; partial; full ○ Status of e-records – scattered	▶ Head of Records Department ▶ Information Systems Manager

No.	Code	Indicator	Relevance	Measurement (MDAs)	Information Source
				isolated files; networked databases; information management system	
86.	UEG15	Status level of policy and legal framework for managing e-records by government institutions	Records Management	▶ Existence of public sector e-records policy and legal framework ▶ Comparability factor of public sector e-records policy and legal framework compared to: ○ International best practice ○ Private sector e-records management best practice	▶ NITA-U
87.	UEG16	Percentage of computers in government institutions that are running antivirus	Information Security and Business Continuity	▶ List of available antivirus programs used in Uganda ▶ Type of antivirus programs used by each MDA and status of licenses	▶ IT Manager
88.	UEG17	Percentage of government institutions which have a documented information security policy or strategy in place for the next 1-3 years	Information Security governance	▶ Number/List of institutions with formal security policies and practices as follows: ○ No formal policies and practices ○ Drafting formal policies and procedures ○ Planning to draft formal policies and procedures within the next 12 months	▶ IT Manager

No.	Code	Indicator	Relevance	Measurement (MDAs)	Information Source
				▶ Formal policies and practices in use	
89.	UEG18	Percentage of government institutions that have a defined policy for classification and handling sensitive data as a control for data leakage	Information Security and Business Continuity	▶ Number/List of institutions with formal security policies and practices as follows: ○ No formal policies and practices ○ Drafting formal policies and procedures ○ Planning to draft formal policies and procedures within the next 12 months ▶ Formal policies and practices in use	▶ IT Manager
90.	UEG19 (Refer to EG9)	Percent of ICT budget spent on information security	Information Security and Business Continuity	▶ ICT security expenditure in FY 2010-11 per MDA ▶ Total expenditure in FY 2010-11 per MDA	▶ IT Manager
91.	UEG20	Percent of business objectives supported by information security strategy *Goals: Business Continuity, Cyber Laws Compliance, Training & Awareness, Governance & IT Risk Management*	Information Security and Business Continuity	▶ Number of ICT staff who have ICT security skills/knowledge based on receiving formal training or on-the-job learning segregated by gender, age and PWD ▶ Number of institution with information security functions ▶ Number of institutions planning to set up	▶ IT Manager

No.	Code	Indicator	Relevance	Measurement (MDAs)	Information Source
				information security functions in the next 12 months	
92.	UEG21	Percentage of government institutions which have a business continuity management (BCM) strategy and framework	Information Security and Business Continuity	▶ Number/List of institutions with Business Continuity Plans and policies as follows: ○ No formal policies and practices ○ Drafting formal plans and procedures ○ Planning to draft formal risk management plans and procedures within the next 12 months ▶ Formal BCP program and practices in use and approved by management	▶ IT Manager
93.	UEG22	Percentage of government institutions that are currently using cloud computing based services	Internet connectivity affordability	▶ List of cloud computing technology accessibility platforms by institution ▶ Number of institutions ○ Currently using cloud computing ○ Cloud computing under evaluation ○ Not using cloud but considering in the next 12 months ○ No plans to use cloud ○ Having approved policies for cloud computing	▶ IT Manager

No.	Code	Indicator	Relevance	Measurement (MDAs)	Information Source
94.	UEG23	Percentage of government institutions that have a formalized IT risk management program in place	Information Security and Business Continuity	▶ Number/List of institutions with formal e-risk management plans and programs as follows: ○ No formal policies and practices ○ Drafting formal policies and procedures ○ Planning to draft formal risk management plans and procedures within the next 12 months ▶ Formal program and practices in use	▶ IT Manager
95.	UEG24	Percent of government institutions permitting use of tablet computers for business use	Internet connectivity affordability	▶ List of mobile computing technology accessibility platforms by institution ▶ Number of institutions with approved policies for use of tablet computers	▶ IT Manager
96.	UEG25	Percentage of government institutions using e-signatures or digital certificates for online services	Information Security and Business Continuity	▶ List of institutions with websites and services provided online segregated by type of service ▶ List of types of electronic signatures used by MDA; ▶ List of types of online services and transactions capable of being processed using electronic signatures	▶ IT Manager
97.	UEG26	Number of vendors supplying digital certificates	Information	▶ Number/List of government institutions	▶ IT Manager

No.	Code	Indicator	Relevance	Measurement (MDAs)	Information Source
		to government institutions	Security and Business Continuity	using electronic signatures ▶ List of digital signatures vendors	
98.	UEG27	Percent of government institutions that have IT strategic plans in place	IT Governance	▶ Number of institution with current IT strategic plans	▶ IT Manager
99.	UEG28	Percent of business objectives in government institutions supported by the IT strategic plans	IT Governance	▶ Number of institutions with business plans ▶ ICT expenditure in FY 2010-11 per MDA ▶ Total expenditure in FY 2010-11 per MDA	▶ IT Manager

List of E-Government Indicators provided by NITA-U Stakeholders Workshop 15 Dec 2011

No.	Code	Indicator	Relevance	Measurement (at 30 June 2011)	Information Source
100.	USEG1	Percentage of working computers in government institutions	Capacity	▶ Total number of computers a government institution has ▶ Number of computers that are working in the government institution	▶ IT Manager
101.	USEG2	Average age of computers in government institutions	Capacity	▶ Average number of years since the majority of computers were purchased ▶ Date of last major purchase of computers	▶ IT Manager

No.	Code	Indicator	Relevance	Measurement (at 30 June 2011)	Information Source
102.	USEG3	Average bandwidth being used (subscribed) to government institutions	Capacity	▶ Monthly bandwidth currently purchased by each government institution	▶ IT Manager
103.	USEG4	Average frequency of government institutions updating their websites	Capacity	▶ Average Periodic timelines for updating the website ▶ Dedicated resource for updating the website	▶ IT Manager
104.	USEG5	Average minimum qualifications of ICT personnel in government institutions	Capacity	▶ Minimum qualifications of MDA ICT personnel	▶ IT Manager
105.	USEG6	Average technical specifications for the purchase of computers by government institutions	Capacity	▶ Existence of minimum technical specifications policy ▶ Minimum technical specifications for the purchase of computers by government institutions	▶ IT Manager
106.	USEG7	Percentage of government institutions with documented IT policies	Capacity	▶ Number of institutions with documented formal IT policies in the following areas: a) Information Security b) Classification and handling of sensitive data c) Acceptable Use d) Logical Access Security e) Change Management f) Risk Management as follows:	▶ IT Manager

No.	Code	Indicator	Relevance	Measurement (at 30 June 2011)	Information Source
				○ No formal policies and practices ○ Drafting formal policies and procedures ○ Planning to draft formal policies and procedures within the next 12 months ▶ Formal policies and practices in use	
107.	USEG8	Percentage of staff in government institutions with access to computers	Capacity	▶ Number of staff in each government institution with access to computers to performance work related activities	▶ MDA IT Manager

Core List of ICT indicators on ICT Infrastructure and Access

No.	Code	Indicator	Relevance	Measurement (at 30 June 2011)	Information Source
108.	A1	Fixed telephone lines per 100 inhabitants	Phone line connectivity	▶ Total Uganda Population ▶ Number of fixed phone line subscribers with Telecom Companies	▶ Uganda Bureau of Statistics (UBOS) ▶ Uganda Communications Commission(UCC)
109.	A2	Mobile cellular telephone subscriptions per 100	Phone line	▶ Total Uganda Population	▶ UBOS

No.	Code	Indicator	Relevance	Measurement (at 30 June 2011)	Information Source
		inhabitants	connectivity	▶ Number of mobile phone line subscribers with Telecom Companies	▶ UCC
110.	A3	Fixed Internet subscribers per 100 inhabitants	Internet connectivity access	▶ Total Uganda Population ▶ Number of fixed internet subscribers with Telecom Companies	▶ UBOS ▶ UCC
111.	A4	Fixed broadband Internet subscribers per 100 inhabitants	Internet connectivity access	▶ Total Uganda Population ▶ Number of fixed broadband internet subscribers with Telecom Companies	▶ UBOS ▶ UCC
112.	A5	Mobile broadband subscriptions per 100 inhabitants	Mobile internet connectivity access	▶ Total Uganda Population ▶ Number of mobile broadband subscribers with Telecom Companies	▶ UBOS ▶ UCC
113.	A6	International Internet bandwidth per inhabitant (bits/second/inhabitant)	Internet connectivity speed	▶ Total Uganda Population ▶ Total internet bandwidth available to Telecom Companies	▶ UBOS ▶ UCC
114.	A7	Percentage of the population covered by a mobile cellular telephone network	Mobile network coverage	▶ Total Uganda Population by geographical area/region ▶ Regional mobile telephone network coverage by telecom company	▶ UBOS ▶ UCC
115.	A8	Fixed broadband Internet access tariffs per month: In UGX as a percentage of monthly *per capita* income	Internet connectivity affordability	▶ Monthly per capita income in UGX ▶ Total fixed broadband tariffs charged by all telecom companies	▶ UBOS ▶ UCC / Telecom Companies

No.	Code	Indicator	Relevance	Measurement (at 30 June 2011)	Information Source
				▶ Total fixed broadband subscribers	
116.	A9	Mobile cellular telephone prepaid tariffs per month: In UGX as a percentage of monthly *per capita* income	Mobile telephone use affordability	▶ Monthly per capita income in UGX ▶ Total mobile phone pre-paid tariffs charged by all telecom companies ▶ Total mobile phone subscribers	▶ UBOS ▶ UCC / Telecom Companies
117.	A10	Percentage of localities with public Internet access centres (PIACs)	Access to free public internet connectivity	▶ List/Number of Districts ▶ Number of District Business Information Centers per district ▶ Number of registered internet cafes	▶ Ministry of Local Government ▶ NITA-U ▶ Uganda Registration Services Bureau

Indicator Coding Notes

EG	Task Group on E-Government of the Partnership on Measuring ICT for Development – Draft list of core e-government indicators
UEG	Specific E-Government Indicators provided by NITA-U
USEG	Specific E-Government Indicators provided by NITA-U Stakeholders at Workshop on 15 December
A	Core List of ICT indicators on ICT Infrastructure and Access

Comments received from NITA-U and her stakeholders on the E-Government Indicators between 1st December and 15th December 2011 and the associated EY Team responses.

No.	NITA-U Comments	EY Team Response	Indicator Reference	
			No.	Code
NITA-U Comments on E-Government Indicators received during meeting between NITA-U and EY Project Teams on Thursday 1 December 2011				
1.	Disaggregation should not only be based on gender, but other factors like age, PWD (special interest groups)	Indicators revised accordingly	1, 2, 6, 12 & 16	EG 1, 2, 6, 14 & 18
2.	Clarity on how each of the indicators is relevant and how each will be measured	Columns now included to provided high-level indication of relevance and detailed input data for measurement purposes	All	All
3.	Add indicators specifically to security sub section e.g. percentage of computers with firewalls and antivirus, ability of IT personnel to handle security	Three indicators now included	17, 27 & 32	UEG1, UEG11 and UEG16
4.	Add indicators specifically to e-waste sub section (disposal of e-waste)	One indicator now included	19	UEG3
5.	Add indicators to processor capacities (compatibility)	Our understanding of this comment by NITA-U based on discussions during the meeting was for us to include indicators to determine how compatible government institutions systems are i.e. whether computer processor capacities across government institutions indicate the ability of institutions to run	20	UGE4

No.	NITA-U Comments	EY Team Response	Indicator Reference	
			No.	Code
		programs in use by other institutions; or whether due to differences in technical specifications, some systems are incompatible across institutions. This would help in determining minimum specification requirements for procuring computers for government in future One indicator has now been included		
6.	Indicators on software (licenses) should also include cost, how often the upgrading is done	Noted. Indicator revised accordingly.	10	EG12
7.	Add an indicator on type of equipment, quantity and distribution	Noted. One indicator has been included.	21	UEG5
8.	Add indicators on maintenance of equipment (repaired in-house or out-sourced repair; and average cost)	Noted. Two indicators have been included.	22 & 23	UEG 6 & 7
9.	Add more indicators on transformation indicators since they are important in this survey	NITA-U would need to provide more specific details on the transformation indicators they would like. Current indicators are international in nature.	N/A	N/A
10.	On core indicators on ICT infrastructure look more at indicators which enable push and pull technology e.g. ability of a mobile phone to tell your polling station (mobile technology applications)	Noted. One indicator has now been included.	24	UEG8

No.	NITA-U Comments	EY Team Response	Indicator Reference	
			No.	Code
11.	Percentage connectivity to government established systems (Platforms in place. Like e-tax, etc)	Noted. One indicator has now been included.	25	UEG9
12.	Identification of IT enabled services which are currently being offered on mobile applications and the coverage (e.g. mobile money, mobile banking, etc)	Noted. One indicator has now been included.	26	UEG10
13.	Type of technology used by institutions to access internet (e.g. satellite, USB modem, etc)	Refer to indicator number 9, code EG11. NITA-U could suggest an enhancement of this indicator	9	EG11
14.	Public Internet Access Centers (PIACs) need to be considered in case of Uganda as District Business Information Centers (DBICs) or [Internet cafes]	Noted. Indicator now included.	41	A10
15.	Add some indicators on content development and online available local content	NITA-U could provide some additional details to distinguish this from indicator number 3	3	EG3
NITA-U comments made verbally during the meeting, but not provided as part of the written comments discussed with EY on 1 Dec 2011				
16.	Consider the Millennium Development Goals (MDGs) in relation to Uganda's IT context	The relevant MDGs include: Goal 8 – Develop a Global Partnership for Development • Target 8F: In co-operation with the private sector, make available the benefits of new		

No.	NITA-U Comments	EY Team Response	Indicator Reference	
			No.	Code
		technologies, especially information and communications ○ Telephone lines and cellular subscribers per 100 population ○ Personal computers in use per 100 population ○ Internet users per 100 Population	52 & 53	A1 & A2
			Not easily measurable. Not in NITA-U mandate	
			54, 55 & 56	A3, A4 & A5
17.	Consider the Cyber Laws impact on operations e.g. use of electronic signatures, etc	Based on the mandate of NITA-U in relation to the Uganda Cyber Laws. Possible indicators include: • Number of IT security personnel per Government Ministry, Department or Agency • Number of cyber security incidences responded to by the National Computer Incident Response Team in the last 12 months	27 & 28	UEG 11 & 12
18.	The tool should show trends across current and future surveys	This comment relates to the design of the tool that will capture the survey results; in relation to its ability to store comparable data across multiple periodic surveys and to have analytical and reporting functionality that shows trend analysis of such data. In relation to its relevance regarding the determination of indicators; selected indicators need to be easily monitor-able and data easily	N/A	N/A

No.	NITA-U Comments	EY Team Response	Indicator Reference	
			No.	Code
		collectable by NITA-U over time.		
NITA-U verbal comments during a follow up meeting on 7 Dec, but not provided as part of the written comments discussed with EY on 1 Dec 2011				
19.	Include an indicator on the status of records management (types, security, retrieval process, quality etc.)	Noted. Indicator now included.	29	UEG13
20.	Include an indicator on the status of e-records management in the public sector in Uganda (the level of computerization in government e.g. scattered isolated files, networked , databases, information management systems etc)	Noted. Indicator now included.	30	UEG14
21.	Include an indicator on the status of policy and legal framework for managing e-records in public sector in Uganda.	Noted. Indicator now included.	31	UEG15
Comments from the 15 Dec 2011 NITA-U Stakeholders Workshop based on the 3 questions asked				
D. Is the coverage of the indicators sufficient? (Yes/No) General comment from members was "No". More indicators need to be considered and these have been outlined in question No.2 below				
E. Which specific additional indicators need to be covered in the survey? As per the workshop group discussions, we noted the following additional indicators				
Specific comments on the indicators				
22.	41. EG1;	Will now include: iii) % of working computers	45 46	USEG1

No.	NITA-U Comments	EY Team Response	Indicator Reference	
			No.	Code
	d) There is need to capture the quality of computer equipment since some are obsolete while others are in good condition and for how many years the equipment should be used	iv) Average age of computer		USEG2
23.	e) Computer equipment should be accompanied with peripherals like scanners and printers	Already covered. A comprehensive list of computer peripherals are captured under ICT equipment	21	UEG5
24.	f) End point protection inventory should also be included	Already covered	17 & 32	UEG1 UEG16
25.	42. EG2; c) Include the job description for better assessment of results	Currently there are no standardized job descriptions used by MDAs. We will rely on information related to trained ICT staff and competency sets tested under current indicators	18	UEG2
26.	d) Capacity of the links, type of the links, the cost incurred, ISP and Service Level agreements terms should be captured under indicators	Type of link is already addressed in EG11 Include: ii) What bandwidth does your MDA have?	47	USEG3
27.	43. Combine indicators EG2 & EG11	The two indicators are fundamentally different. There is no need to combine. EG2 covers access of staff to the internet. EG11 covers the way in which the MDA is linked to	2 9	EG2 EG11

No.	NITA-U Comments	EY Team Response	Indicator Reference	
			No.	Code
		the internet. Type of connection.		
28.	44. EG3; The status of the website should be noted as well. Some websites are updates while others are obsolete	Include a new indicator on frequency of update: iv) How often is your website updated? Daily, Weekly, Monthly, Quarterly, Annually, Never v) When did you last update your website vi) Who updates the website?	48	USEG4
29.	45. EG5; Please remove the word phone and replace with mobile technology and specify types of services and platform	This indicator caters for the rural/mass population. No other indicator does. No need to remove the word "phone". All indicators apart from EG5 cater for fixed and mobile technology (laptops, PDAs, iPads, etc). If we remove the word "phone", we will be unable to determine if there are any e-government services that can be accessed by the rural masses who do not have the other more sophisticated forms of mobile technology that are only used by the elite few.	5	EG5
30.	46. EG6; Consider the level of education and qualifications of the IT professionals	Include: ii) What is the minimum qualification of your ICT staff? (drop down list)	49	USEG5

No.	NITA-U Comments	EY Team Response	Indicator Reference	
			No.	Code
31.	47. EG9; Areas of expenditure should be captured as well	Include: ii) 4 to 5 Broad categories of ICT expenditure budget lines in the questionnaire for the MDA to provided information on main areas of ICT spend	7	EG9
32.	48. EG11; There is need to capture measurement of bandwidth and amounts	Captured in 2(b) above. Comment 26 above.	47	USEG3
33.	49. Indicator UEG2 & UEG11 are referring to the same thing. There is need to cancel indicator UEG11 and then include the issue of formal training and expertise	Cancel indicator number UEG2 due to its subjectivity and because number UEG11 is specific to Cyber Laws.	27	UEG11
34.	50. No.22; Average computer processor capacity should be captured	Already covered under UEG4	20	UEG4
35.	51. Separate the expenditure on IT in order to measure effectiveness (Capex/Opex)	To be addressed. Refer to response in 7 above. Main ICT expenditure categories will be split into Capex and Opex categories	7	EG9
36.	52. Compare expenditure on IT capacity development with institutional capacity development budget	Not necessary. Percentage of training to ICT budget is already captured. Comparisons across MDAs will be more useful that against the MDA's global capacity development budget	8	EG10

No.	NITA-U Comments	EY Team Response	Indicator Reference	
			No.	Code
37.	53. Cost of maintaining the software should be used as an indicator	Already addressed on 7 above. Comment 31. Will be captured under EG9.	7	EG9
General comments on the indicators				
38.	54. There are various levels of professionalism and these need to be captured as well	We are capturing minimum qualifications in USEG5. It is difficult to determine the various levels of professionalism considering the numerous ICT related courses available in tertiary institutions.	49	USEG5
39.	55. % of government systems that can inter-operate i.e. have connectivity with other systems should be captured	Not easily measurable. Would have to test integration of all GoU systems. Not feasible. We will capture the types of applications used. The list when analyzed by NITA-U may allow the derivation of basic inter-operability.	11	EG13
40.	56. There is need to include more qualitative and quantitative indicators	All the indicators are either quantitative and/or qualitative in nature. There are no other types of indicators. All indicators starting with the words "percentage", "average" and "number" are quantitative in nature. Other indicators that do not start with the words "degree", "level" and "status" are qualitative in nature.	16	EG18, UEG14, UEG15

No.	NITA-U Comments	EY Team Response	Indicator Reference	
			No.	Code
41.	57. The number of MDAs enrolled onto the national back bone infrastructure should be captured	NITA-U has this information. Not necessary to increase the survey questionnaire size to obtain information that NITA-U already has.	N/A	N/A
42.	58. The number of MDAs with electronic surveillance should be captured (CCTVs, etc)	Not sure how a government institution having CCTVs will enable it to provide/not provide e-Government services. We do not see any value in relation to the e-Government Readiness Assessment. NITA-U to provide guidance on this comment.	N/A	N/A
43.	59. Minimum requirement for all government computer equipment purchases; Standardization of hardware procured by all government institutions	Include a new indicator, with the questions: iii) Does your MDA have a policy on minimum requirements for computer equipment specifications? iv) If Yes, what are the minimum requirements for: Hard drive space, RAM and Processor Speed for computers?	50	USEG6
44.	60. % of government institutions with documented IT policies	Include a new indicator and combine UEG17, 18, and 23 within it. Need for further determination of major IT policy categories	51	USEG7
45.	61. Transformation of individuals in terms of technology	This will be based on analysis of all indicators. It is	N/A	N/A

No.	NITA-U Comments	EY Team Response	Indicator Reference	
			No.	Code
	should be captured as an indicator	next to impossible to develop an objective indicator that will be able to measure transformation of individuals in terms of technology. There is also the issue of scope – which individuals? Government staff, Citizens, Businesses?		
46.	62. Categories of Indicators should also include; Financial, Individual and institutions both government and non-governmental	Categorization of indicators will be done once the exercise of determining which indicators to use is complete; prior to conducting the survey.	N/A	N/A
47.	63. Additional Indicators need to be relocated to the different categories namely; capacity, security, infrastructure and access plus usage	Categorization of indicators will be done once the exercise of determining which indicators to use is complete; prior to conducting the survey.	N/A	N/A
48.	64. Awareness of individuals needs to be captured as an indicator	This is captured in the questions under indicator EG18.	16	EG18
49.	65. Under capacity building, an indicator reflecting training in the specialized areas should be included	Not sure about the specialized areas being referred to. NITA-U to provide guidance.	8	EG10
50.	66. The indicator of software to be moved elsewhere and usage indicator to concentrate on services	Categorization of indicators will be done once the exercise of determining which indicators to use is complete; prior to conducting the survey.	N/A	N/A

No.	NITA-U Comments	EY Team Response	Indicator Reference	
			No.	Code
51.	67. Under staff disaggregation, introduce the level and rank category	Do not see any value of obtaining this data. NITA-U to guide.	1, 2, 6, 12, etc	EG1, EG2, EG6, EG14
52.	68. A section on the enabling environment i.e. laws, regulations, etc should be addressed	Captured enabling environment in various indicators; also addressing the recent Cyber Laws.	27, 28, and 52 to 61	UEG11, UEG12 and A1 to A10
53.	69. Under usage; Open source and proprietary may not be so relevant under new developments but should also be moved to infrastructure	Categorization of indicators will be done once the exercise of determining which indicators to use is complete; prior to conducting the survey.	10	EG12
54.	70. Policies; dissemination and implementation of policies indicators should also be captured	Now covered under USEG7.	51	USEG7
55.	71. Capacity; government capacity to provide e-services, citizens to access e-services, business to access e-services should be captured as indicators	The entire catalogue of indicators is aimed at achieving this.	1 to 61	EG1 to A10
56.	72. The definition of computer as an indicator needs to be specified as there are various devices called computers	The definition of a computer will be provided as guidance in the questionnaire to guide respondents.	1	EG1
57.	73. Indicator showing the number of useful computers should be captured	Addressed with a new indicator USEG1	45	USEG1

No.	NITA-U Comments	EY Team Response	Indicator Reference	
			No.	Code
58.	74. Location should be included in the disaggregation for capacity	Location of the respondent will be included as standard information captured on respondents at the start of completing the survey questionnaire.	N/A	N/A
59.	75. Process automation; capture information on active websites and processes	Included an indicator to capture information on frequency of website update USEG4. Types of processes that are automated is captured in EG15	48 and 13	USEG4 EG15
F. For the additional indicators identified, how would you propose the indicators to be measured? As per the workshop group discussions, we noted the following resolutions or measurement of indicators				
60.	76. EG1; Each institution should list their comprehensive inventory and this should be used as a measure	This is not practical for survey purposes. It is better suited for an ICT audit.	N/A	N/A
61.	77. List of government institutions with operational IT policies	Noted. New indicator USEG7	51	USEG7
62.	78. Skills and ability of individuals in terms of technology should be captured and used as a measure	The survey is not aimed at conducting an ICT skills audit. It is not necessary for the purpose of determining e-government readiness. However, the survey addressing ICT personnel capacity building and human resource development.	8	EG10
63.	79. Extent of individual usage of technology should be used as a measure	The survey will not target all staff in MDAs as respondents. Questionnaires will be developed for a	N/A	N/A

No.	NITA-U Comments	EY Team Response	Indicator Reference	
			No.	Code
		select group of individuals in MDAs who have the information required to measure the indicators. As such, the extent of individual usage of technology will not be measured by the survey.		

11.15 E-government Assessment – Survey Challenges

Category	Issue	Comment
General Comments		
	1. Respondent Contact Details	► It is difficult to access some of the respondents contact details and this causes delays
	2. Delays in Meeting the respondents	► Personal Assistants take time to schedule appointments with Heads of Institutions ► Most respondents especially the top management are usually out of office. Several appointments have to be made before meeting them ► Some of the respondents keep re-scheduling and this leads to delays
	3. Respondents not in Office	► Some of the respondents have travelled or were away for workshops. E.g. Ham Mulira said he would be out of the country for two weeks during the survey period, Ministry of Finance - Head of Institution was not available and no explanation was given or meeting scheduled
	4. Respondents too busy	► Some of the respondents were too busy to participate e.g. Imperial Royale Hotel
	5. Delayed delivery of the Introductory Letters	► Some of the respondents did not want to participate without formal approval of their bosses ► Some of the resondents refused to provide information because they had not yet received the formal introductory letters from NITA-U. A case in point is NSSF. The HR& Records sections refused to provide information without getting a formal letter from NITA-U addressed to the MD. When the E&Y interviewed showed them an introduction letter addressed to them, they said that they could only accept formal notification from the

Category	Issue	Comment
		MD.
	6. Lack of awareness of the survey	► The respondents were not aware of the survey since there was no sensitisation done to prepare them to expect interviewers
	7. Questionnaires should have been sent in advance	► The questionnaires should have been sent in advance as earlier planned so that respondents are well prepared
Government Institutions		
	8. Survey Has been done before	► A few respondents said they had done a similar survey before so they were irritated and saw this as wastage of their time. This was especially for the Head of IT questionnaire e.g. Bank of Uganda, and URA
	9. Head of IT Questionnaire	► The questionnaire is too long. This was raised by the NWSC IT manager ► Qn.10: Direct Lines; what does NITAU mean by direct lines. There is no interpretation ► Q10 and 15; Some of the questions are not relevant at national level like *contract duration of service provider*
	10. NITA-U Questionnaire	► Qn 1 – Include *(iii) Not Sure* ► Qn 2 – Add Questin: *If answer is Yes, what is the policy or legal framework?* ► *Original Qn 2 becomes Q3*
	11. Head of Records Questionnaire	► Some of the respondents felt they have a lot of information which they were willing to provide but it had not been requested for e.g. head of records
	12. Head of Government questionnaire – Q4	► We noted that the completion rate for this questionnaire is very low. Most of the heads of GIs have not participated in the survey for a number of surveys ► Dr Kitogo noted that Qn4 - Head of government institution, calls for an

Category	Issue	Comment
		option titled "**Not sure**" to cater for those who aren't aware of any IT strategy. This could help minimise the time for consulting
	13. Head of government Institution - Qn 2 and 3	► A number of respondents said that there is need to clarify on the scope of the ICT budget. They added that their ICT budget normally covers Hardware and soft only, and that other elements are posted in other departmental budgets e.g. IT training is put under HR
	14. Suspicions on the aim of the survey	► Government institutions were suspicious of the survey to the extent they would refuse to comment on some questions and prefer to first consult even though they had information on hand
	15. Too much referral which resulted in delays	► The heads of Government Institutions interviewed did not know all the information so they kept referring the interviewers to various section heads e.g. the accountant for questions regarding expenditure or to IT for any IT related questions instead of answering the questions themselves
	16. Delays in completion of the questionnaire	► Respondents have work to do so when approached to complete the questionnaire, they have to juggle between the two and this caused delays
	17. Delays in researching and getting all the required information especially for Questions that require a lot of detail	► Delays in providing the information especially in the government institutions. This was seen with respondents like NITA-U that had to do some verification with the Ministry of ICT. The interviews therefore took longer than expected
Businesses and Citizens		
	18. B&C Questionnaire – No.3	► Need to translate the questionnaire to very easy english becase some of the explanations are complex. This is for qn 3
	19. Fear to participate	► For the case of businesses and citizens, there was fear of giving out their

Category	Issue	Comment
		contact details and general information
	20. Refusal to participate	► A case in point is capital shoppers ► The MD rejected participation in any government survey so the staff could not take part
	21. Not Happy with the Government	► Many respondents are not happy with the Government and therefore were not willing to participate in any Government related project ► There is a general negative attitude towards the project because it is associated with the Government. ► The citizens were very bitter because the survey is Government related so they would focus on telling the interviewers their problems otherthan the survey
	22. Rudeness of respondents	► Some respondents were rude and not willing to participate
	23. Lack of general understanding of NITA-U and E-government	► Respondents were not sure what NITA-U wanted to achieve in the survey ► Most correspondents do not understand the e-Government services. They are very green about the services that the government offers online ► The Community (citizens) did not seem to grasp the need for E-Governance platform
	24. Provision of computers to the public	► Some of the respondents were asking if the government will provide computers to individuals since it will be useless to introduce a service that people will not have access to due to lack of financial capacity to buy the equipments
	25. Complaints on survey results	► The general public (random citizens and businesses) were not willing to provide information as some claimed that survey results are never presented to them

Category	Issue	Comment
	26. Quality of answers	► The quality of answers given by some respondents was not good i.e. answers like I don't know, I don't care
	27. E-government services	► Many targeted random citizens and businesses did not use some of the specified data sources and therefore could not make comments. For example; District Business Information Centres (DBICs), IFMS, IPPS, LoGICS, CCAS and ASYCUDA ► Respondents said it would have been better if the government would first train and sensitized them about the E-government initiatives
	28. Benefits of the survey	► Generally most respondents had one question;..'how am i going to benefit from this survey?' and this was a reason they gave for not participating in the survey ► Some of the respondents did not give the survey priority as they said they were not going to benefit from it e.g. Mukwano Group of Companies. The respondent said they were not being paid to participate and therefore could not give the survey priority ► The citizens most notably those in Kawempe did not want to take part. The reason they gave was that such surveys have been done before but nothing is done about their well being.

11.16 E-government Assessment - Training Presentation

11.17 E-government Assessment - Training Timetable

11.18 E-government Assessment - Training Programme

11.19 E-government Assessment - Terms of Reference

12. References

1. Source: Ministry of Local Government Website http://www.molg.go.ug/index.php/local-governments