This report reviews government and non-government Information and Communication Technology (ICT) initiatives in Kenya, and examines how ICT-related policies and other legislation affect citizen participation and democratic governance. Among others, the study covers the link between ICT and political participation, social accountability, public services delivery and citizen engagement. The report is based on policy analysis, stakeholder interviews and literature review, and aims to inform awareness raising initiatives and advocacy for more progressive policies and practices regarding the use of ICT in governance and civic participation in Kenya.

This report was produced by the Collaboration on International ICT Policy for East and Southern Africa (CIPESA) in the context of the ICT4Democracy in East Africa (www.ict4democracy.org) initiative with support from the Swedish International Development Cooperation Agency (Sida).

The CIPESA team acknowledges John Walubengo who was a contributing author on the Kenya report. Similar reports have been written for Uganda and Tanzania.
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1. Introduction

The Kenyan Information and Communication Technology (ICT) landscape is mainly governed by the Ministry of Information, Communications and Technology through the ICT Authority (ICTA), the National Communication Secretariat (NCS), and the regulator, Communications Authority of Kenya (formerly Communication Commission of Kenya). The ICT Authority manages the development and use of ICT in all government ministries and agencies. The role of the NCS is to research and advise government on ICT policies. It is the unit that generates policies and drafts legislations for the executive and parliament to consider.

The Kenya Communication Act of 1998 (KCA 1998)\(^1\) broke down the lethargic government communications monopoly known as Kenya Posts and Telecommunications Corporation (KPTC), splitting it into four entities - Telkom Kenya Limited (TKL), Postal Corporation of Kenya (PCK), Communication Commission of Kenya (CCK) and the NCS. With liberalisation, TKL became a private company offering telecommunication services under a competitive market structure. Currently, Telkom Kenya operates as Orange Kenya and competes alongside Safaricom Kenya, Airtel and Essar Telcom. The broadcast sector was also liberalised and the government-owned public broadcaster faces stiff competition from private FM radio and TV stations.

The regulator’s quarterly report of June 2015 reported that there were 36 million telephone subscribers representing an 84% penetration rate, 29 million internet users and 28 million mobile money accounts. Kenya is served by four submarine cables - The East African Marine System (TEAMS), the Sea Cable System (Seacom), the Eastern Africa Submarine Cable System (EASSy) and the Lower Indian Ocean Network 2 (LION2).

In November 2014, internet statistics source Socialbakers estimated that there were 3.6 million Kenyans on Facebook, with 64% of them male and 36% female.\(^2\) The majority of Facebook users (75%) were aged 18-34 years. As of September 2015, the Kenyan Twitter account with the highest number of followers was @UKenyatta, the Kenyan President’s account that had over one million followers, followed by @ntvkenya with 979,838 followers.\(^3\)

Several challenges, however, hinder Kenyan citizens’ access to ICT. The cost of internet access is high\(^4\) compared to an average monthly income of US$80.\(^5\) The use of high quality broadband internet stood at only 5 million of the approximately 20 million internet subscriptions as of June 2015.\(^6\)

1.1 Infrastructure, Services Development & Universal Access

In 2013, the Kenya government commissioned the National Broadband Strategy (NBS)\(^7\), the National ICT Master plan (2013-2017)\(^8\) and the draft National Spectrum Policy (NSP) to synchronise different government

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\(^4\) Measuring Information Society, Executive Summary, ITU 2013,


agencies serving under the Kenya ICT Authority. This move is expected to improve the governance of ICT initiatives within government as compared to previous regimes where ICT budgets, initiatives and oversight were scattered across multiple ministries.

The National Broadband Strategy envisions building a high quality broadband network across the country to act as a catalyst to transform Kenya into a knowledge economy. It identifies Public-Private-Partnerships to make this a reality for various levels of society. The strategy summarises key ICT projects and initiatives that need to be achieved by 2017. These include the digitisation of the National Land Registry and Persons Registry, and development of the National Spatial Data Infrastructure. The draft National Spectrum Policy envisions a shared spectrum infrastructure for telecommunication service providers.

In 2013, the Kenya Information and Communications Act (KCA Amendment Act 2013) was amended to align it with the provisions of the new constitution which require the communication regulatory authority to be independent. Specifically, the amendments changed the way board members of the regulator would be recruited. A selection panel with representatives from government, private sector and civil society would now recruit members of the board (council) for the new regulatory agency known as the Communication Authority of Kenya (CAK). Previously, the Minister was unilaterally mandated to select the board members. This was expected to make the regulator more independent of government.

In 2009, the government, through the ICT ministry, mobilised the private sector and through equity, debt and capital to deploy the first undersea cable for the East African Coast - The East African Marine System (TEAMS). Three other undersea cables (EASy, SEACOM and LION) rapidly landed in Mombasa within two years. Government has also made its contribution with the deployment of the domestic National Optical Fiber Infrastructure Project (NOFBI) which has extended fiber links to 25 of Kenya’s 47 counties. The project commenced in 2002 and upon completion is expected to stretch 4,500 kms across 60 sites at a cost of US$ 60 million. According to the ICT Association, by December 2015, NOFBI will cover 2,100 km in all 47 counties. The Kenya government initially awarded Telkom Kenya the right to operate and manage the fibre on an open access basis. However, other operators have opted to ignore the publicly owned national fibre and continue to roll out their own independent domestic fibre. The national research and education network, Kenya Education Network (KENET), has also made contributions by connecting over 80 public and private universities and other institutions of higher learning to the internet.

Kenya’s Universal Service Regulations oblige all licensed telecoms operators to contribute 1% of their revenues to the regulator for purposes of extending services to underserved areas. The regulator has a few pilot

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10 Submarine Cable, TEAMs, http://www.teams.co.ke/
11 Submarine Cables, Others, http://www.submarinecablemap.com/#/landing-point/mombasa-kenya
programs under the Universal Service Access Framework (USF) that are aimed at ensuring affordable access for all Kenyans.\textsuperscript{16} Among the USF projects is the establishment of ICT centres in 16 secondary schools, four community telecentres, and electronic resource libraries in 10 counties.

In terms of ICT services in the sector, mobile-money stands out as the greatest and most utilised innovation in the last ten years. The country’s 28 million registered mobile users are able to make payments via mobile for utilities (water, electricity), shopping, transport and other services.\textsuperscript{17} Meanwhile, various financial services and initiatives revolving around the mobile money model have been created across different sectors of the economy. M-Kopa, for example, helps low income consumers acquire solar powered energy solutions at affordable rates.\textsuperscript{18} Leveraging on MPESA micro-payment structures, consumers are signed onto a serviceable loan to acquire solar equipment that powers their homes at a monthly rate that is lower than if they were using the inefficient kerosene substitutes. Agricultural insurance Kilimo Salama,\textsuperscript{19} Health insurance mHealth,\textsuperscript{20} educational service Enezea Education\textsuperscript{21} and Diary farming support i-cow all follow the same business model - supporting users with a micro-payment model that is the critical success factor behind mobile money.

2. Right to Information and Privacy

The Kenyan Constitution (2010) introduced a devolved government structure that includes County Governments, entrenched freedom of expression and association, access to government information, and mandated a consultative and participatory governance approach.\textsuperscript{22} However, several critical laws remain to be enacted. These include the Access to Information Act, the Data Protection Act, eTransaction Act and the Cybercrime Act. Without these laws, the digital gains anticipated could easily lead to losses related to citizens’ privacy, lack of transparency and poor governance.

The Access to Information Act would describe the framework under which citizens would seek or demand information from government agencies and be able to get it in a timely manner.\textsuperscript{23} The Data Protection Act would protect citizen data from abuse, particularly in light of the massive information digitisation effort by government and businesses. Data concerning one individual can easily be aggregated from various data sources (e.g. health records, land records, mobile subscription information, etc.) to build digitised citizen profiles that could easily be abused. This Act would describe the framework under which data is collected, stored, used and disseminated in such a manner as to retain citizens’ rights to privacy.

The eTransaction Act would promote the use of eCommerce and provide a guiding framework for it. At the moment, the Kenya Communication Act simply mentions aspects of eCommerce but omits other important

\begin{itemize}
\item Universal Service Access Projects, http://ca.go.ke/index.php/projects
\item M-Kopa Micro-finance Energy Project, http://www.m-kopa.com
\item Kilimo Salama, Micro-finance Agri-insurance Scheme, http://kiliansalama.wordpress.com/about/
\item Mhealth, Micro-finance Health-insurance Scheme, http://www.wvi.org/health/mhealth-kenya
\item Enezea Education, Micro-payment educational content, http://enezaeducation.com/
\item Access to Information Bill, http://www.cickenya.org/index.php/legislation/item/333-the-access-to-information-bill-2013#.VGDb1FdHM00
\end{itemize}
clauses that deal with the liabilities and responsibilities of various stakeholders within the eCommerce ecosystem. Cyber-crime is also mentioned in the Communications Act, but lacks depth in the definition of roles and responsibilities assigned to cyber police, cyber prosecutors and cyber judiciary.

In a surprising turn of events, perhaps informed by the increasing threats of terrorism, the government in December 2014 enacted the Security Laws Amendment Act. Within two weeks of its publication, the law was hurriedly passed by parliament. Following uproar from civil society and the media on the Amendment Act, some clauses were reassessed and declared unconstitutional. One of them was Section 30F which criminalised the publication or broadcast of information “which undermines investigations or security operations.”

Essentially, media houses must now seek approval from the police prior to publishing information on any events related to terrorism. This shifts the broadcasting industry from self-censorship to government censorship while exposing journalists and media houses to hefty fines for publishing unauthorised terrorism content. Furthermore, it is difficult for editors to make judgment on which events may be under investigations in order to avoid writing about them. The end effect is likely to be that editors will play safe and avoid publishing anything likely to land them in trouble – effectively dealing a blow to media freedoms.

Despite some clauses being dropped from the Security Laws Amendment Act, other contested clauses remain, such as Clause 69 which grants open-ended permission to the state to spy on its citizens. Section 36A reads as follows: “The National Security Organs may intercept communication for the purposes of detecting, deterring and disrupting terrorism in accordance with procedures to be prescribed by the Cabinet Secretary.”

The interception of communications is facilitated by the SIM-card registration regulations in the Kenya Communications Act, which states:

Part (1) before a telecommunications operator sells a SIM card or otherwise provides telecommunication services to a person, it shall obtain—
(a) from natural persons, the person’s full name, identity card number, date of birth, gender, physical and postal address;

Part (2) A telecommunication operator shall ensure that—
(a) existing subscribers register their SIM-cards within such time period as may be prescribed;
(b) proper physical or electronic records are kept of the information referred to in subsection (1) and any change in such information;

Part (3) Notwithstanding the provisions of subsection (2)(c), a telecommunications operator may disclose the registration particulars of a subscriber—
(b) in connection with the investigation of any criminal offence or for the purpose of any criminal proceedings.

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3. Use of ICT in Politics

As of October 2014, there were 59 registered political parties in Kenya. The Kenyan media is an active player in politics, with most morning and evening talk-shows rigorously debating contemporary political issues, and hosting politicians with divergent political views. In February 2013, a month before the general elections, media houses joined forces to host an unprecedented presidential debate. The eight contesting presidential candidates shared an interactive platform to unpack and promote their governance vision. The media houses dedicated airtime on both television and radio towards the debate. They further supported these through live streaming online and engaging on social media.

Meanwhile, the internet has become part of the political landscape in Kenya. All political parties in the 2013 elections aggressively mobilised support through social-media (especially Twitter and Facebook) and interactive blogs. Some politicians integrated their messaging between print, broadcast and internet media. What could start off as a Facebook post or Twitter message would end up in the evening broadcast news and in the following morning’s newspapers. This has carried on to-date, with the ruling coalition Jubilee and the largest opposition coalition CORD maintaining an active, online social-media presence fronted by their presidential candidates.

| Table 1: Online presence of Kenya’s top leaders and parties |
|-----------------|-----------------|-----------------|
| **Politicians** | **Political parties** |
| President Uhuru Kenyatta | Opposition Leader Raila A. Odinga | Deputy President William Ruto | The National Alliance | Orange Democratic Movement |
| Website | www.uhuru.co.ke | www.tna.co.ke | www.odm.co.ke |
| Twitter Handle and No. of Followers | @UKenyatta 900,000 | @RailaOdinga 450,000 | @WilliamSRuto 500,000 | @ibelievekenya 8,000 | @ODM_News 12,500 |
| Facebook Page and No. of “Likes” | Facebook/myuhurukenyatta 1.6 million | Facebook/RailaOdingaKE 270,000 | Facebook/williamsamoei 700,000 | Facebook/IBelieveKenya 80,000 likes | Facebook/chungwamoja 16,000 |
| Youtube | www.youtube.com/user/UhuruKenyattaTV/about 8,000 subscribers 1.6 million views | www.youtube.com/channel/UCZR25eVtvV1gcpf48FGHqv/featured 14 subscribers 5,078 views | www.youtube.com/channel/UC_YT527tle3H9gAfDnkoVWw/featured | www.youtube.com/channel/UCAj9MIrxeJ8Dmo31PAZTjg/featured |
| Other | www.scribd.com/UhuruKenyatta 792 followers 41 published documents 168k views 255 likes | |

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28 Statistics as at September 2015
Nevertheless, the online tools provide simple and effective platforms where politicians could upload their campaign documents such as their political party manifestos, plans, objectives and events. Current leaders are therefore held accountable to their manifestos as earlier promised and widely distributed to the electorate.\(^{29}\) In addition, despite some of the presidential candidates’ websites going offline or becoming inactive after the 2013 elections, their social media accounts remain active with updates on topical issues. These social media platforms thus continue to provide an avenue for citizens to express themselves on the topical issues while simultaneously allowing the leaders to gain insights and feedback from their supporters.

In 2007/8, violence erupted following the disputed 2007 general election results. A study by Global Information Society Watch cited ICT as being core to the incitement and subsequent mobilisation of the warring parties.\(^{30}\) Specifically, community radios, and SMS were cited as the medium of choice for the adversaries. During this period the Internal Security Minister temporarily shut down media broadcasts in an attempt to quell the violence.\(^{31}\) Previously, the now deleted Section 88 of the Kenya Communication Act, 2008 provided the internal security minister such sweeping powers of interventions on matters of national security. Analysts continue to debate whether clamping down on the media increased or reduced the violence.\(^{32}\) Many believe that the absence of information triggered rumours and speculations about the safety status of the opposition leaders – thus fuelling and exacerbating the violence.

Following the 2007/8 Post Election Violence (PEV), the government enacted the National Cohesion and Integration Act, 2008 \(^{33}\) aimed at controlling hate speech. It criminalises the use of speech to incite ethnic violence as specified in Section (13) that a person who uses speech that is “threatening, abusive or insulting or involves the use of threatening, abusive or insulting words or behaviour commits an offense if such person intends thereby to stir up ethnic hatred, or having regard to all the circumstances, ethnic hatred is likely to be stirred up.”

This was followed by the regulator’s publication of the 2012 guidelines for the prevention of transmission of undesirable political messages via mobile phones.\(^{34}\) The guidelines require telecoms companies to vet bulk political message content 48 hours prior to its transmission (Section 4). In Section 5, the political content requirements included the name of the party or individual disseminating the political message, and the use of English or Kiswahili. They barred attacks on “individual persons, their families, their ethnic background, race, religion or their associations.” The messages could “not contain inciting, threatening or discriminatory language.” The guidelines arose from the 2007/8 PEV experience with leading operator Safaricom taking an independent step to publish their internal guidelines on political SMS messages and eventually the regulator

\(^{29}\) See for example: Held Accountable to manifestos, http://www.businessdailyafrica.com/Jubilee-faces-Sh100bn-bill-to-deliver-election-promises/-/539546/1717900/-/o2s71u/-/index.html


standardising the same.\(^{35}\)

Whereas the guidelines helped in containing ethnic vitriol over the mobile phone and broadcast media, it had the side effect of pushing the same onto the social media during the 2013 general elections.\(^ {36}\) Using blogs, Facebook, Twitter, and other tools, Kenyans descended on each in a manner that would later be described as the equivalent of PEV but committed through online media primarily using pseudo-names. Unfortunately, these bitter exchanges continued to be witnessed online, even two years after the 2013 general elections. The outcome of the election where the leading candidate received 50.01% of the vote was bitterly contested by the losing party at the Supreme Court.\(^ {37}\)

4. ICT, Transparency and Accountability

4.1 Government Driven Initiatives

During the 40 years post-independence, there existed the traditional avenues for holding the leadership accountable, such as parliament, an independent media and civil society. However, this was to drastically change. Government agencies have over the years started interacting and engaging with citizens in the processes of formulating policies and regulations. The Constitution of Kenya 2010, Section 118 mandates public participation in the legislative process and agenda by stating as follows in Article 118:

118. (1) Parliament shall—
   (a) conduct its business in an open manner, and its sittings and those of its committees shall be open to the public; and
   (b) facilitate public participation and involvement in the legislative and other business of Parliament and its committees.

However, the communications regulator had long established the practice of soliciting public views through their website.\(^ {38}\) In addition, it continues to regularly issue the quarterly performance status of the ICT sector on their website.\(^ {39}\)

Live Parliament

The Kenya Parliament has similarly started being accountable to citizens by airing live transmissions of their sessions. Using their internal media department, parliament records all sessions and allows any of the broadcasters, private or public, to get a live feed when required. The transmission of an impeachment debate of two governors and one minister caused significant reaction on social media resulting in the hashtags #MartinWambora,\(^ {40}\) and #EmbuGovernor.\(^ {41}\) Video recording of the sessions are also available offline upon request from the National Assembly Administration (Clerk). Members of Parliament are hard-pressed to rise up

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\(^{40}\) Embu Governor Impeached, https://twitter.com/hashtag/MartinWambora?src=hash

\(^{41}\) Embu Governor Impeached,https://twitter.com/search?f=realtime&q=%23EmbuGovernor&src=hash
and contribute intelligently to motions in parliament. Additionally, the Parliament website\(^{42}\) contains archived PDF of the parliamentary sessions (Hansard)\(^ {43}\), financial records, and other informational resources that go as far back as 2003.

Furthermore, the new constitution empowers parliamentary committees to summon any citizen in Kenya both in public and private practice to respond to matters of national importance. Notable figures such as the heads of the military and of the National Intelligence Service, previously answerable only to the President, have appeared in person to publicly defend themselves on matters related to the tragic Westgate Terror attack. The Chief Executive Officers (CEO) of private companies are not exempt. The CEO of Safaricom has also appeared in parliament in relation to a controversially awarded government tender aimed at providing broadband bandwidth for digital security surveillance.\(^ {44}\) The public is invited to submit questions and memoranda through the Chair of the Committee and is also welcomed to sit in and observe the proceedings.

**Bill Tracking**

The Committee on the Implementation of the Constitution (CIC) is mandated to monitor the enactment progress of the new laws necessary to give life and entrench the principles envisioned in the new constitution. The CIC uses a bill-tracker to publish online the status and location of pending bills – thus shining the accountability light on various offices such as the Attorney General, Parliament or Presidency depending on where the delays are being experienced.\(^ {45}\) Every year, CIC summarises the number of laws enacted in form of their annual reports. The 2013 Report indicates that 108 Acts had been enacted and 26 Acts had been amended as at Dec 2013.\(^ {46}\)

**Budget Transparency**

Since 2007, the National Treasury has published its financial budgets and other details online.\(^ {47}\) Furthermore, the controller of the budget regularly publishes online the corresponding expenditure figures, allowing citizens to compare budgeted against expended financial figures. This enables interested parties to raise timely queries rather than waiting for the Auditor General reports at the end of the year. As a result of this accountability measure, Mars Group Kenya\(^ {48}\), a non-government organisation (NGO), discovered a huge KShs 10 Billion (US$ 98 million) financial error in the 2009/2010 budgetary estimates through this open process of accountability. President Kenyatta, the then Minister for finance, conceded the mistake, arguing that it was a typing error – but critics remain sceptical, believing the error was intentional.\(^ {49}\)

\(^{42}\) Parliament Website, http://www.parliament.go.ke/


\(^{47}\) Treasury Website with Financial Details, http://www.treasury.co.ke/


\(^{49}\) Mr. Kenyatta, Minister for Finance concedes mistake, http://www.reuters.com/article/2009/05/08/idUSL81042555
Elections and Voter Registration

The Independent Electoral Commission also uses ICT extensively in an effort to be more transparent to the voters. Whereas the electronic Results Transmission System (RTS) failed during the 2013 general elections, it had been used successfully during the 2010 referendum and also performed well in the 2013 by-elections.\(^{50}\) The RTS was being used to deliver and display real-time results as soon as they were counted at the polling stations - increasing confidence in the electoral outcomes.

Previously, access to details of election results remained restricted and only open to the electoral commission, courts and the privileged ruling elites. Today, this information is freely available online and open to public scrutiny. Such was the case during the 2010 referendum and the 2013 by-election where the e-tallying system was deployed, allowing contestants to accept results as compared to 2013 presidential elections when the system failed. Furthermore, the full details of election results were published on the website, enabling interested parties to interrogate them.\(^{51}\)

Prior to the 2013 elections, the electoral commission also deployed ICT for biometric registration of voters, SMS confirmation of voter details and SMS educational alerts on election matters. Specifically, three sub-systems were adopted: the Biometric Voter Registration (BVR), the Electronic Voter Identification (EVI) and the Results Transmission System (RTS). The BVR system electronically scanned and kept voter fingerprints to be used later on by the EVI to confirm the identity of registered voters. The RTS system allowed the results of the counted votes to be instantly and electronically relayed to the public in real time. Whereas the execution of electronic aspects failed to perform on election day, the prior planning and procedures involving use of ICT in the election process helped in delivery of better and publicly verifiable electronic voter registers.\(^{52}\)

Civil society organisations such as the Mars Group and Africog\(^{53}\) interrogated the 2013 election results and came up with debatable and contentious conclusions about the integrity of the registration, voting and the tallying processes of the 2013 general election. Whether true or not, these queries and interrogations would not have been possible without ICT use and can only serve to make the Electoral Commission more diligent and accountable in future elections.

Open Contracting

Another agency, the Public Procurement Oversight Authority, regularly publishes details of the national government tenders online.\(^{54}\) The records show the name of the tender, the ministry concerned, the contract amount and the winning bidder – allowing citizens an in-depth view of where large portions of their taxes are going. This also makes government ministries more accountable and transparent in their procurement procedures.

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\(^{50}\) Makueni ByElections, http://vote.iebc.or.ke/

\(^{51}\) IEBC, Full details of 2013 General Elections Results, http://vote.iebc.or.ke/

\(^{52}\) Electoral Commission electronic results system, http://vote.iebc.or.ke/


4.2 Civil Society Driven Initiatives

Parliament “Watch”
The CSO-led initiative Mzalendo whose motto is “Eye on the Kenyan Parliament” makes information about the National Assembly and Senate activities accessible to citizens so they can hold legislators accountable based on facts.\(^{55}\) Jessica Musila, the executive director of Mzalendo, says citizens can search for any parliamentarian by name or constituency and establish which contributions, if any, they may have made over a given period of time.\(^{56}\) Mzalendo subsequently publishes annual performance data on parliamentarians – forcing healthy debate within the media, the legislature and the citizenry.\(^{57}\)

Crowdsourcing
The Crowdsourcing platform Ushahidi has been at the heart of civic engagement and social accountability efforts in Kenya.\(^{58}\) In 2007, during the height of the post-election violence, a group of Kenyans and foreigners resident in Kenya developed visualisation software that allowed citizens to report cases of violence using mobile SMS, email or the web. The software would then consolidate this information and render it on a map, thus providing valuable status information on the emerging violent situations on the ground. This software was used again in the Kenyan 2013 Elections (Uchaguzi),\(^{59}\) and is also currently used in reporting social challenges in the Kibera slum area in Nairobi.\(^{60}\)

Ushahidi’s online reporting platforms are also being used to enable citizens to monitor election process by reporting intimidation, bias and misinformation.\(^{61}\) An evaluation report on the performance of the Ushahidi’s Uchaguzi 2013 election platform states that many citizens noted some change on the ground upon posting reports onto the Uchaguzi platform or Twitter feed #Uchaguzi. This was mainly because the mainstream media houses also accessed the platform, cross-checking the information and then broadcasting it.\(^{62}\)

Further, the wide access to mobile technology allows citizens to, for example, use the Ushahidi platform to update water suppliers on gaps in their service or provide crisis information via eyewitness reports of violence through email or SMS. Examples in this mobile application category are the Huduma Kenya\(^{63}\) and Msema Kweli. Huduma allows citizens to report complaints regarding public services while Msema Kweli\(^{64}\) is a mobile application that helps keep track of Community Development Fund projects in Kenya.

On the applications development front, service developers have had some challenges including the fact that

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\(^{55}\) Mzalendo, http://info.mzalendo.com/


\(^{58}\) Ushahidi, http://www.ushahidi.com/

\(^{59}\) Uchaguzi Full Circle on Kenyas Elections, http://whiteafrican.com/2013/03/03/uchaguzi-full-circle-on-kenyas-elections/

\(^{60}\) Reporting Issues in Slum Areas, http://voiceofkibera.org/

\(^{61}\) Making All Voices Count, http://www.makingallvoicescount.org/why/


government has yet to supply crucial information regarding the geo-location of facilities such as schools, health facilities, amongst others.\textsuperscript{65} This geo-location data is required by the mapping software programmers to facilitate citizens' service delivery monitoring and reporting of governance issues. For example, if reporting that Hospital “X” in County “Y” has no medicine then such a post can only be superimposed on the hospital if the geo-location of the hospital is availed.

Despite the apparent and improved display of accountability through ICT, several high-level government scandals have still been unearthed, mainly by traditional media and social media. One notable scandal that refuses to go away is the Anglo-leasing scandal which involves fictitious companies being formed by government officials to bid for huge security related tenders that would never be delivered or commissioned.\textsuperscript{66}

In June 2014, both mainstream and social media (Twitter on #Angloleasing) raised the flag when the current government was scheduled to release payment to one of these fictitious companies. Public outcry demanded the government be held accountable thereby forcing the government to seek parliamentary approval for the release of funds.\textsuperscript{67} Due to an international court ruling, the obligatory payments were made.\textsuperscript{68}

Two other notable examples in the misuse of public funds that resulted in online protest took place in April 2014 when the government published a request to tender for typewriters at the Ministry of Lands. The tender request was held for several months until it was released to agents.\textsuperscript{69} In June 2014, the government advertised a tender of KShs 500,000 (US$ 5,800) to airlift and deliver presidential speeches to far-flung corners of the country.\textsuperscript{70} Kenyans launched another social media storm with the hashtag #SpeechYa500K being used as a reference on Twitter, Facebook and other social sites, which led to the cancellation of the questionable tender request.\textsuperscript{71}

5. ICT and Public Services Delivery

An eGovernment Secretariat was formed in 2002 to spearhead the use of ICT across government ministries. Headed by the Permanent Secretary who reports to the Office of the President,\textsuperscript{72} its mandate was to automate all government functions in order to improve public services. To-date, numerous ICT related initiatives have since been recorded in government ministries.

Notable ones include the successful implementation of the Kenya Revenue Authority export and import customs system known as SIMBA.\textsuperscript{73} In 2006, all agents in the import and export business were forced to register with SIMBA in order to clear their goods. Despite initial resistance, the government insisted that the

\textsuperscript{65} Interviews with developers at iHub, Nairobi’s leading innovation hub
\textsuperscript{69} Flying Presidential Speeches: http://www.businessdailyafrica.com/president-speech-airlift/-/539546/2337628/-/uixpx62/-/index.html
\textsuperscript{70} Tender Canceled after Twitter-storm, http://www.nation.co.ke/news/Speech-tender-called-off-after-online-protest/-/1056/2337640/-/1212w67/-/index.html
\textsuperscript{71} E-government Secretariat, http://www.e-government.go.ke/
\textsuperscript{72} SIMBA, Export/Import Web-based System, https://forodha.kra.go.ke/
dealers go online or face being phased out of the export/import clearance business. This decision radically changed and improved the business processes within the import/export sector. More importantly, the time taken to clear goods at the landing port of Mombasa reduced significantly. On average, the time to clear goods was 1-3 weeks but with the implementation of the SIMBA system this has been reduced to 3-4 days.\textsuperscript{73}

Another system currently in use is the Integrated Financial Management Information System (IFMIS).\textsuperscript{74} This is an electronic financial control system that is used to disburse and monitor public funds across ministries and counties. It allows the Treasury to retrieve reports on the expenditure of public funds in real time. However, its full use and impact remains to be seen, particularly because of the new devolved government structures that make County Governments fairly autonomous from the national treasury.

Furthermore, ICT is used in improving services in the education sector. In 2007, the education ministry adopted the online system for releasing national results for primary and secondary school examinations. Previously, results would be announced in Nairobi and would take 1-2 weeks to manually trickle down to the regional, district and school headquarters for the parents to access. Today, parents and students simply log onto the Ministry of Education results website, type in their credentials and get instant feedback.\textsuperscript{75} This system similarly works over the mobile SMS platforms and has transformed the examination results dissemination processes. The online process allows candidates to instantly access their results by typing in their index numbers as they wait for the formal and hard-copies that are delivered to schools weeks later. This online service is free when accessed through the web (internet) and is charged Ksh 5 above the standard network SMS rate when accessed via mobile.

By automating the examination results process, the system has since been adopted by universities for admission.\textsuperscript{76} Previously, secondary school students would manually select their university course preferences a year earlier and subsequently wait for their results to see if they qualify for their earlier choices. Today, the students can make these choices online, immediately verify their published results and are able to confirm admission. The automated university admission system is government funded and was commissioned in 2014 to serve both public and private educational institutions in Kenya. It was first used for the September 2014 first year student intake.

eLearning has increasingly become an acceptable way of gaining knowledge. All major public universities such as University of Nairobi, Kenyatta University and Maseno Universities are now in their fifth year of providing degree courses through online platforms. Several other universities such as Multimedia University of Kenya are at various stages of fully adopting the same.\textsuperscript{77}

The technical advancements within the financial services in Kenya have perhaps had the highest productivity impact on public services. The mobile money market has transformed payment services in both the private and public sector.\textsuperscript{78} With over three quarters of mobile subscribers registered for mobile money, Kenyans today pay for transport, electricity, water, shopping and practically anything using mobile money. This has not only

\textsuperscript{73} Online Clearance System to Save Kenya Billions, http://www.nation.co.ke/business/Online-clearance-system-to-save-Kenya-billions/-/996/2301768/-/4s2trhz/-/index.html
\textsuperscript{74} IFMIS, Web-based financial budgetary control system, http://www.ifmis.go.ke/
\textsuperscript{75} National Examination Results System, http://www.education.go.ke/results/
\textsuperscript{76} Electronic University Admission System, https://kuccps.uonbi.ac.ke/
\textsuperscript{78} MPESA Services, http://www.safaricom.co.ke/personal/m-pesa/m-pesa-services-tariffs
helped improve transparency in the financial records of organisations, it has also eliminated the amount of
time and effort otherwise wasted in long queues - a common problem prior to the advent of mobile money.

According to the latest data released by the Central Bank of Kenya (CBK), transactions conducted through
mobile money platforms rose by 24.7 per cent to KSh2.37 trillion (US$23.2 billion) in 2014 compared to KSh 1.9
trillion (US$18.6 million) that was transacted through the same channel in 2013. Additionally, monthly
transactions rose to its highest level in December last year to Sh225.5 billion (US$2.2 million) translating into a
daily rate of KSh7.3 billion (US$72 million).79

Another notable and recent initiative launched in 2014 are the HUDUMA centres that are a one-stop shop for
general government services.80 Through the online portal www.eCitizen.go.ke, the centres provide support
services including application for National ID, passports, driving licences, single business permits, search and
registration of businesses. Rather than have citizens walking across multiple government ministries to access
these services, the government through the use of ICT has been able to provide a one-stop-shop through which
citizens can get multiple services. There are currently 10 centres in Nairobi with more centres expected to open
cross the country.

Positive feedback indicates that citizens using the services are finding them timely with applications completed
within a day,81 saving time spent seeking information from different public offices. For instance, citizens can
renew their driver’s license online, pay using mobile money services and print the renewal slip. The cost of
these services, however, remains the same as before with citizen paying standard rates. One emerging
challenge is that law enforcement agencies and officials are sometimes not yet aware of these online initiatives
and the system outputs (such as renewal slips) and in some instances reject them.

However, the Lands ministry has not encompassed the automation system despite the sensitivity of land
matters in Kenya. Conflicts arising from land ownership wrangles have to a great extent contributed to the
cycle of election violence witnessed every five years. Whereas the technologies, the plans and the budget to
digitise the land records exist, there seems to be no will to do so.82

6. ICT and Citizen Engagement

Pursuant to Article 118 of the Kenyan Constitution (2010) which requires all major government policies and
legislation to be subjected to public participation, several government agencies have resorted to now soliciting
public feedback through online means. Kenya citizens actively engage with government and civil organisations
through radio, TV and Internet channels. TV and FM radio stations are by far the most popular means citizens
use to express their views on contemporary issues. The stations integrate social media platforms such as
Twitter and Facebook such that messages posted by citizens online are subsequently aired on radio and TV
broadcast mediums.

79 Business Daily Africa: Kenya’s mobile money transfers up 25pc to KSh2,400bn,
   http://www.businessdailyafrica.com/Mobile-money-transactions-trillion/-/539552/2627676/-/101xwva/-/index.html
80 Huduma Centers, One-stop-Shop for Public Services, http://www.hudumakenya.go.ke/
   /440808/2583946/-/ksbqo/-/index.html
82 Land Issues, Conflicting Political will, http://www.businessdailyafrica.com/Swazuri-sues-Ngilu-for-Lands-registry-
   closure/-/539546/2308388/-/Srdg3r/-/index.html
The Kenya military’s presence in neighbouring Somalia in a bid to thrash out the Al Shabaab militia has made the country a target of terrorist attacks. The television network CNN took one of these incidents out of context and made it appear like it was a continuation of the 2007/8 post-election violence. A citizen-led Twitter campaign forced the international news network to retract an earlier news posting that had depicted a terrorist grenade attack as civil unrest across the country.  

33 CNN again made an apology to the Kenyan public after referring to the country as a “hotbed of terror” in the lead up to U.S. President Barack Obama’s visit to Kenya.

In another Twitter campaign, the Inspector General of Police was forced to withdraw an earlier directive for citizens to stop using tinted car windows – apparently as a means to combat the rising tide of terrorism. With increasing terrorist threats, the head of the police service issued a decree for Kenyans to remove the dark-tints or face arrest. A Twitter resistance campaign (#KOT, #TintedWindows) was triggered that eventually led to a court case, with the High Court overruling the decree.

Twitter has proved to be popular even for government officers who use it regularly to inform the public on emergencies, with the President’s @Ukenyatta, the Interior/Security Minister @Interior KE, the Military spokesperson @MajorEChirchir, and a popular Chief from Nakuru, @ChiefKariuki, being some of the most popular Twitter handles. Whereas government ministries have websites and Facebook presence, most of the online data on these platforms is static and not as popular as Twitter which is perceived as more interactive.

Similarly, non-governmental organisations have adopted Twitter to provide timely information to citizens. For instance, the Kenya Red Cross uses @KenyaRedCross to issue notices on emergencies, while @Ma3Route has proved to be an indispensable tool for navigating through the difficult Nairobi traffic and for reporting road incidents such as bad driving and accidents.

Major corporates also extensively use Twitter as their preferred point of customer services, with the mobile provider Safaricom (@Safaricom_Care), the national power utility provider @KenyaPower, the national water service provider @NairobiWater and the national airline @KenyaAirways being among the most popular. These Twitter accounts have become valuable interaction contact points particularly for the growing Kenyan middle class that have access to internet, vehicles, electricity, healthcare and piped water.

83 CNN retracts offending publicity, http://www.nation.co.ke/lifestyle/smartcompany/Social-sites-change-how-media-operates-/1226/1382880/-/iv0h34/-/index.html
85 Tinted Windows Twitter Campaign, #KOT, #tintedwindows, https://twitter.com/search?f=realtime&q=%23KOT%2C%20%23tintedwindows&src=typd
87 @Ukenyatta, https://twitter.com/Ukenyatta
88 @InteriorKE, https://twitter.com/InteriorKE
89 @MajorEChirchir, https://twitter.com/MajorEChirchir
90 @ChiefKariuki, https://twitter.com/ChiefKariuki
91 Ma3Route is a mobile, web and SMS platform that helps citizens to share and access info about transport and current traffic conditions for their city, https://twitter.com/ma3route
Table 2: Some of the popular Twitter accounts as at September 2015

<table>
<thead>
<tr>
<th>Category</th>
<th>Twitter Handle</th>
<th>No. Of Followers in thousands</th>
<th>Date Created</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government</td>
<td>@Ukenyatta</td>
<td>900</td>
<td>Aug 2010</td>
</tr>
<tr>
<td></td>
<td>@InteriorKE</td>
<td>140</td>
<td>unlisted</td>
</tr>
<tr>
<td>Corporate</td>
<td>@Safaricom_Care</td>
<td>350</td>
<td>June 2011</td>
</tr>
<tr>
<td></td>
<td>@KenyaPower (formerly @Kenya_Power)</td>
<td>13</td>
<td>May 2010</td>
</tr>
<tr>
<td></td>
<td>@KenyaAirways</td>
<td>300</td>
<td>Dec 2008</td>
</tr>
<tr>
<td></td>
<td>@NairobiWater</td>
<td>5</td>
<td>May 2011</td>
</tr>
<tr>
<td>Social</td>
<td>@Ma3Route</td>
<td>280</td>
<td>May 2012</td>
</tr>
<tr>
<td></td>
<td>@KenyaRedCross</td>
<td>400</td>
<td>Apr 2010</td>
</tr>
<tr>
<td>Media</td>
<td>@DailyNation</td>
<td>700</td>
<td>Mar 2009</td>
</tr>
<tr>
<td></td>
<td>@StandardKenya</td>
<td>500</td>
<td>July 2009</td>
</tr>
<tr>
<td></td>
<td>@Kiss100Kenya</td>
<td>67</td>
<td>unlisted</td>
</tr>
<tr>
<td></td>
<td>@NationFMKe</td>
<td>140</td>
<td>June 2009</td>
</tr>
</tbody>
</table>

However, there are some challenges emerging from the wide adoption of online social media. Some citizens continue to incite and propagate hate speech online. This has led the government to pass a law to address this - National Cohesion Act, 2008.\(^92\) Section 13 of the 2008 Act specifically defines hate speech as follows:

1. A person who—
   (a) uses threatening, abusive or insulting words or behavior, or displays any written material; (b) publishes or distributes written material; (c) presents or directs the performance the public performance of a play; (d) distributes, shows or plays, a recording of visual images; or (e) provides, produces or directs a programme, which is threatening, abusive or insulting or involves the use of threatening, abusive or insulting words or behavior commits an offence if such person intends thereby to stir up ethnic hatred, or having regard to all the circumstances, ethnic hatred is likely to be stirred up.

In this section, “ethnic hatred” is defined as hatred against a group of persons defined by reference to colour, race, nationality (including citizenship) or ethnic or national origins. Any person who commits hate speech shall be liable to a fine not exceeding one million shillings (US$ 9,700) or to imprisonment for a term not exceeding three years or to both.

A number of bloggers have been arrested and tasked to account for their online content. Cases include that of Moses Kuria, formerly a pro-government activist and currently Member of Parliament accused of hate speech.\(^93\) Another blogger, Alan Wadi, has been arrested, prosecuted and jailed for two years because his tweets were considered offensive and undermined the authority of the President.\(^94\) Robert Alai, a well-known blogger, has a similar pending case on charges of undermining the authority of a public officer (the president)

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contrary to the provisions of Section 132 of the Penal Code.  

6. Open Data

During the single-party days of Kenya’s post-colonial governments, there were deliberate attempts to control information flow as a way to maintain political control. Open data, access to information and similar ideals were considered contrary to the Official Secrets Act, 1968. Specifically, Clause (7) states:

Any person who—
(a) allows any other person to have possession of any official document issued for his use alone, or communicates to any other person any code word so issued; or
(b) without lawful authority or excuse, has in his possession any official document or code word issued for the use alone of some person other than himself; or
(c) on obtaining possession of any official document by finding or otherwise neglects or fails to restore it to the person or authority by whom or for whose use it was issued or to a police officer, shall be guilty of an offence and liable to imprisonment for a term not exceeding five years.

Kenyan ICT legal scholar Michael Murungi notes that the Act has noble intentions of preserving state secrets and state security. However, he says that most public servants have instead used it to conceal public information that was otherwise not exempted from public disclosure. However, initiatives to digitise government records threaten the concealment of information.

Ideally, the common citizen data should be centralised in a shared government infrastructure and database, from which each ministry would then be able to query, extract and utilise according to its needs or perspective. Each government ministry, however, continued to resist attempts for the shared data services approach due to various reasons that include budgetary turf wars, bureaucracy and lack of digitised content. Each ministry fights to retain its ICT related infrastructure and data since this comes with corresponding budgetary allocations.

In the absence of a legal framework like the Access to Information Act that allows citizens to demand and access public information from government, the nature and type of information shared remains “supplier-driven” as opposed to citizen- or demand-driven. Furthermore, the volume and format of the data shared by government bodies is often too detailed and not tailored for general public consumption. Examples of data in such formats include the annual budgetary plans for both National and County levels of government. This has required the media and NGOs to fill the gap by analysing and filtering out public interest issues that would otherwise pass unnoticed.

This is why despite a well-publicised launch of the Open Data portal in 2012, very little support is forthcoming

from the ministries in terms of populating the portal with more data beyond what is already in the public domain. According to the Opendata.go.ke website, as of May 2015, there were close to 500 datasets that had been uploaded to the site. The site had received nearly 300 requests for data while data hosted on the portal had been downloaded over half a million times. The portal reports to have attracted over 2.5 million views since its 2011 launch.

This reflects a slow uptake of the Open Data concept in Kenya. Some of the challenges arise because most government ministries outside the ICT ministry do not fully appreciate the power or potential of releasing useful public data online. They therefore have no incentive let alone a formal mechanism for submitting their data. Another challenge voiced by the software and application developer community is that most of the datasets are not in a digital format (e.g. csv) that could be easily manipulated to create new knowledge by way of meshing old data into new information. Instead, these are released as scanned documents, sometimes with incomplete information.100

Finally, the fact that the project is funded externally by the World Bank101 and the data is hosted outside Kenya (in the United States) has raised concerns about the priority, security and sustainability of the project. Some of the concerns raised include the absence of legislative support such as the Access to Information Act, the prevalence of the manual system of government procedures as most data remains buried in paper-based documents, and citizens not sufficiently demanding information, which deflates the move towards open governance.102

Critics of the portal observe that the quality of the data on the Kenyan Open Data portal was not sufficient to generate useful insights.103 Based on interviewed samples of Kenyan population, it was found that the bulk of the information the citizens required such as data on health, water, educational information was actually not online. Furthermore, whatever was online was actually not customised for general consumption, creating the need for infomediaries – companies such as Code4Kenya104 who would create applications to process and serve the data through better visual, geo-location and other analytical tools.

However, it is hoped that this will change following the 2014 commissioning of the newly restructured ICT Authority whose mandate is to oversee all ICT matters across government ministries. The restructured ICT Authority is a move by government to further drive and deepen the use of ICT within and beyond government. Furthermore the proposed Access to Information Bill, 2012 is expected to demystify and replace the Official Secrets Act, 1968.105 Specifically, Clause 4 section (1), (2) & (3) of the Access to Information Bill (2012) state as follows:

(1) Subject to this Act and any other law, every citizen has the right of access to information held by —
(a) the State; and

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(b) another person and where that information is required for the exercise or protection of any right or fundamental freedom.

(2) Subject to this Act, every citizen’s right to access information is not affected by—
(a) any reason the person gives for seeking access; or
(b) the public entity’s belief as to what are his reasons for seeking access.

(3) Access to information of a public entity or private body shall be provided expeditiously and inexpensively.

If enacted, the Bill will therefore provide a legal mechanism within which government officials can willingly or otherwise be forced to contribute data to the open data portal.

7. Conclusions and Recommendations

The evolution of the Kenya Communications Act 1998 to the current Kenya Information Communication Amendment Act 2013 has greatly facilitated the use of ICT in governance, service delivery, transparency and accountability while accommodating topical issues such as cybercrime, electronic transactions, broadcasting and universal service provision. However, the piecemeal amendments do not adequately cover emerging issues with the depth and rigour that they deserve. For example, in developed economies where ICT is more mature, substantive legislation in the form of Cybercrime Acts, e-Transaction Acts, Data Protection Acts and Access to Information Acts have provided more depth to the issues that the KCA Amendment Act 2013 simply touches on.

The delay in passing of both the Data Protection and the Access to Information bills has created a dangerous situation where the Kenya government is rapidly digitising its operations, without the necessary safeguards or protection for sensitive citizens’ data that will then become vulnerable to abuse.

Whereas the open consultation approach is now tradition in the ICT sector, it is not yet institutionalised. This means that even though the government and regulatory agencies consult other stakeholders and get feedback, the mechanisms of determining what is accepted or rejected from these consultations remains unknown and the prerogative of the government. It will be helpful to have a formal and publicly available methodology to explain to non-government stakeholders the rationale for accepting or rejecting their proposals.

Meanwhile, despite being a leader in the proliferation of ICT, citizens’ adoption of available platforms is low. On the other hand, the capacity of public officials to leverage ICT in service delivery and citizen participation is low.

To enhance the governance and democratic space enabled by the progressive adoption of ICT in Kenya, the following recommendations should be considered by the government:

i. Fast track the enactment of the Access to Information Act and the Data Protection Act.
ii. Prioritise the implementation of safeguards to protect citizens’ data and sensitive information.
iii. Provide a framework for public participation in policy-making and decision-making to ensure public input is actually considered and often adopted.
iv. Provide training and capacity building for government officials in the use and dissemination of online information and data to better implement Open Data.
v. Institutionalise the open consultation approach and allow for the participation of all stakeholders in addition to publicising the mechanisms and methodology used in the decision making process.

vi. The gap in citizens’ awareness of existing legal frameworks and skills to utilise ICT for governance platforms should be addressed through training and campaigns.

vii. As the government strives to promote national unity and tackle the emerging threat of terrorism, it should avoid contentious amendments to laws and practices that claw back democratic gains and curtail the rights to privacy, expression and free press.