iS
CHANNEL

Electronic Voting in Africa – Silver Bullet or Tool for Repression?

Johanna Horz

MSc African Development
Department of International Development
London School of Economics and Political Science

KEYWORDS

Digital Control
Biometric Data
Big Data
Electronic Voting Technologies
Digital Elections

ABSTRACT

Electronic Voting Technologies (EVTs) are increasingly used in elections, whether as electronic voter identification or digital ballot counting. Enthusiasts state that EVTs can avoid manual error and interference, thereby curbing corruption. African elections infamous for electoral rigging and marred by low trust, making them the perfect case for EVTs. However, as this essay shows, EVTs in authoritarian settings can prove more harmful than beneficial. Electronic ballots can misfunction or be manipulated. Moreover, the mandatory collection of biometric data by states can lead to increased civilians surveillance and repression. This paper details the pitfalls of EVTs and ethical dilemmas. It concludes that in the absence of political will, the creation of large databases curbs rather than enhances democratic freedoms.

Abbreviations

BFR (Biometric Facial Recognition)
DRC (Democratic Republic of Congo)
EISA (Electoral Institute for Sustainable Democracy in Africa)
EMB (Electoral Monitoring Body)
EO (Electoral Observer)
EVT (Electronic Voting Technology)
ICT (Information and Communication Technology)
IEO (International Electoral Observer)
PVC (Permanent Voting Card)
US (United States (of America)
VVPAT (Voter-Verified Paper Audit Trail)

"You go to so many countries where everyone has this incredible confidence in the potential of technology […] even when the ruling party has no interest in free and fair elections. It makes you want to shout: 'Just digitalizing things is not going to save you'"
IFES Expert in Cheeseman 2018:1402

Introduction

With the proliferation of "digital money" and "digital trade", "digital inclusion" is a proclaimed silver-bullet with which "African can enjoy leapfrog-development" (World-Bank,2017). At the heart of this lies Big-Data, "high-volume, machine-readable data" (Mann,2017:4) which is collected, stored and analyzed for "faster, easier and cheaper" products and services (Nyst,2013). With Africa's electoral quality chronically low, technology is increasingly used to make election procurement chains more transparent (Nwanguwu,2018:2). All or partial elements in the electoral cycle can be digitalized through electronic voting technologies (EVTs) as displayed in Figure 1, most with biometric technology (Privacy-International,2019).

This essay seeks to investigate whether EVTs can enable "democratic-leapfrogging", thereby liberating the African voter or whether EVTs assist authoritarian states in executing control. Chapter 2 will scrutinize how EVTs can control ballot casting and Chapter 3 details how (biometric) EVTs can be manipulated to

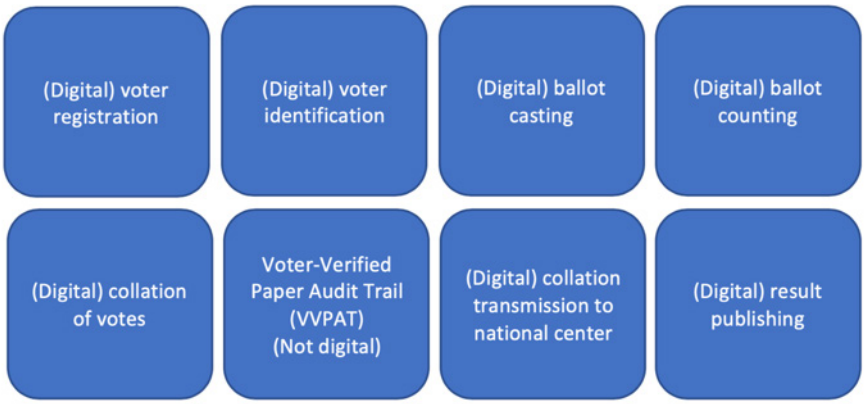

Figure 1 – Electoral-Process-Elements-(Adapted-from-Sambo,2018:8)

Corresponding Author
Email Address: johanna@horz.org

control society. Chapter 4 discusses how EVT neglects the underlying conditions of repression, "traditional" electoral fraud and unreliable institutions, and meanwhile, its implementation adds burdens of surveillance, donor-dependency and strengthens authoritarian rule.

The essay will conclude that digital-leapfrogging in the context of African elections is utopian since EVT cannot establish transparency in authoritarian and unfree contexts. Rather, biometric technologies serve to digitalize the often colonially-inherited control-states leading to power abuse and surveillance. Data privacy has been neglected within the debate on EVTs despite the "seeming rush for the deployment of digital technologies in election administration" (Nwanguwu,2018:4). The author thus builds on existing work on data privacy within economic digitalization (Mann,2017), data profiling in Western states (Gangadharan,2012) and the unintended consequences of EVTs (Cheeseman,2018).

Ballot Control

EVT risks outside control over the ballot in three ways: excluding voters, eliminating ballot secrecy and undermining result credibility.

With conflicts over regional power-distribution, Nigeria has struggled with rigging methods such as consensus inflation, multiple-voting and impersonations (Ahmad,2015:95). To combat this, biometric Permanent Voting Cards (PVCs) were introduced in the 2015 Nigerian election, with which voters were identified at the polls. Yet, this system severely limited voters, since 11 million could not collect their PVC, making them ineligible to vote (Giles,2019). Further, 41% of PVC readers failed on election day (Ahmad,2015:11), leading to confusion and time-delays in how to proceed. This shows the danger of complex voter registration and the risk of malfunctioning equipment which could purposively be sent to opposition strongholds to exclude large shares of voters.

Ballot secrecy, a pillar of democracy, must be maintained even with EVTs. However, Namibia 2014 and Democratic Republic of Congo (DRC) 2018 show that digital ballot-casting severely restricts this right. While advertised as simplifying ballots (Swanepoel,2010:70), the current Namibian system (Figure 2) appears rather complicated with numerous Ballot Units needed to cast one's vote (EISA,2014:6). EISA (ibid:8) reports that "many voters were unsure about which buttons to press" and thus electoral staff assisted the technologically illiterate (ABC/AFP,2014). Further, Sentry ((a)2018:1-4) exposed that EVT deemed "unsafe" for the 2017 Argentinian election was resold to the DRC, despite severe limitations since Ballot Units "store[d] more information than simply a voter's ballot selection […] including the time a person voted, their place in line and other voter-specific or ballot-specific identifiers" (ibid:4-6). This shows that EVTs put voters at high risk of intimidation, coercion or being misled, undermining the credibility of the election by providing "specialist" assistance in voting and eliminating confidentiality. This could impose normative compliance and especially in contexts in which voting for the opposition is seen as treason or betrayal, ensuring ballot privacy is essential.

Figure 2 – Namibian-Ballot-Unit-(EISA,2014:6)

Lastly, as the Nigerian example shows, technology can fail or be manipulated, discrediting the election. Therefore, keeping a Voter-Verified-Paper-Audit-Trail-(VVPAT), which exposed results tampering in the 2017 Kenyan election (Burke,2017), is highly recommended. However, in 2014 Namibia did not use VVPAT making transparency questionable (EISA,2014:5). Even though the DRC used VVPAT, the Financial Times (2019) still detected electoral fraud. Problematically, however, the price of EVT reduces the number of (International) Electoral Observers (IEO/EO). This is despite the 2012 Ghanaian election proving IEO/EO presence useful since "machines were more likely to fail when no observers were present and [this] machine failure was correlated with over-voting" (Cheeseman,2018:1402). Chan (2017) further points out that IEO/EO now need "electronic expertise" and calls for "electronic-observation" which has not been incorporated, making voters in electronic elections more vulnerable to coercion and manipulation.

Societal Control

EVT risks the control of society in three ways: leading to data creep, use of data profiling and digital surveillance.

Breckenridge (2006:272-281) identifies a "data-creep" in the making of "biometric-states". Today, 23 African countries use some form of biometric data collection in their voter registration (IDEA,2019) and ID4Africa (2019), a movement of 43 African states, advocates for the provision of "digital identities" for Africans. These increasingly merge biometric with demographic information for government provision of "key transactions" on online platforms like "e-citizen" in Kenya (Nyabola,2018:71). While the Kenyan platform is still restricted to government services, the "Rwandan-Digital-Vision" boasts that it "can serve as a unified interface between an individual and any agency of the government or commercial enterprise" (ID4Africa,2016:2).

This seeming encouragement of Big Data along with the trend of "greater emission, personalization

and centralization" of data (Mann,2017:3) can lead to data profiling, which is "making predicative determinations of behavior" based on data analysis (Gangadharan,2012). Especially the inclusion of "industry" data, as advocated by Rwanda and ID4Africa is dangerous since African countries are frontrunners of mobile-phone services. These collect significant information about not only calls placed and thus social networks but also GPS locations, transactions and purchases (Nyabola,2018:65). This "biometric data trail" (Beckenridge,2006:269) is highly problematic for democratic integrity in authoritarian states. In her article Nyst (2013) warns that "centralized identity databases" pose a risk of surveillance in enabling governments to "build profiles […] about location, ethnicity, religion, gender, land ownership, political affiliation, financial status and health" of the population.

Citizens often have no choice in whether to provide their data since governments have made it compulsory (Rwanda), linked it to vital services (Kenya) and/or voting (Nigeria), making society vulnerable to "unchecked citizen surveillance" (Nyabola,2018:7). Dystopian visions like Orwell's 1984 are already becoming a reality in China. Biometric facial recognition (BFR) is now used to "publicly name and shame even minor dissidents" and CCTV cameras record and instantly-monitor everything. Moving from panopticon to surveillance, the Chinese government gets alerts when ethnic minorities "stray 300 meters from their house" and China is currently developing BFR technology to read emotions (Economist,2018).

With these developments, Western nations are scrambling to install data protection laws (EU,2019). However, most African governments do not have data-protection laws, making data in African "biometric states" described above vulnerable for hacking, identify theft and other abuse and coercion. With EVTs, there are currently "no agreed international standards […] each country has its own limited standards" (Sambo,2018:12-15). Thus in authoritarian contexts, incumbents can make their own legislation, mandate biometric voter registration, force industries to share their data in order to build-up coercive surveillance states. Chan (2017) advocates that "the African Union needs to devise a standard set of requirements" but "has fallen behind". There appears to be a "lack awareness about the true value and potential of [African] data" (Mann,2017:21) and thus in this "clearly irreversible" process (Beckenridge,2006:272), "citizen data keeps disappearing into an unregulated black hole" (Nyabola,2018:75).

Discussion

EVT is advocated as improving transparency and accountability throughout the electoral cycle (Figure 3). Especially in the African context, in which elections are marred by rigging, EVTs are said to improve credibility, trust and provide accurate results. Delayed results, for example in Kenya 2017, caused violence, which EVTs with immediate voting transmission promises to avoid. Moreover, with African countries having large rural populations, EVTs could make it easier to reach isolated populations and transfer the results via satellite in real-time. However, the empirical evidence detailed in Chapter 2 and 3, indicates that in the African context EVT has done little to improve said indicators. This section explores how EVT neglects the underlying conditions of repression, "traditional" electoral fraud and unreliable institutions. Meanwhile, its (premature) implementation adds burdens of surveillance, donor-dependency and strengthens authoritarian rule.

Figure 4 (on the next page) shows the freedom levels in Africa, a continent on which 82% are "unfree" or "party-free" countries (Freedom-House,2019:19). Introducing EVT, which reduces ballot secrecy, easily eliminates large segments of the population from voting, increases the risk of opaque digital tampering and forces civilians to provide their (biometric) data, thus puts citizens at higher risk of electoral fraud and manipulation as opposed to less.

While some digital manipulation now occurs (Nyabola,2018:158-163), Cheeseman-and-Klaas-(2018) find that "traditional" forms of corruption like gerrymandering, bribes and coercion remain the most significant rigging methods in Africa. EVT cannot eliminate these. For elections to be free and fair there must be "political will", which in most authoritarian states there is not. Instead of focusing on voting technologies, Ahmad (2015) and Swanepoel (2010) demand that more focus should be on the Electoral Monitoring Bodies (EMBs) which "enhance the credibility of elections" by facilitating and organizing the processes (Sambo,2018:3). Only with a credible EBM can the chronic erosion of trust between citizens and governments be mended. Instead, EVTs add problems of digital surveillance

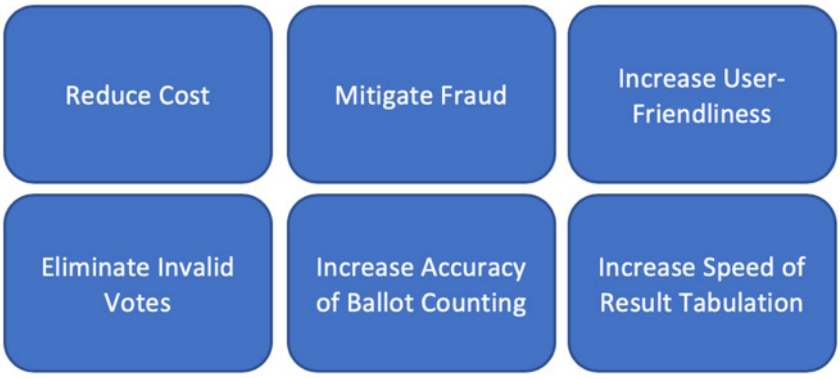

Figure 3 – Pros-EVT-(Adapted-from-EISA-2014:5)

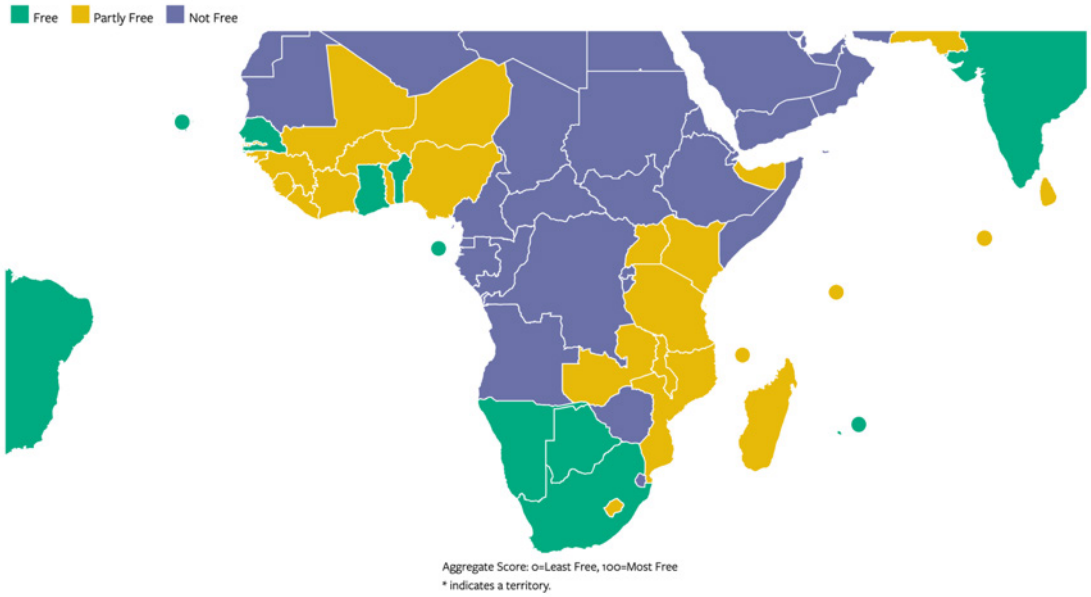

Figure 4 – Freedom-House-Scores-Africa-2018-(Freedom-House,2018)

and donor-dependency.

In many African authoritarian regimes, political opposition candidates, party members and voters already face mistreatment, imprisonment or targeted killings (Human-Rights-Watch,2019). Thus the use of e-voting technologies for "democratic" purposes might well be misused in order to accumulate mass data for dissident surveillance. Knowing both people's emotions, their whereabouts, as well as their voting behavior, will allow governments to undermine collective action movements of opposition and force citizens to vote for the incumbent. Biometric information forces the opposition to either vote and expose their opposition status, conform or abstain from voting to safeguard their privacy – each option serving the government. Especially in the African context where colonial legacies of control states exist, injecting these state frameworks with digital "weapons" is dangerous. The same way that Gangadharan (2012) finds that in the US digital "inclusion" policies resemble "old forms of prejudice", digital technologies in the African context can become sources of previous control and surveillance too. It is worrisome that the Rwandan government, whose genocide was partly due to Belgian-issued ID cards, now has a National Identity Agency and mandatory biometric data collection (ID4Africa,2016:2).

Lastly, EVTs are extremely expensive, with the 2017 Kenyan election being "the most expensive election in African history" (Nyabola,2018:169). This will reinforce what Cheeseman (2015:122) terms "democratic dependence" in which African governments rely on international funding for their elections, making them less reliant on their citizens and more accountable to their donors. Especially for states like Somaliland, which has avoided debt and which the Economist (2017) has termed "East Africa's strongest democracy", introducing iris-scan technology in "the world's most sophisticated voting register" (Juma,2017), seems inappropriate. Moreover, most of the technology is not made in Africa, thus creating a heavy import-dependence (Sambo,2018:9) as well as "issues of ownership and control" in light of software patents (Democracy-Reporting-International,2011:4). There is limited knowledge sharing since companies are unwilling to share information, making EVTs less transparent. "Different systems provided by different companies" (Chan,2017) further undermine South-South knowledge diffusion.

Conclusion

"Africa has become a testing ground for technological-leapfrogging" (Juma,2017), however, as Cheeseman (2018:1399) points out: "you cannot digitalize integrity". This essay has shown that the idea of democratic-leapfrogging through EVT is rather utopian. Instead, it has expanded the options for authoritarian control to totalitarian levels. Mann (2017:3) warns that "as African economics become increasingly "digital", data will become a source of power", however, the EVTs show that data is already a source of power-saving African voters neither from "electronic cheating" nor from "electronic abuse" (Chan,2017).

In a world in which the West is increasingly withdrawing from digital technologies, in which fears arise from data profiling and tracking and data-protection laws are getting more important – there should be no haste to proliferate these technologies to authoritarian states. If the end goal is a democracy – rule of the people – then providing technologies of control is not the answer. The findings of this essay point towards a digital fallacy, and the need for solving underlying structural issues of political will and trust. This will require innovative outside-the-box and bottom-up thinking rather than the imposition of technology. While manual methods in elections also have their faults, the "fetishization of digital technology" (Cheeseman,2018:1399) has imposed more harm than freedom.

References

ABC/AFP. "Namibian Election First in Africa to Use Electronic Voting." ABC News, 28 Nov. 2014, www.abc.net.au/news/2014-11-28/namibian-election-first-in-africa-to-use-electronic-voting/5927206.

Ahmad, Sabo. "Issues and Challenges of Transition to e-Voting Technology in Nigeria." Vol. 5, no. 4, 2015, doi:https://www.iiste.org/Journals/index.php/PPAR/article/view/21776/21943.

BBC. "Namibia Votes in Africa's First Electronic Poll." BBC News, BBC, 28 Nov. 2014, www.bbc.co.uk/news/world-africa-30241377.

Breckenridge, Keith. "The Biometric State: The Promise and Peril of Digital Government in the New South Africa." Journal of Southern African Studies, vol. 31, no. 2, 2005, pp. 267–282., doi:10.1080/03057070500109458.

Burke, Jason. "Kenyan Election Annulled after Result Called before Votes Counted, Says Court." The Guardian, Guardian News and Media, 20 Sept. 2017, www.theguardian.com/world/2017/sep/20/kenyan-election-rerun-not-transparent-supreme-court.

Chan, Stephen. "Africa Leads the Way in Election Technology, but There's a Long Way to Go." The Conversation, 3 Oct. 2017, theconversation.com/africa-leads-the-way-in-election-technology-but-theres-a-long-way-to-go-84925.

CHEESEMAN, NIC, and BRIAN KLAAS. HOW TO RIG AN ELECTION. YALE UNIVERSITY PRESS, 2018.

Cheeseman, Nic. "Digital Dilemmas: the Unintended Consequences of Election Technology." Democratization, vol. 25, no. 8, 2018, pp. 1397–1418., doi:10.1080/13510347.2018.1470165.

Cheeseman, Nicholas. Democracy in Africa: Successes, Failures, and the Struggle for Political Reform. Cambridge University Press, 2015.

Democracy Reporting International. "ELECTRONIC VOTING MACHINES: THE PROMISE AND PERILS OF A NEW TECHNOLOGY." Democracy Reporting International, Apr. 2011, democracy-reporting.org/wp-content/uploads/2016/02/dri_briefing_paper_11_-_electronic_voting_machines.pdf.

Economist, director. China: Facial Recognition and State Control. YouTube, The Economist, 24 Oct. 2018, www.youtube.com/watch?v=lH2gMNrUuEY.

Economist. "Why Somaliland Is East Africa's Strongest Democracy." The Economist, The Economist Newspaper, 13 Nov. 2017, www.economist.com/the-economist-explains/2017/11/13/why-somaliland-is-east-africas-strongest-democracy.

EISA. "Electronic Voting and the 2014 Namibian General Elections." Electoral Institute for Sustainable Democracy in Africa, Electoral Institute for Sustainable Democracy in Africa, 2014, eisa.org.za/pdf/nam2014eisa.pdf.

EU. "Data Protection in the EU." European Commission - European Commission, 19 Mar. 2019, ec.europa.eu/info/law/law-topic/data-protection/data-protection-eu_en.

Financial Times. "Congo Voting Data Reveal Huge Fraud in Poll to Replace Kabila." Financial Times, Financial Times, 15 Jan. 2019, www.ft.com/content/2b97f6e6-189d-11e9-b93e-f4351a53f1c3.

Freedom House. "Freedom in the World 2018." Freedom House, 2019, freedomhouse.org/sites/default/files/FH_FITW_Report_2018_Final_SinglePage.pdf.

Freedom House. "Freedom in the World 2018." Freedom House, 22 Jan. 2018, freedomhouse.org/report/freedom-world/freedom-world-2018.

Gangadharan, Seeta Peña. "Digital Inclusion and Data Profiling." First Monday, 2012, firstmonday.org/article/view/3821/3199.

Giles, Christopher. "DR Congo Elections: Why Do Voters Mistrust Electronic Voting?" BBC News, BBC, 28 Dec. 2018, www.bbc.co.uk/news/world-africa-46555444.

Human Rights Watch. "Another Mysterious Opposition Death in Rwanda." Human Rights Watch, 12 Mar. 2019, www.hrw.org/news/2019/03/12/another-mysterious-opposition-death-rwanda.

ID4Africa. "The Identity Ecosystem of Rwanda." id4africa, 2016, www.id4africa.com/2016/files/ID4Africa2016_The_Identity_Ecosystem_of_Rwanda_eBooklet.pdf.

IDEA. "Africa, Summaries for Selected Questions from the ICT in Elections Database." International Institute for Democracy and Electoral Assistance, 2019, www.idea.int/data-tools/continent-view/Africa/61?st=vri#rep.

Juma, Calestous. "Somaliland's Voting Technology Shows How Africa Can Lead the World." The Conversation, 13 Nov. 2017, theconversation.com/somalilands-voting-technology-shows-how-africa-can-lead-the-world-87311.

Mann, Laura. "Left to Other Peoples' Devices? A Political Economy Perspective on the Big Data Revolution in Development." Development and Change, vol. 49, no. 1, 2017, pp. 3–36., doi:10.1111/dech.12347.

Nwangwu, Chikodiri. "Elixir of Electoral Fraud: The Impact of Digital Technology on the 2015 General Elections in Nigeria." Cogent Social Sciences, vol. 4, no. 1, 2018, doi:10.1080/23311886.2018.1549007.

Nyabola, Nanjala. Digital Democracy, Analogue Politics. How the Internet Era Is Transforming Kenya. Zed Books, 2018.

Nyst, Carly. "The Road to Surveillance Is Paved with Good Intentions – and Warning Signs | Carly Nyst." The Guardian, Guardian News and Media, 12 Nov. 2013, www.theguardian.com/global-development/poverty-matters/2013/nov/12/surveillance-aid-iris-scanning-gps-tracking.

Privacy International. "Biometrics." Privacy International, 2019, www.privacyinternational.org/topics/biometrics.

Sambo, Paul. "A Scheme of Analysis for EVoting as a Technological Innovation System." The Electronic Journal of Information Systems in Developing Countries, vol. 84, no. 2, 2018, doi:10.1002/isd2.12020.

Sentry(a). "Electronic Voting Technology DRC." The Sentry, The Sentry, June 2018, thesentry.org/reports/electronic-voting-technology-drc/.

Sentry(b). Delays and Red Flags: Elections in the DR Congo. The Sentry, 2018, Delays and Red Flags: Elections in the DR Congo, cdn.thesentry.org/wp-content/uploads/2018/09/CENI_TheSentry_Sept2018-final_web.pdf.

Swanepoel, E. "E-Voting: A South African Perspective." Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering E-Infrastructures and E-Services on Developing Countries, 2010, pp. 70–77., doi:10.1007/978-3-642-12701-4_8.

Wilson, Tom. "DR Congo's Risky Bet on Digital Democracy." Financial Times, Financial Times, 25 Nov. 2018, www.ft.com/content/696bae7a-ee24-11e8-89c8-d36339d835c0.

World Bank. "Africa Can Enjoy Leapfrog Development." World Bank, 2017, www.worldbank.org/en/news/opinion/2017/10/11/africa-can-enjoy-leapfrog-development.