

# The Efficacy of E-Governance Policy and Practice in Uganda: A Perspective Review

David Mwesigwa (Corresponding author)

Faculty of Management Sciences, Lira University, PO box 1035, Lira, Uganda

Tel: +256-703051356 E-mail: [dmwesigwa@lirauni.ac.ug](mailto:dmwesigwa@lirauni.ac.ug)

Alfred Acanga<sup>1</sup>, Alex Chono-Oryang<sup>2</sup> & Alex Oboi<sup>3</sup>

Faculty of Management Sciences, Lira University, Box 1035, Lira, Uganda

E-mail: <sup>1</sup>[refredo@gmail.com](mailto:refredo@gmail.com), <sup>2</sup>[oryangalex@gmail.com](mailto:oryangalex@gmail.com), <sup>3</sup>[oboialex7@gmail.com](mailto:oboialex7@gmail.com)

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## Abstract

The Arab Spring foregrounded a new reality that a digitally disruptive and highly networked world presents a wicked governance problem for governments seeking to enact effective governance systems in an era where citizen's unconventional digital mobilization can unseat repressive and unresponsive governments. This reinforces the need for spontaneous, contextually grounded and participatory e-governance mechanisms given their normative and transformative capacity to shift beliefs and norms of policy makers, enhance quality of policy outputs, elicit public confidence and heighten government's legitimacy. In this paper, the authors assess the efficacy of Uganda's e-governance policy, praxis and challenges as part of the broader e-governance discourse in the global south. The outcomes reveal that Uganda has instituted excellent legal, institutional and infrastructural e-governance mechanisms, but the conspicuous absence of political will, by an increasingly vulnerable political elite class, hampers sustainability of effective e-governance. Measures like rash and selective application of laws, introduction of new repressive laws, coercive means including violence and arbitrary arrest for dissenting opinions, increased state sponsored online and offline surveillance, internet shutdowns, network disruptions, online harassment, remote intrusion of civil society websites, and censorship, only further shrink civic space ultimately knocking both trust and legitimacy. Therefore, we propose that government prioritizes expansion of civic space to allow favourably reflexive and participatory citizen engagement as a pathway to enhanced quality of policy outputs and governance as a means to achieve its Vision 2040 by way of digital infrastructure, connectivity, legal and institutional frameworks and media freedom are dependent on political will.

**Keywords:** e-governance, infrastructure, connectivity, institutional frameworks, political will

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## 1. Introduction

The Arab Spring foregrounded a new reality that a digitally disruptive and highly networked world presents a wicked governance problem for governments seeking to enact effective governance systems in an era where citizen's unconventional digital mobilization can unseat repressive and unresponsive governments. This underlines the need for reflexive, contextually grounded and hands-on e-governance mechanisms given their normative and transformative capacity to swing beliefs and norms of policy makers, enhance the quality of policy outcomes, stimulate public confidence and reinforce government's legitimacy. This paper seeks to assess the efficacy of Uganda's e-governance policy, its praxis and emerging challenges as part of the comprehensive e-governance discourse in the less-developing nations.

### 1.1 Background to study

A world that is digitally disruptive, highly networked and characterized by a rapidity of change not witnessed before, in many ways acts as a wicked problem for most governments as it presents vast opportunities and challenges to them as they seek to enact effective and relevant governance systems (Minassians and Roy, 2020). While the 2001-2010 decade amplified the threat of cross border terrorism, the Arab Spring, the toppling of the government in Sudan in 2018-19 and COVID-19 pandemic foregrounded the significance of social media in contemporary participatory governance (Bajwa, Massod and Nawaz, 2021). The Arab Spring was a vital reminder to repressive and unresponsive governments of citizens' capacity to seriously disrupt and unseat even seemingly well entrenched governments possessing the most sophisticated arsenals. Starting from Tunisia, "well educated and tech-savvy" youth showcased their ability to effectively mobilize themselves "using new communication tools to evade the repressive apparatus of the state" (Durac, 2013:175). In the face of global socio-economic paralysis occasioned by the rapid spread of the novel COVID-19 virus, social media played a 'crucial role in disseminating health information and tackling infodemics and misinformation' (Tsao et al,

2021:1) to contain the pandemic. Therefore, the potential of social media to enhance the efficacy of e-governance can't be overlooked; it can be leveraged to rally the support of the masses for a greater good either through promoting the agenda of the government or to unseat a government that, to its citizens, is no longer trustworthy, legitimate and responsive to their demands.

While the need for effective e-governance systems in promotion of citizen-centric governance can't be overlooked, there are certain barriers that need curtail the attainment of the same. The Organisation for Economic Co-operation and Development [OECD] (2003:10) observes that "barriers to greater online citizen engagement in policy making are cultural, organizational and constitutional not technological". Olawale (2009:37) avers that "basic challenges of survival", especially in low-income nations, curtails their desire and ability to participate in e-governance. This is expounded by Awortwi and Nuvunga (2018:1) who state that entrenched network of state patronage not only creates an elite class, but marginalizes the majority by subjecting them to economic vulnerability and inhibiting their ability to participate in e-governance. They argue that citizen engagement is further hampered by weak citizen mobilization strategies, public information disclosure published in English to a largely illiterate population, and an institutionalised culture of "submissiveness" created by incessant state brutality for dissent. For Olawale (Ibid), the sustainability of effective engagement of citizens hinges on two conditions; effective participation of citizens in the agenda setting, analysis, formulation, implementation and monitoring stages of the policy making cycle as the sufficient one and unrestricted access to necessary infrastructure to participate in e-governance as the necessary one. The consequence of effective e-governance is well articulated by Moodie, Salenius and Kull (2021) who postulate that e-governance based on critical reflexivity, contextually grounded and participatory is normative and transformative as it "has the potential to alter the beliefs and norms of policy makers and practitioners", enhance the quality of policy, elicit public confidence in government and legitimize it. This is consistent with Amosun et al (2021) who argue that citizens' perception of their government is directly linked to their perception of government's performance capacity, political will, trustworthiness and transparency.

Without dismissing any of the claims above, we seek to interrogate the efficacy of E-governance policy, praxis, challenges within the context of Uganda as part of the broader e-governance discourse in the global south and suggest pragmatic pathways to deepen citizen engagement for effective e-governance. We seek to do so by assessing the following; (a) infrastructure and connectivity, (b) legal and institutional frameworks and (c) political will and media freedom. While these are in no way conclusive, they provide an apt scope to analyse the demand and supply sides of e-governance terrain in Uganda.

## **2. The e-governance policy and practice in Uganda**

### *2.1 Infrastructure and connectivity*

With the implementation of the National Data Transmission Backbone Infrastructure and e-Government Infrastructure (NBI/EGI), it was envisaged that by the end of the project, "the cumulative span of the NBI shall be over 3,156km across 52 Districts and connecting over 1,300 Government Offices ensure all Government services are online" (NITA-U website). The latest consolidated report from the Auditor General (2022:67) however notes that poor synchronization of budgets by Ministries Departments and Agencies (MDAs) and NITA-U is leading to "domestic arrears" which if unresolved might lead to "difficulties in the provision and extension of e-government services throughout the country". There have also been reports of corruption and loss of public funds due to in-house fighting among civil servants and politicians for lucrative software deals as the government seeks to enhance the efficacy of the NBI/EGI project (Musisi, 2022a)

The private sector has also been instrumental in scaffolding the NBI/EGI fibre optic backbone by also laying their own fibre optic cables. A market report for Quarter 4 2021 by the Uganda Communications Commission (2022:23) shows that there were "1.3 million new devices" connected onto the national network in the last quarter of 2021. It is also worth noting that most of these new gadgets connected to the national grid were smart phones potentially creating more room for civic engagement online. This growth in phone connectivity augments growth across similar domains as seen in the figure.

The growth in infrastructure is reflected in nominal growth in base stations, tower sites and last mile voice. While this core infrastructure that supported engagement of citizens through voice calls and in part online engagement, the quality of access to internet was still low. As many parts of the world begin to roll out 5G networks to their citizens, a large proportion of Ugandans still lack access to 4G network (only 17% can access 4G). To compound matters, the range of this network is still limited to Kampala and most of the regional cities. While there is growth in the usage of smart phones, most people still access 3G (65%) network that is of a lower quality than 4G (Gillwald et al, 2019). Kenya on the other hand has got more than 60% of its population accessing 3G and 4G internet (Communications Authority of Kenya, 2022). However, the UCC (2022) reports that there was a 7% growth in broadband traffic in the last quarter of 2021 which gives optimism to future uptake of e-governance. Gillwald et al, (2019:22) note that, "the biggest challenge to Internet use on the continent is affordability, specifically the cost of Internet-enabled devices." Economic vulnerability, especially for the

economically marginalized, is a significant factor with regard to access to internet services. In light of the recent debates about internet access being a human right, the exclusion of some from the global network becomes a matter of both national and international interest (Reglitz, 2019). On the other hand, the nature of the liberalized market in Uganda typified by cut-throat price wars, has seen Ugandan users of the internet charged one of the least prices on the continent (\$4.18 inclusive of the social media tax). However, compared to Rwanda (\$2.35), which charges one of the least prices for internet, Ugandans still face high costs to access internet (Ibid). The growth in handheld smart phones cited by the UCC 2021 Q4 report (UCC 2022) is undergirded by promotion strategies by mobile phone operators that subsidize costs for phones and the ongoing updating of SIM cards to make them 4G compatible.

The inclination of predominantly rural-based populations to meaningfully engage in e-governance is hinged upon the proportion of their household budget dedicated to digital engagement. Recent measures by the government to institute an Over-the-Top Tax (OTT) serve to limit the disposable income of households dedicated to e-governance engagement that is critical to realization of the NBI/EGI objectives. Davis et al (2019) report that e-governance bottlenecks in the local government setting can be accounted for by limited technical capacity by staff to use and maintain ICT equipment, under-funding of agency ICT budgets that hampers procurement of cutting-edge equipment, absence of tailor-made software packages for effective service delivery, disjointed ICT initiative and attitudinal deficiencies of personnel especially low commitment and low personal initiative.

## *2.2 Legal and institutional frameworks*

In 2003, the New Partnerships for African Development [NEPAD] (2003) launched an ambitious and comprehensive development strategy that was ICT based. Therein, nations were to align their domestic strategies to two broad themes; ICT infrastructure Development (ICT Development) and ICT as a driver for national development (ICT for Development). Uganda is among the few nations in Africa that have enacted Freedom of Information legislation and aligned its domestic policies with the NEPAD strategy. The Uganda Vision 2040 cites ICT as ‘an industry with enormous opportunities that can be exploited to transform the economy and people’s lives through job creation, accelerated economic growth and significantly increased productivity’ (cited in Uganda National ICT policy, 2014:4).

The overarching goal of the Access to Information Act (2015:5) is ‘to promote an efficient, effective, transparent and accountable government’ as enshrined in Article 41 of the 1995 constitution. The National Information Technology Authority Act, Uganda (2009) led to the creation of NITA-U and the implementation of the National Data Transmission Backbone Infrastructure and e-Government Infrastructure (NBI/EGI) project in 2005/06 financial year. The NBI/EGI project was envisaged to expand access of citizens to government services as they would now be accessible online (NITA-U website). The Computer Misuse Act (2011) was enacted to regulate the electronic space in light of global uptake of social media, its inherent risks especially considering that it was the time of the Arab Spring and coincidentally a year after the scrapping of the notorious law on sedition from the penal code. Uganda has also enacted the Uganda Data Protection Act (2019:1) whose goal is to ‘protect the privacy of the individual and of personal data by regulating the collection and processing of personal information’.

These have been buttressed by institutional frameworks such as the Ministry of Information and National Guidance, National Identification and Registration Authority (registration of persons Act 2015), the Uganda Media Centre and the Uganda Communications Commission (Uganda Communications Act 2013). Uganda has also instituted measures to curb cyber security threats by installing CCTV cameras in strategic areas, mandatory SIM registration of phone users, pegging the National Identity Card to access of critical services and other biometric based civil registration measures. Uganda’s robust legal provisions has earned it an enviable status as model for media freedom in the Great Lakes region (Freedom House, 2017). However, some commentators have cited the potential of these very measures to be abused by the state “to profile, monitor, track and arrest government critics, journalists, protesters and opposition leaders.” (CIPESSA, 2022a:36). These intrusive measures raise a number of human rights concerns with respect to “hacking, privacy violations, security concerns, and legal compliance, especially with respect to consent and how data is obtained” (Allen, 2020). The disruptive nature of social media to a hitherto information monopoly used by political elite to entrench themselves in power has pushed many governments, including that in Uganda, to adopt sophisticated online surveillance and intrusive mechanisms to maintain a delicate status quo (Schetman and Bing, 2022) which might be counterproductive to effective engagement of citizens and the media in e-governance. ESID (2016) and Bukenya and Muhumuza (2017:1) note a political shift from a dominant to a “vulnerable dominant political settlement” with little interest in institution of effective Public Sector Reforms, but only appear to do so a gateway to access finances to further promote their political interests at the expense on deep citizen engagement in reform.

Despite being lauded as a beacon of media freedom in the Great Lakes region (Freedom House, 2017), there

is evidence of a long drawn adversarial relationship between successive post-independence governments and the media in Uganda (Sobel and McIntyre, 2020; Chibita and Fourie, 2007). While many reasons have been advanced for the jittery state-media relationship, ‘lack of access to basic means of participation’ (Chibita and Fourie, 2007:02) and the proclivity of private media owners to ‘self-censor and ensure that their outlets don’t offend the government’ (Sobel and McIntyre, 2020:650) stand out. This concurs with Namusoke (2018) who avers that rash and selective application of legal provisions, introduction of new repressive laws, coercive means including violence and arbitrary arrest of dissenting persons eventually crowd-out citizen’s engagement in e-governance. She also cites the Uganda Communications Commission as being complicit in the stifling of media freedoms in Uganda.

### *2.3 Political will and media freedom*

The aforementioned actions by state actors especially on journalists covering activities of the opposition raise critical questions about the political will of the government to creating a safe space that elicits constructive participation of its citizens in e-governance. Whilst the legal provisions are excellent, praxis is woeful presenting a problematic scenario that demands further inquest. A study by Waluya and Nassanga (2020:5) focused on election related media freedom found that “journalists face more safety and security risks during elections particularly perpetuated by state security agencies ... which include: state harassment and intimidation, arrest of those considered critical to the state, and denial of access to important information”. They further note that this prompts journalists to engage in “self-censorship, thereby giving biased or limited information to the public.” Elau (2019:1) also cites instances where legal provisions are used to thwart civic rights especially the “Public Order Management Act which ... has been enforced by the police against any form of gathering for political or other public protests.” These efforts are self-defeating in the quest to have accountable and participatory governance systems.

The findings of the study by Olawale (2009) appear to be convinced on the efficacy of e-governance as a precursor to national security. This is especially maintained in the claim “the dismantling of the secret state and the democratization of the concept of national security” are critical to robust and sustainable e-governance systems. The justification of ‘national security’ or ‘classified information’ is usually used to deny citizens of public information. For the case of Uganda, this will be further complicated by Section 24 of the Computer Misuse Amendment Act (2022) which might be used to gag journalists in the name of sharing unsolicited information. Journalists who have acted as whistle blowers have faced severe reprimand when they expose abuse of public funds contrary to provisions in the 2010 whistle blowers Act (Musisi 2022b) and it would be more complicated given the provision in the just assented to Computer Misuse Act 2022. Who determines whether whistle blowing is unsolicited for information and what if the information is actually in the interest of the hitherto ignorant public to hold the ruling elite accountable?

The paradoxical nature of the state-media relationship in Uganda is summarized by Sobel and McIntyre (2020:649) who conclude that, the “press-freedom landscape in Uganda is one of unique contradictions”. The Collaboration on International ICT Policy for East and Southern Africa [CIPESA] (2022b) cite the Computer Misuse Amendment Act (2022) as not only re-enactment of “draconian laws”, but a ruse by government on account of its inability to address contradictions and silences presented by Sections 24 and 25 of the Computer Misuse Act 2011 albeit in a participatory manner. A study by Dube, Simiyu and Ilori (2020:7), of four African states including Uganda, revealed there has been “increased state sponsored online and offline surveillance, internet shutdowns, network disruptions, online harassment, remote intrusion of civil society websites, censorship and other measures that seek to further shrink the civic space”. Civic space that is free of coercive measures allows for citizens to constructively engage in the full cycle of public policy management thereby transforming the quality of governance in the long run. The findings by Dube et al (ibid) might lend credence to results of a 2017 survey (Gillwald et al, 2019) that revealed that 89% of Ugandan social media users are afraid of openly sharing their political opinions online and prefer to engage in gossip (92%). If Ugandans are to be effectively engaged in e-governance as envisaged by the NBI/EGI project, then they have to trust that their participation won’t attract state reprisals especially if that participation is within the ambit of the law. The same report (Ibid:24) notes that, “internet surveillance and online freedom are not challenges in Kenya, where only 44 percent stated that they do not feel free to express their opinions on political matters on the Internet, while Tanzania (31%) has the lowest number of social media users who do not feel free to express themselves”.

While the government of Uganda runs a Media Centre, under the Ministry of Information and National Guidance, its Twitter handle (@UgandaMediaCent) has been active since 2011, but had garnered only 497,000 followers as the end of September 2022 representing less than 2% of the national population (UBoS, 2016). This apathetic response to the official information outlet speaks volumes to the both the trust citizens have in their government and the reach of official information.

### 3. Conclusion

Drawing from the literature, we set out to interrogate the efficacy of the e-governance policy in Uganda by determining whether organizational, cultural, constitutional, economic vulnerability, mobilization strategies, infrastructural, and political will act as barriers to effective participation of citizens in e-governance. By implication, a participatory e-governance system is expected to be reflexive and self-reforming thereby enhancing normative and transformative shifts in norms and behaviour of policy actors.

The results reveal that Uganda has instituted robust constitutional and institutional frameworks to guide the implementation of e-governance through the NBI/EGI project. This has been propped up by installation of adequate infrastructure by both state and non-state actors with corresponding increase in number of gadgets being used and broadband access. However, the existence of excellent infrastructural and legislative mechanisms is jeopardized by a conspicuous absence of political will showcased by documented cases of increased state-sponsored online and offline surveillance, internet shutdowns, network disruptions, online harassment, remote intrusion of civil society websites, censorship and other measures that seek to further shrink the civic space, low quality of internet access (4G access), economic vulnerability, a culture of submissiveness enforced by the coercive state machinery, funding gaps, attitudinal and competency challenges by staff manning public officers, poor coordination among government departments leading to financial loss and absence of tailor-made software to deliver contextually relevant services to the citizens. These severely limit the participation of citizens in public policy management, the quality of governance and ultimately the level of development.

### 4. Way forward

In light of the foregone discussion, we advocate the following as conduits for effective and sustainable citizen engagement in Uganda.

- a) The government needs to take the lead role in demonstrating good will towards the NBI/EGI project goals given that absenteeism (or limited presence) of political will is likely to entrench a spirit of impunity as well as undermining accountability to the public hence, affecting trust and legitimacy. According to Awortwi and Nuvunga (2018), this calls for both the government and the civil society to engage in constructive dialogue, as a starting point, aimed to enhance citizens' buy-in and also usher in a culture of a citizen-centric discourse on Public Policy Management. By extension, the National NGO Forum should not be seen as only an enforcer of government agenda, but also a facilitator of government-civil society dialogue to enrich the quality of legislation and e-governance. This can deepen public trust and legitimacy of the government in the eyes of the public as the national Parliament shrinks its grip on denigrating the civil society in interrogation of provisions of some of the rich legislation that are against Human Rights and civic freedoms necessary for effective participation in e-governance.
- b) While the NBI/EGI project augmented by private sector support shows a lot of promise in expanding the ICT infrastructure in the country, there is need to enhance the affordability of quality and high-speed internet by majority of the population as echoed in a study by Gillwald et al, (2019). As a consequence, retrogressive policies like the OTP tax need to be reconsidered as it increases costs of both access and initiatives to enhance the levels of per capita household income. This does not repudiate government initiatives to upskill youth with the aim of enhancing their employability supported with increased budget allocations.
- c) There is also a need for deliberate capacity building of citizens on ICT to create a large pool of skilled professionals. While sensitisation and retooling of government staff is critical to the success of the ENI/EGI project, the findings of a study conducted by Farrell (2007:5) reveal the need by the Government to benchmark existing and successful projects such as the Regional ICT Training and Research Centre in Rwanda that "provides ICT training for government staff, teachers, school leavers, and staff in institutions of higher learning".
- d) There is also a need to ring-fencing of funds meant to procure appropriate ICT gadgets for public offices and streamlining of ICT budgets is also an urgent need given as cited by the Auditor General. In spite of everything, ESID (2016:2) notes the Public Sector Coordination role that was streamlined in 2003 and placed under the docket of the Office of the Prime Minister, is now replicated and "shared among three other institutions: the Office of the President; the Ministry of Finance, Planning and Economic Development (MoFPED) and the National Planning Authority (NPA)." This deliberate duplication might be politically convenient, but it crowds out desirable funds for investment in expansion of 4G access and ENI/EGI software purchases. As such, the proposal to ring-fence funds can evade duplication of duties, domestic arrears and eradicate syndicated corruption tendencies.

### References

Albert, I. O. (2009). Whose E-Governance?: A Critique of Online Citizen Engagement In Africa. International

- Journal of e-Business and e-Government Studies, 1(1), 27-40.
- Allen, K. (2020) Future if Facial recognition technology in Africa: The speed with which digital innovation is progressing threatens to outpace the law and lawmakers. Available at <https://issafrica.org/iss-today/future-of-facial-recognition-technology-in-africa> Accessed October 8, 2022
- Amosun, T. S., Chu, J., Rufai, O. H., Muhideen, S., Shahani, R., and Gonlepa, M. K. (2021). Does e-government help shape citizens' engagement during the COVID-19 crisis? A study of mediational effects of how citizens perceive the government. Online Information Review.
- Awortwi, N. and Nuvunga, A. (2018) Making Information Disclosure in Extractive Governance Count for Accountability in Mozambique, October: Centro De Integridade Publica (CIP) Available at <https://opendocs.ids.ac.uk/opendocs/handle/20.500.12413/14125>
- Bukenya, B. and Muhumuza, W. (2017). The Politics of Core Sector Public Reform in Uganda: Behind the Facade. ESID Working Paper No. 85, Available at SSRN: <https://ssrn.com/abstract=2954595> or <http://dx.doi.org/10.2139/ssrn.2954595>
- Chibita, M., and Fourie, P. J. (2007). A socio-history of the media and participation in Uganda. Communication, 33(1), 1–25. <https://doi.org/10.1080/02500160701398938>
- Collaboration on International ICT Policy for East and Southern Africa (2022a) State of Internet Freedom in Africa 2022: The rise of biometric Surveillance. Available at <https://cipesa.org/2022/09/state-of-internet-freedom-in-africa-2022-the-rise-of-biometric-surveillance/> Accessed on 08th October 2022
- Collaboration on International ICT Policy for East and Southern Africa (2022b): Uganda passe Regressive Law on “Misuse of Social Media” and Hate speech. Available at <https://cipesa.org/2022/09/uganda-passes-regressive-law-on-misuse-of-social-media-and-hate-speech/>. Accessed on 04th October 2022
- Communications Authority of Kenya (2022) Third Quarter Sector Statistics Report for the Financial Year 2021/2022. Available at <https://www.ca.go.ke/wp-content/uploads/2022/06/Sector-Statistics-Report-Q3-2021-2022.pdf> Accessed on 08th October 2022
- Computer Misuse Act, 2011 (Act 2 of 2011). <https://media.ulii.org/files/legislation/akn-ug-act-2011-2-eng-2011-02-14.pdf>
- Data Protection and Privacy Act, 2019 (Act 9 of 2019) <https://ulii.org/ug/act/2019/9/eng@2019-05-03>
- Davis, M., Ali, M., Benard, E., Kassim, M., and Gilibrays, O. G. (2019). ICT integration challenges into service delivery in the Ugandan Ministry of Local Government: a literature review. American Journal of Online and Distance Learning, 1(1), 1 - 10. <https://doi.org/10.47672/ajodl.395>
- Dube, H., Simiyu, M. A., and Ilori, T. (2020). Civil society in the digital age in Africa: identifying threats and mounting pushbacks. Available at <https://www.africaportal.org/publications/civil-society-digital-age-africa-identifying-threats-and-mounting-pushbacks/>
- Effective States and Inclusive Development (2016) Public sector reform in Uganda: behind the façade. Available at <https://www.effective-states.org/public-sector-reform-in-uganda-behind-the-facade/> Accessed on the 15th October 2022
- Elau, E. (2019). The Public Order Management Act: The Demise of Freedom of Assembly in Uganda. Available at SSRN: <https://ssrn.com/abstract=3425140> or <http://dx.doi.org/10.2139/ssrn.3425140>
- Farrell, G. (2007). ICT in Education in Rwanda. Survey of ICD and Education in Africa: Rwanda Country Report. Available at <https://documents1.worldbank.org/curated/en/226441468307727567/pdf/463700BRI0Box31da010ICTed0SUrvey111.pdf>
- Gillwald, A., Mothobi, O., Ndiwalana, A. and Tusubira, T. (2019) THE STATE OF ICT IN UGANDA. Policy Paper Series No. 5 After Access: Paper No. 8. Available at [https://researchictafrica.net/2019\\_after-access-the-state-of-ict-in-uganda/](https://researchictafrica.net/2019_after-access-the-state-of-ict-in-uganda/) Accessed on 4th October 2022
- Guma, P. K., and Monstadt, J. (2021). Smart city making? The spread of ICT-driven plans and infrastructures in Nairobi. Urban Geography, 42(3), 360-381. <https://doi.org/10.1080/02723638.2020.1715050>
- Minassians, H.P., Roy, R.K. (2020). Applying Governing Networks and Multilevel Scales to Address Wicked Problems. In: Bianchi, C., Luna-Reyes, L., Rich, E. (eds) Enabling Collaborative Governance through Systems Modeling Methods. System Dynamics for Performance Management and Governance, vol 4. Springer, Cham. [https://doi.org/10.1007/978-3-030-42970-6\\_1](https://doi.org/10.1007/978-3-030-42970-6_1)
- Moodie, J. R., Salenius, V., and Kull, M. (2021). From impact assessments towards proactive citizen engagement in EU cohesion policy. Regional Science Policy and Practice, 1– 20. <https://doi.org/10.1111/rsp3.12473>
- Musisi, F. (2022a) Billions of shillings lost as top govt officials jostle for software deals. Available at <https://www.monitor.co.ug/uganda/special-reports/billions-of-shillings-lost-as-top-govt-officials-jostle-for-software-deals-3733328> Accessed on 9th October 2022
- Musisi, F. (2022b) Police want Parliament staff punished over car deal leak. Available at <https://www.monitor.co.ug/uganda/news/national/police-want-parliament-staff-punished-over-car-deal-leak->

3889306 Accessed on 13th October 2022

Namusoke, E. (2018) Uganda: Press Freedom Attacked by State Bodies, *The Round Table*, 107:2, 221-223, <https://doi.org/10.1080/00358533.2018.1448349>

National Information and Communications Technology Policy for Uganda (2014) Ministry of Information and Communications Technology

National Information Technology Authority of Uganda website <http://archive.nita.go.ug/projects/national-backbone-infrastructure-project-nbiegi>

National Information Technology Authority, Uganda Act, 2009 (Act 4 of 2009) <https://archive.nita.go.ug/sites/default/files/publications/NITA-U%20Act%20%28Act%20No.%204%20of%202009%29.pdf>

Office of the Auditor General. 2021. Report for the Auditor General to Parliament for the Financial Year Ended 30th June 2021, Kampala.

Organisation for Economic Co-operation and Development (2003), Promise and problems of e- democracy: Challenges of online citizen engagement, Paris: OECD, <http://www.oecd.org/dataoecd/9/11/35176328.pdf>

Registration of Persons Act, 2015 (Act 4 of 2015) <https://ulii.org/akn/ug/act/2015/4/eng%402015-03-26>

Reglitz, M. (2020). The human right to free internet access. *Journal of Applied Philosophy*, 37(2), 314-331. <https://doi.org/10.1111/japp.12395>

Schectman, J. and Bing, C. (2022): How a Saudi woman’s iPhone revealed hacking around the world. Available at <https://www.reuters.com/technology/how-saudi-womans-iphone-revealed-hacking-around-world-2022-02-17/> Accessed on the 04th October 2022

Tsao, S. F., Chen, H., Tisseverasinghe, T., Yang, Y., Li, L., and Butt, Z. A. (2021). What social media told us in the time of COVID-19: a scoping review. *The Lancet Digital Health*, 3(3), e175-e194.

Uganda Bureau of Statistics. (2016). The national population and housing census 2014–Main report.

Uganda Communications Act, 2013 (Act 1 of 2013) <https://ulii.org/akn/ug/act/2013/1/eng@2013-01-18>

Uganda Media Centre on Twitter. Available at <https://twitter.com/UgandaMediaCent?s=20andt=sKzvnDsdmsDC2yg6PuqebQ>

Vincent Durac (2013) Protest movements and political change: an analysis of the ‘Arab uprisings’ of 2011, *Journal of Contemporary African Studies*, 31:2, 175-193, <https://doi.org/10.1080/02589001.2013.783754>

Walulya, G., and Nassanga, G. L. (2020). Democracy at stake: Self-censorship as a self-defence strategy for journalists. *Media and Communication*, 8 (1), 5-14. Available at <https://doi.org/10.17645/mac.v8i1.2512>

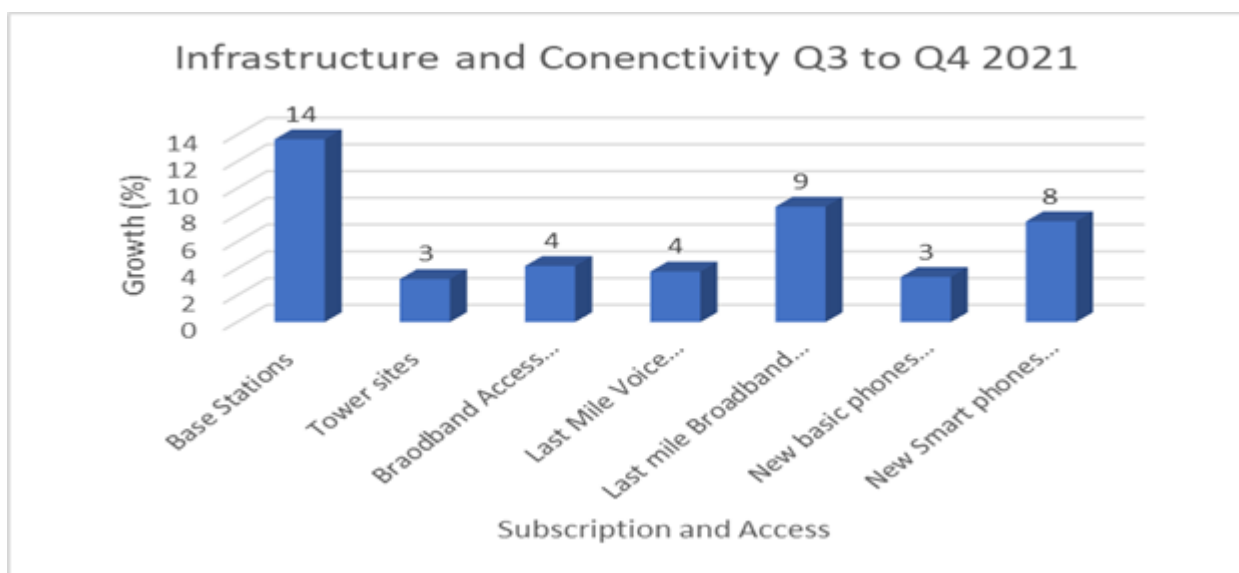


Figure 1. Linking infrastructure to ICT connectivity  
 Source: Uganda Communications Commission 2022