



2016:-ICT Year in Review

Online Discussion Report

December 2016

Acknowledgments

We wish to thank Facebook, KENIC (Kenya Network Information Center), and KICTAnet (Kenya ICT Action Network) for supporting the 2016 ICT Year in Review Online Discussions. Special thanks to all the stakeholders who spared the time to complete the online questionnaires and also attend the subsequent face-to-face cocktail event. We are sure your contributions and participations will go a long way in ensuring our ICT sector continues to remain vibrant in the coming years.

We also thank John Walubengo and Barrack Otieno for moderating the online discussion and for authoring the report, and the entire KICTANet team Grace Githaiga, Liz Orembo, Ali Hussein, Grace Mutungu, Mwendwa Kivuva and Victor Kapiyo for editing and additional feedback towards the final draft.

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Executive Summary

KICTAnet wanted to have an overview of what worked well and what may not have worked so well in the year 2016. Questionnaires covering five thematic areas as defined in the [2014-2017 ICT Masterplan¹](#) were developed and hosted online for stakeholder feedback.

About sixty-five (65) stakeholders from diverse sectors that included government, regulator, private sector, academia, media, civil society and technical communities responded.

The thematic areas covered by the questionnaire included Policy & Legal framework, Regulatory framework, Human Capital, Physical Infrastructure as well as Information Infrastructure.

Under the policy and legal framework, it was observed that the government had executed an acceptable multistakeholder engagement that included reviewing and updating the 2006 National ICT Masterplan.

One additionally positive development observed was that the Access to Information bill had finally been enacted after being held in parliament for several years.

On the downside, stakeholders pointed out that a few more critical bills remain pending, such as the Data Protection and the Cybercrime bills. Additionally, the fact that the controversial ICT Practitioners bill continuous to progress within parliament has raised mixed concerns within the ICT industry.

On the regulatory front, stakeholders felt that the dominance issues surrounding Safaricom had not been adequately resolved. Stakeholders also observed that the urban-rural digital divide was widening even as big towns continued to enjoy high-speed access while their rural counterparts struggle with lower quality and unreliable services.

This brought into sharp focus, the role of the [Universal Service Fund²](#) (USF) and whether or not it was meeting its objective.

¹ ICT Master Plan (2013-17) <http://www.icta.go.ke/national-ict-masterplan/>

² Universal Service Fund, <http://www.ca.go.ke/index.php/universal-access-overview>

With regard to human capital, forty percent of the respondents felt that tertiary institutions were providing the requisite skills needed to support the ICT industry. Additionally, the Laptop project and the Konza TechnoCity projects were considered to be very useful in supporting the development of the requisite human capital in the sector.

The downside observed was the fact that the industry-academia-government linkages continued to be weak and subsequently each member of this critical triad has missed opportunities.

With regard to the physical infrastructure theme, stakeholders observed that the fiber and the mobile network have been widely deployed by both the private sector and the government.

Challenges however continue at regional and county levels where network infrastructure demand exists but costly levies for way-leaves present challenges to servicing the demand.

Additionally, the continued lack of shared infrastructure means that operators inconveniently dig the same road infrastructure multiple times as they expand their networks.

Another challenge observed is the poor utilization of existing infrastructure, in particular the government owned National Optical Fiber Infrastructure (NOFBI) that cuts across all the 47 counties.

NOFBI capacity remains idle most of the time and is only used occasionally when county governments need to access the government financial system, IFMIS. NOFBI can support more services, but county governments seem to prefer to use alternative communication channels for various valid and invalid reasons.

Finally, with respect to information infrastructure, stakeholders acknowledged the positive impact that Huduma Centers, eCitizen portal amongst others, have had on streamlining and improving government services.

On the downside however, stakeholders felt that the local content industry has not been adequately supported. The increasing threats of internet shutdowns and attempts to censor online content continues to send chilling signals to the sector.

Introduction

Background

KICTAnet has found the need to do an annual review of key ICT policy, legislative, regulatory and strategic events that may have occurred during the year. Specifically, KICTAnet will carry out a survey to gather baseline feedback and subsequently have an online discussion with stakeholders on the issues they found important during the year. The objective is to review the previous years successes and challenges in order to face the new year from an informed position that can prioritize and address the previous and emerging challenges.

Program Setting & Description:

Questionnaires on the key thematic domains as defined in the 2013-2017 ICT Master plan were developed. These domains are namely:

- Policy, Legal, Regulatory theme
- Infrastructure them
- Human capital
- Information Infrastructure

Stakeholders were invited to complete the corresponding online questionnaire within restricted timelines in order to allow for the subsequent online deliberations on their feedback. Finally, a face-to-face Cocktail event was held to share the findings.

Program Design (Data Collection, Data Processing)

Data Collection:

The Questionnaires were availed online and stakeholders invited to complete them. The detailed questionnaire is in the Appendix I but it generally covered the thematic areas described in the ICT Master Plan (2013-17)

Data Processing:

The various contributions from the Participants were analyzed and collated into a report. The report was then divided into daily sections for online interrogation and discussions.

Aim: To have an objective assessment of how the stakeholders felt about the ICT Sector during the year under review.

Objectives

The Objectives of the survey is to capture and highlight the successes, failures and challenges encountered during the past year with a view to informing and prioritizing activities in the new year.

Main Outcomes/Deliverables

The key outcomes of the exercise included:

- Summarized participants feedback from the online questionnaire
- Summarized participants feedback from the online deliberations
- Final report for subsequent dissemination to members and other stakeholders

Tools

Online Tools used included Google forms, emails, list server

Resources

Moderator (Online)

Participants (Online)

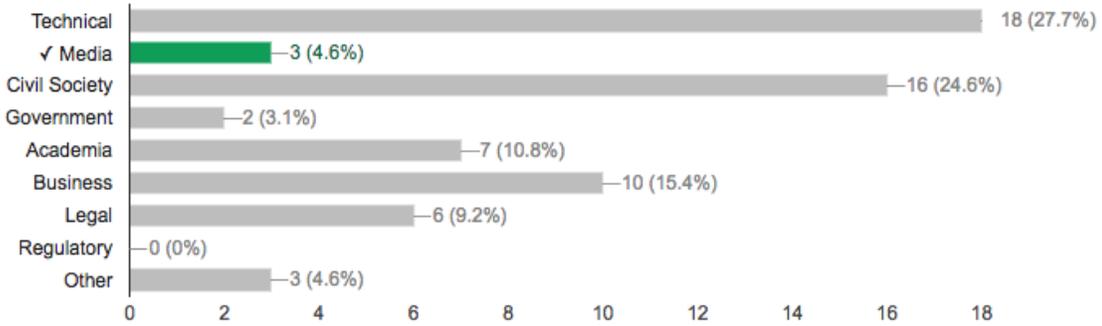
Web Resources

Detailed Survey Results

2016:-ICT Year in Review ICT Sector Assessment Form

Stakeholder Group

3 / 65 correct responses

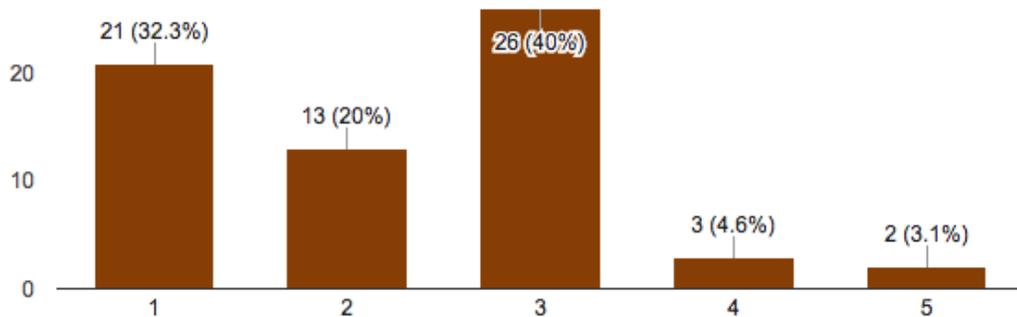


There were 65 respondents from various stakeholder groups as shown above.

1. Policy & Legal issues

a. To what extent do you feel the Universal Service Fund has been operationalized and met its objectives? (1-lowest extent, 2- below average extent, 3-Average/Moderate extent 4- Above Average extent 5:-Very Largest extent)

(65 responses)

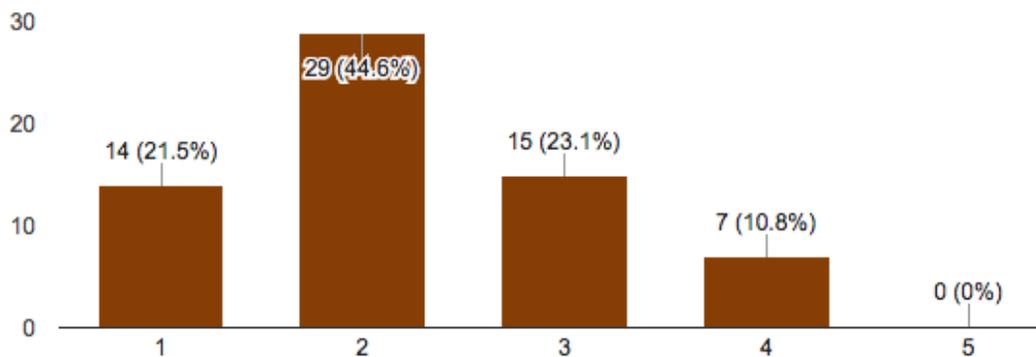


52% of the respondents felt that the Universal Service Fund(USF) had not met

its objective. 40% felt that it had to a moderate extent while 8% felt it had a very large extent.

b) To what extent do you feel that ICT Policies and initiatives have been extended to the grassroots (Counties). (1-Lowest extent, 2- Below Average extent, 3-Average/Moderate extent 4- Above Average extent 5:-Very Largest extent)

(65 responses)

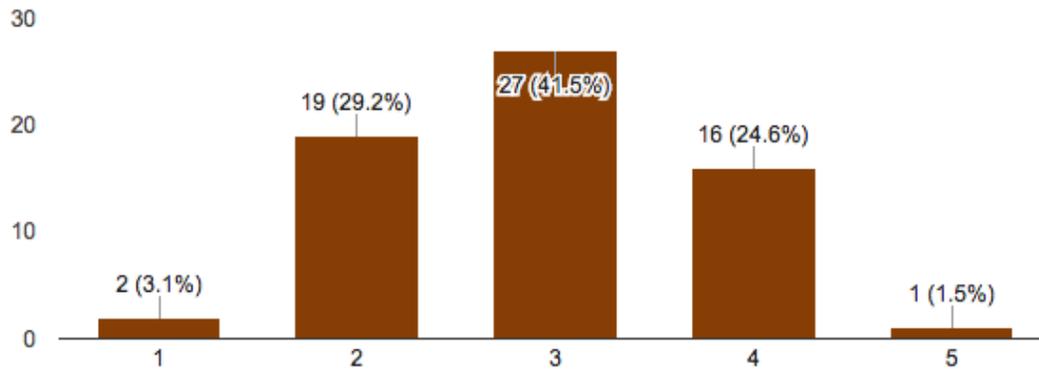


61% of the respondents felt that ICT Policies and initiative had not impacted the counties. 23% of the respondents felt that these had moderately impacted the counties, while 10% felt they had an impact to a very large extent.

c) To what extent do you think the multi-stakeholder approach between government and sector players has been achieved?

(1-Lowest extent, 2- Below Average extent, 3-Average/Moderate extent 4- Above Average extent 5:-Very Largest extent)

(65 responses)



41% felt that the multi-stakeholder approach between ICT stakeholders and government was moderately achieved. 31% felt it was not achieved while 25% felt it was, to a very large extent.

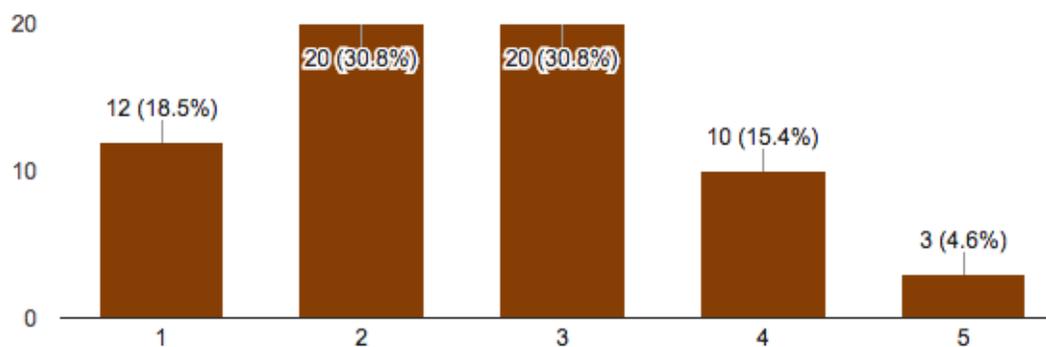
d) List one or more Policy, Legal or Regulatory intervention that you feel has not been addressed to date.

Cyber Crime /Cyber Security Bill and its position in Senate and National Assembly, Data Protection Bill, ICT Practitioners Bill, Privacy Issue Linkages between National & County Governments on ICT matters, Quality of Internet, Infrastructure Sharing

2. Regulatory Issues

a) To what extent do you think the regulator has addressed the question of affordability of Internet /Communications. (1-Lowest extent, 2- Below Average extent, 3-Average/Moderate extent 4- Above Average extent 5:-Very Largest extent)

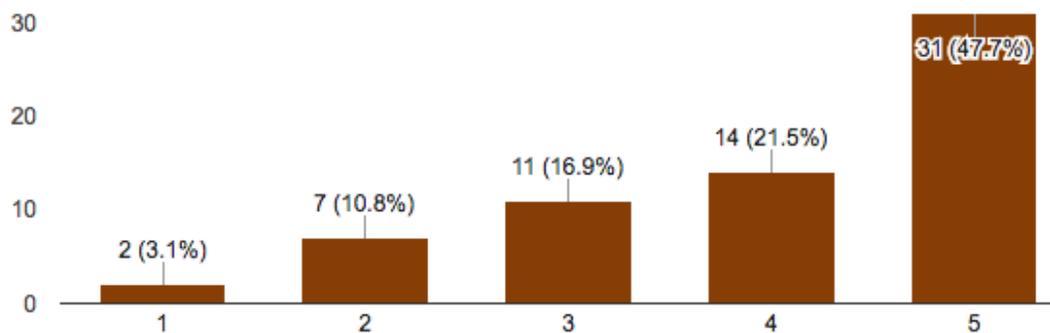
(65 responses)



48% of the respondents felt that the question of affordable communications/internet pricing had not been well addressed. 30% felt that the question of affordable pricing has been moderately addressed while 20% felt it has been addressed to a very large extent.

b) To what extent do you think the issue of dominance within the Telco sector is affecting pricing of communication services? (1-Lowest extent, 2- Below Average extent, 3-Average/Moderate extent 4- Above Average extent 5:-Very Largest extent)

(65 responses)

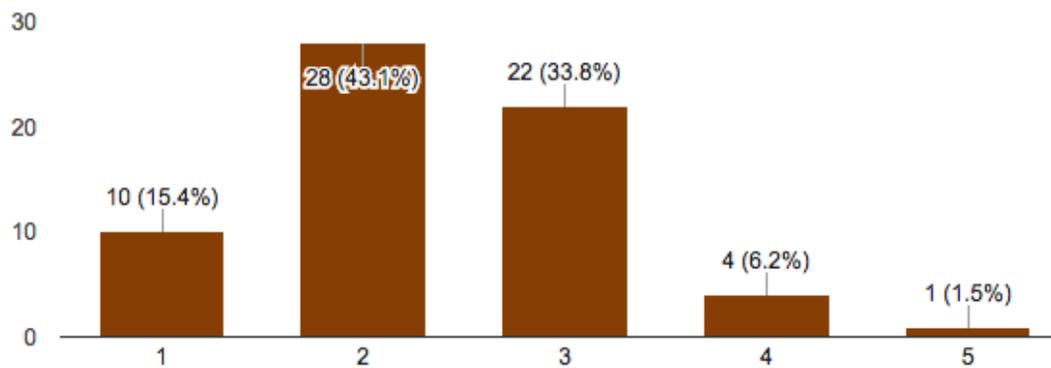


68% of the respondents felt that the issue of dominance in the sector was affecting pricing of communication services to a very large extent. 16% felt it

moderately affected pricing while 13% felt it was really not an issue.

c) The Urban areas seem to be well-served in terms of communication as compared to the rural areas. To what extent do you feel the regulator has addressed the urban-rural digital divide?(1-Lowest extent, 2- Below Average extent, 3-Average/Moderate extent 4- Above Average extent 5:-Very Largest extent)

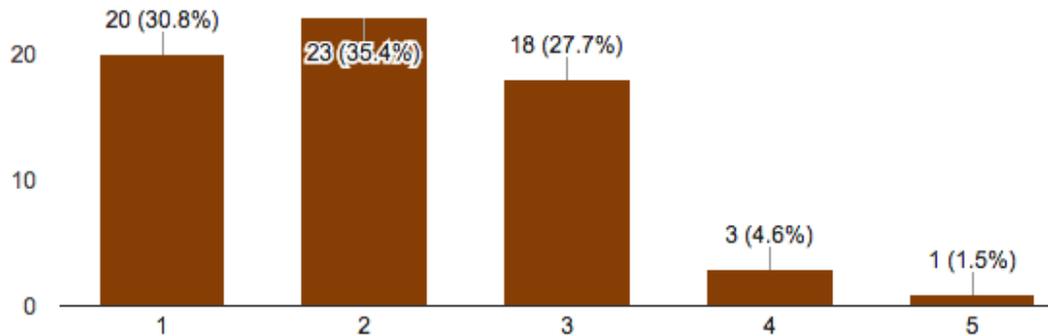
(65 responses)



48% of the respondents felt that the urban-rural digital divide had not been adequately addressed while 34% felt that it had been moderately addressed while only 7% felt it had been addressed to a very large extent.

d) Do you think the regulator has adequately addressed the issue of including persons with disabilities within the ICT ecosystem?(1-Lowest extent, 2- Below Average extent, 3-Average/Moderate extent 4- Above Average extent 5:-Very Largest extent)

(65 responses)



65% of the respondents felt that the regulator had not addressed the issue of inclusivity with regard to persons with disabilities (PWD). 27% felt this had been moderately addressed while only 5% felt it has been addressed to a large extent.

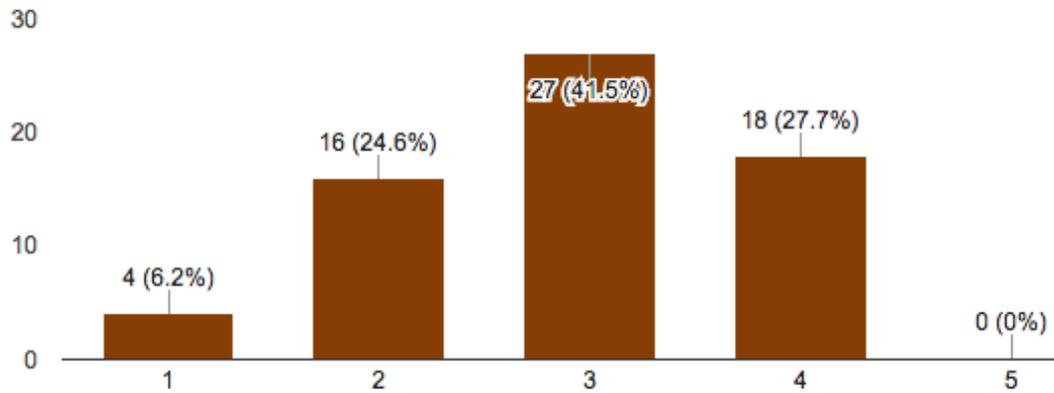
e) List one or more Regulatory intervention that you feel has not been addressed to date.

Operator Dominance Issues, Internet Pricing & Affordability issues, White Spaces, Operationalization of Universal Service Fund & Access, Failed Number Portability, Data protection for Subscriber Data, Conflict between regulatory bodies, Last mile connectivity and Way-leaves, Net-Neutrality, Support for ICT-startups, Support for Digital evidence in courts, Inclusion & Support for Persons With Disabilities (PWD)

3. Human Capital/Workforce Issue

a) To what extent do you feel opportunities and initiatives for the youth within the ICT sector have been provided? (1-Lowest extent, 2- Below Average extent, 3-Average/Moderate extent 4- Above Average extent 5:-Very Largest extent)

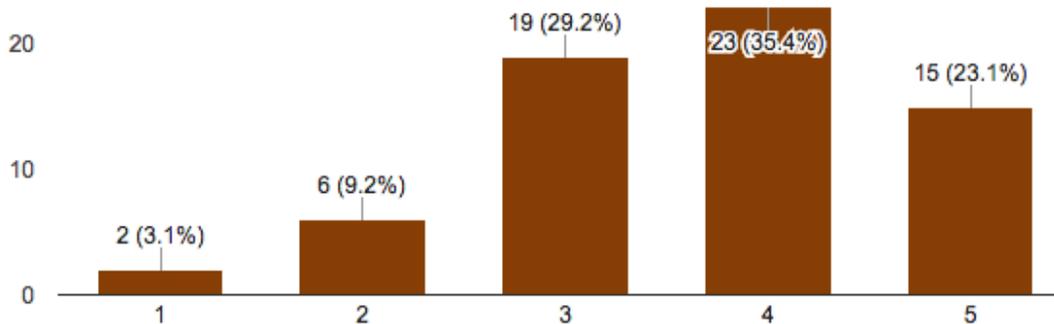
65 responses)



41% of the respondents felt that the government had provided sufficient ICT opportunities for the youth to a moderate extent. 30% however felt youth opportunities had not been effectively provided, while 27% felt it had been done to a large extent.

b) To what extent do you feel Digital Literacy Program (Laptop Initiative) will have a positive impact? (1-Lowest extent, 2- Below Average extent, 3- Average/Moderate extent 4- Above Average extent 5:-Very Largest extent)

65 responses)

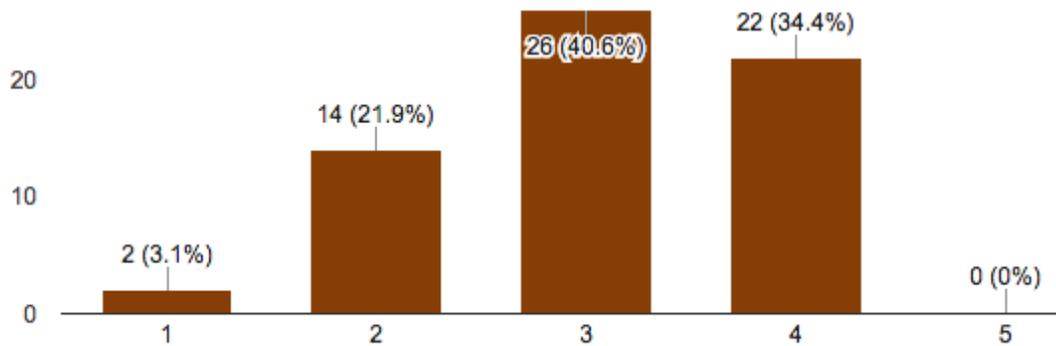


58% of the respondents felt that the DLP (Laptop Project) will have a positive

impact to a very large extent. 30% felt it would be a moderate impact while 12% think it will have little or no impact.

c) To what extent do you think the Universities, Colleges and other Training institutions are providing appropriate skill-sets for the ICT Sector? (1-Lowest extent, 2- Below Average extent, 3-Average/Moderate extent 4- Above Average extent 5:-Very Largest extent)

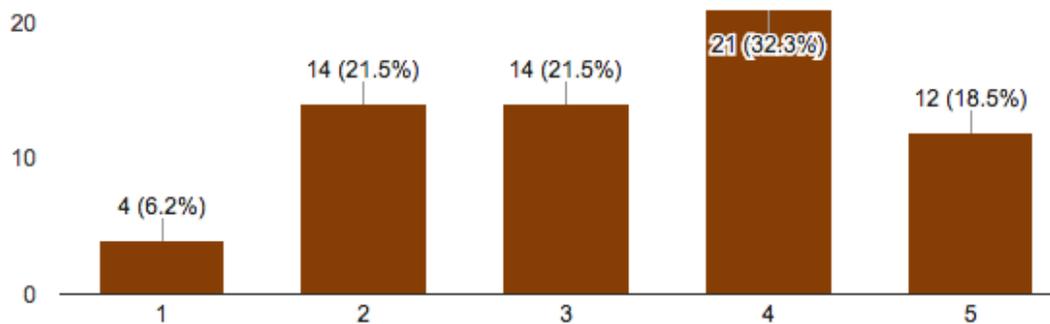
64 responses)



40% of the respondents felt that tertiary institutions were, to a moderate extent providing the requisite skill set for the ICT industry. 34% felt they were to a large extent providing these skills while 24% felt they were not.

d) To what extent do you think the Konza City project will have an impact within the ICT sector? (1-Lowest extent, 2- Below Average extent, 3- Average/Moderate extent 4- Above Average extent 5:-Very Largest extent)

(65 responses)



40% of the respondents felt that Konza City will have a positive impact to a very large extent. 21% felt it will be a moderate impact while 25% think it will have no impact.

e) List one or more capacity building intervention that you feel has not been addressed to date.

The following were the Key capacity building interventions that stakeholders felt have not been addressed.

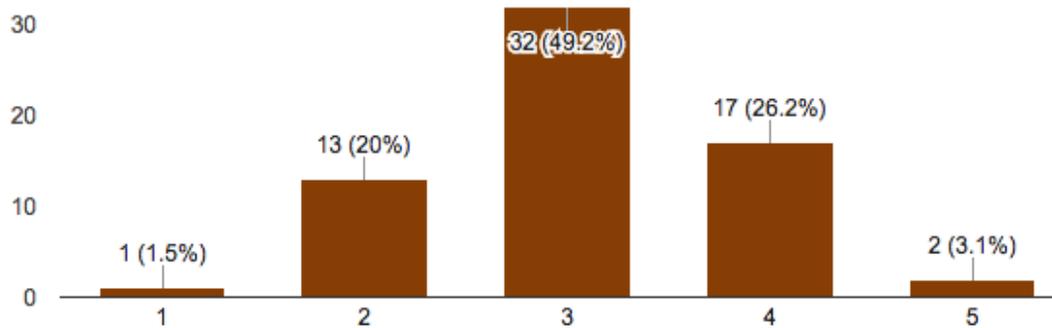
Provide general ICT literacy programmes to the public, Coding as a skill to all students – irrespective of discipline, Continuity in government offices (rather than sabotage of previous holder initiatives), Improve Academia- Government- Industry linkages, Cryptography training, Identify and support Technology Universities, Promote Incubation Center, Have mechanisms to weed out ICT quacks, Provide ICT scholarships, Standardize ICT Trainings, Digitization of key services - police occurrence books, land registries should be availed to the youth.

4. ICT Infrastructure Issues

a) To what extent do you think the quality of communication service you are receiving is adequate? (1-Lowest extent, 2- Below Average extent, 3-

Average/Moderate extent 4- Above Average extent 5:-Very Largest extent)

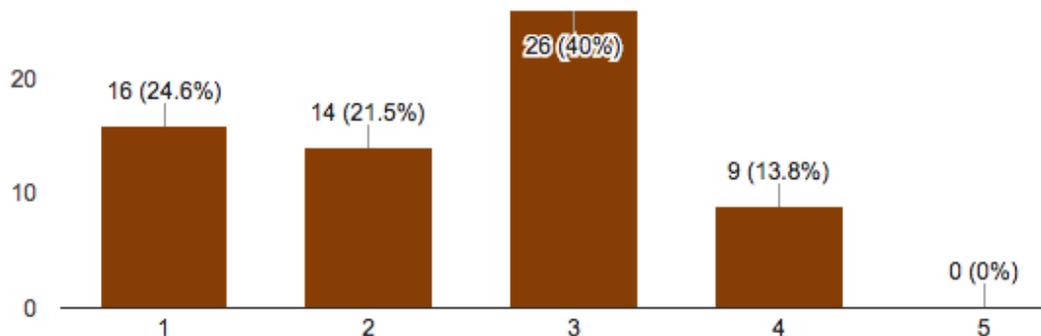
(65 responses)



49% of the respondents felt that the quality of their communication service was adequate to a moderate extent. 29% felt it was adequate to a very large extent while 21% felt it was not adequate.

b) There have been initiatives to build public ducts for accommodating data cables from different Telco operators. To what extent do you feel this has been achieved? (1-Lowest extent, 2- Below Average extent, 3- Average/Moderate extent 4- Above Average extent 5:-Very Largest extent)

(65 responses)

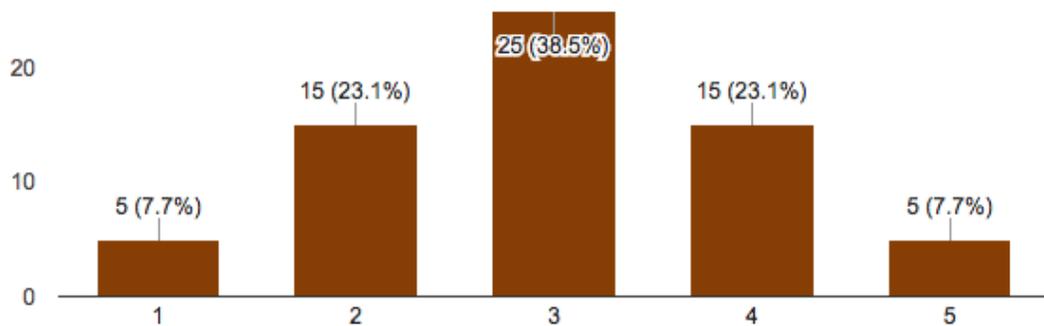


45% of the respondents felt that the issue of infrastructure sharing (e.g. sharing common data ducts) had not been achieved. 40% felt it had been

moderately achieved while 13% felt it was achieved to a large extent.

c) User Devices (mobile phones, laptops, etc.) are necessary components for accessing communication services. To what extent do you feel these are affordable and reliable? (1-Lowest extent, 2- Below Average extent, 3- Average/Moderate extent 4- Above Average extent 5:-Very Largest extent)

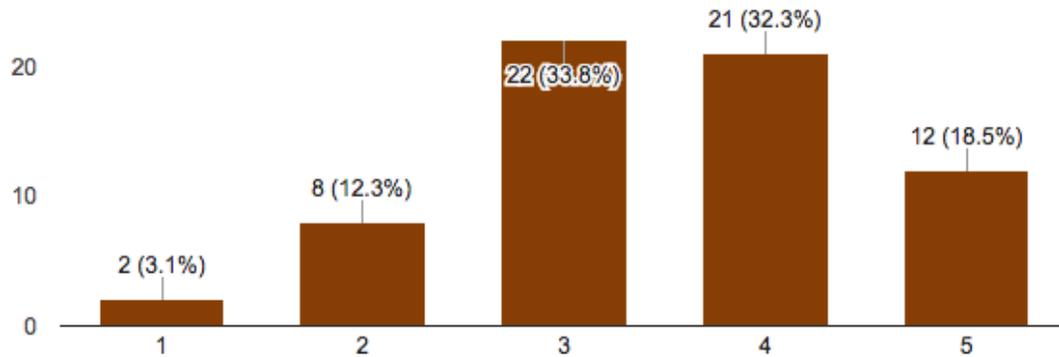
(65 responses)



38% of the respondents felt that the cost of user devices (phones, laptops, etc.) was to a moderate extent affordable and reliable. 30% felt they were to a large extent affordable while another 30% felt they were not affordable to a very large extent

d) Last year the government successfully implemented the digital migration. To what extent do you think this has had an impact? (1-Lowest extent, 2- Below Average extent, 3-Average/Moderate extent 4- Above Average extent 5:-Very Largest extent)

65 responses)



40% of the respondents felt that the digital migration has had to a positive impact to a very large extent. 33% felt the impact was moderate while 15% felt there was no impact.

e) List one or more Infrastructure intervention that you feel has not been addressed to date.

The following were some of the infrastructure issues that were not yet addressed.

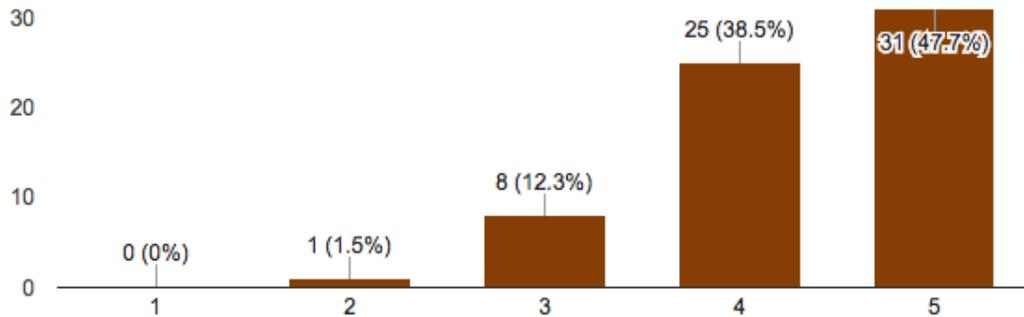
Internet prices still too high, QoS should be standardized across all regions, Set-Top-Box for digital TV still expensive, No policy on Green Energy and e-Waste, Sections of rural Kenya still have no access, Have policy on Community Networks to support marginalized areas, Poor utilization of NOFBI, County way leave permits too expensive, Lack of infrastructure sharing, Provide free Public Wi-Fi hotspots,

5. ICT Information Infrastructure Issues.

a) The government has moved to digitize its operations through Huduma Centers, eCitizen portal, etc. To what extent do you feel this is useful. (1- Lowest extent, 2- Below Average extent, 3-Average/Moderate extent 4- Above

Average extent 5:-Very Largest extent)

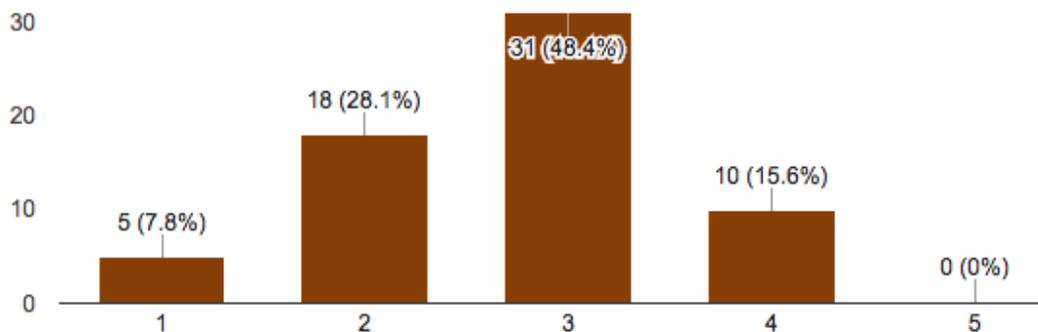
(65 responses)



86% of the respondents felt that government digitization (Huduma Centers, eCitizen portal) program has been useful to a very large extent. 12% felt it was moderately useful with a very small minority 1.5 thinking it has not been useful.

b) To what extent do you feel this digitization effort has gone into other sectors (e.g. transport, health, agriculture) (1-Lowest extent, 2- Below Average extent, 3-Average/Moderate extent 4- Above Average extent 5:-Very Largest extent)

(64 responses)

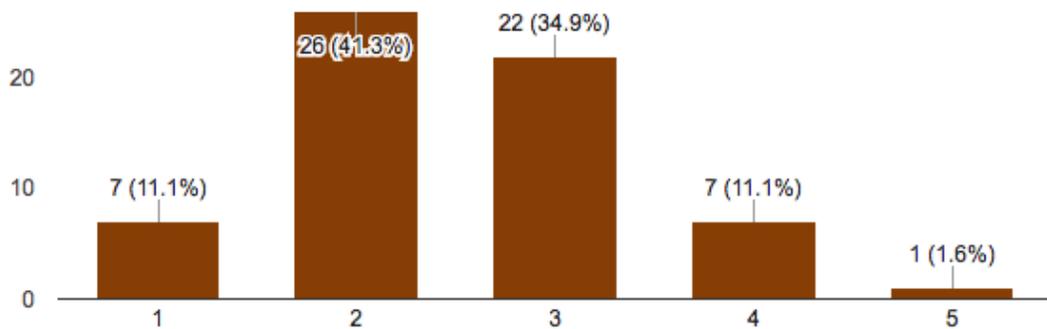


48% of the respondents felt that the digitization of government operations

has gone to the other sectors to a moderate extent. 30% felt this cross-sector absorption of ICTs has not really happened while 10% feel it has to a very large extent.

c) Local content production is one area that can accelerate ICT uptake. To what extent do you think this area has been addressed? (1-Lowest extent, 2- Below Average extent, 3-Average/Moderate extent 4- Above Average extent 5:-Very Largest extent)

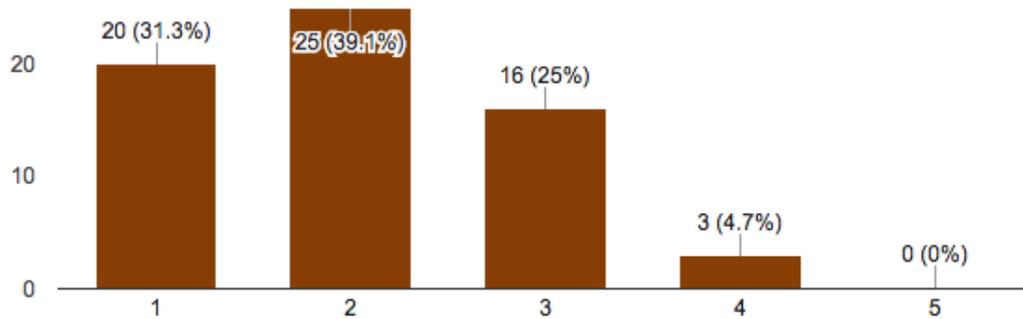
(63 responses)



52% of the respondents felt that the local content industry has NOT been well supported. 34% felt it has been moderately supported while only 8% felt it has been supported to a very large extent.

d) Security is a big concern, especially as the society gets more automated. To what extent do you feel the key actors have addressed the e-security question? (1-Lowest extent, 2- Below Average extent, 3-Average/Moderate extent 4- Above Average extent 5:-Very Largest extent)

(64 responses)



70% of the respondents felt that the issue of information security has not been adequately addressed. 25% thought it had been moderately addressed while only 4% felt it had been addressed to a very large extent.

e) List one or more Info-Infrastructure intervention that you feel has not been addressed to date.

The following were mentioned as key info-infrastructure interventions that have not been addressed/misaddressed:

Misguided/aggressive e-Content regulation maybe counter-productive to local content industry. Security surveillance without Data Protection Act is counter-productive. The Government Shared Service concept still not effective, particularly at County levels. Expand eGov Services to be accessible thro USSD, Improve the user-interface on most Government websites, enhance cyber security and offer public awareness programs on the same.

3-Day Online Deliberation on Survey Results:

During the 3-Day online deliberations on the feedback from the questionnaires, the following comments from members of the KICTAnet list was recorded.

Barrack Otieno:

Under the Policy and Regulatory theme, Barrack observed that generally the government and related agencies had made great efforts in investing in ICT's. However the government is never good at marketing itself or communicating its successes. As an example, he felt that the issue of IFMIS had really been misunderstood. Software should never be blamed for fraud since it is the people who commit Fraud.

Gideon Rop:

Under the Human Capital theme, Gideon observed that the technology space and specifically the ICT evolving. Whereas there are basics that remain constant, the institutions should have the responsibility to go beyond the basic and engage the industry.

This would equip students with work-oriented skills that make them more marketable. Incubation centers are great way to impart some of the industry skills to the student.

Additionally, he agreed with the feedback that government should digitize all their legacy systems to improve their efficiency. Regards Rop

Wambui Wamunyu

Still under the human capital theme, Wambui wondered whether all youth, rural- or urban-based, had the same opportunities. One area to look into is

Internet access where the rural youth may not have the same opportunities as those in urban centers. She suggested the need to have a public internet access provider (along the same spirit as the public media broadcaster) - that can ensure some kind of internet access for all.

On ICT training at Tertiary level, she felt that there was need to have ICT training mainstreamed in terms of being taught beyond the science disciplines.

Additionally, she suggested that research on Tech issues in academia should be encouraged. Such research maybe taking place in the private sector, but with a very narrow research scope. Supporting research at university level will broadens the what, who, and context of the research.

Finally, she said that the government should start sharing state-held data , particularly in light of the newly enacted Access to Information Act.

Grace Bomu

Under the same human capital theme, Grace observed that there is need to move beyond quantitative analysis of the ICT initiatives for the youth into the qualitative aspects. There is need to find out who are the youth that gained from ICT opportunities and how did the opportunities change their communities.

On the Laptop project (Digital Learning Program), she agreed with the feedback that it was a useful project and hoped that the current primary school beneficiaries shall in the near future be able to do complex tasks like producing rudimentary hardware components of the computers.

She raised concern about the skill gap between ICT graduates and what the industry requires, supporting the need to strengthen the industry-academia linkages.

Wambui Wamunyu

Under the Information Infrastructure theme, Wambui observed that digitization was a great idea but may not have been applied consistently across the government departments. A case in point where police abstracts are available online but citizens are still required to pay for a photocopy of the same at police stations.

Government should therefore also invest in awareness programs that inform citizens as well their officers about the digitized services, how to access them, what to expect.

Additionally, the stability and reliability of the digitized systems should be guaranteed. She cited the case of ID replacement services, which recently had been shut down for several weeks at Huduma Centres because the system was down.

With regard to local content, she agreed that the local content industry was not well supported. At her university campuses, she said, many students have ideas for online content such as shows, blogs, information hubs, etc, but are afraid that their ideas will be stolen if they asked for advice. They wonder what resources – financial or other – they will need, and often they do not know where to start.

Further, she added that Content is often the target of existing and proposed law. Even when it is encouraged by agencies like Communication Authority of Kenya local content is often seems most vulnerable to overzealous and sensitive authorities. The proposed Film Bill and pressures on bloggers comes to mind.

She felt that the support should come from a variety of sources: government can provide a regulatory and policy environment that not only supports, but

encourages the development of local content; government can partner with industry, academia and communities to raise awareness about local content, create opportunities for it, and enable creators to protect their intellectual work while getting paid for it.

With regard to information security, she agreed with the feedback that it was a weak point. She had questions about whether any of the digital information on our electronic systems is well protected, whether it is sold to the highest bidder, who is surveiling, amongst other concerns. She urged regulatory authorities and whoever else is concerned to enhance information security since it was just not a technical issue, but one about trust. People will choose to do certain things on digital platforms, or to keep off, based on how much they trust the systems.

Evaluation & Feedback

Technical

There was excellent technical reliability of the listserver as well as the online Google-form, with no reported incidents of technical failure.

(e)Participants

Over sixty five participants completed the online questionnaire with about six engaging actively on the listserver during the feedback discussions. About one hundred participants attended the face-2-face cocktail event where the final results of the survey were shared.

Moderation

The discussion was moderated by two people. There was however minimal interaction during the follow-up 3day e-discussion session. However, the large number of respondents who had completing the online feedback form meant that the stakeholder's views were already well captured.

Appendix

-Online Questionnaire

-Minutes of the Face-to-face Cocktail Event