Social Media and Crowdsourced Election Monitoring: Prospects for Election Transparency in Sub-Saharan Africa

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Abstract

With the rise of social media in Sub-Saharan Africa, citizen-led organizations in countries such as Kenya, Nigeria and Ghana have embraced crowdsourcing for domestic election monitoring, at a time when holding competitive elections has proven insufficient to ensure democratic elections. Yet, while existing literature focuses on the contrast between crowdsourcing and traditional monitoring, the effects of crowdsourced election monitoring on the transparency and quality of elections remain unaddressed. This paper makes a comparative analysis of elections in Nigeria from 2003-2015, framed within Sub-Saharan Africa, supported by a dataset of election monitoring deployments. Findings show that, in Nigerian elections where crowdsourcing was used, higher levels of election transparency were registered based on the introduction of the concept of participatory democracy and its practical application. This would, then, contribute to more peaceful and democratic elections. This research also sheds some light on the benefits of domestic election monitoring for citizen engagement.

Keywords

Crowdsourcing; Democracy: Election Monitoring; Election Transparency; Social Media; Sub-Saharan Africa

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Introduction

At a time when democracy seems to be facing its worst decline in years (Freedom House, 2019; The Economist Intelligence Unit, 2017), the role of elections becomes more and more relevant. While elections in Sub-Saharan Africa have become commonplace, these countries lack genuine pluralism (The Economist Intelligence Unit, 2017: 32) Multiple barriers hinder political participation, notwithstanding improvements owing to new avenues to follow politics created by electronic media (ibid.: 34). Nonetheless, many Africans still prefer democracy to other political regimes, and popular support for democracy exceeds the perception of its supply in most countries (Mattes and Bratton, 2016). Despite the disappointment at formal political institutions, voters are not disengaged from democracy (The Economist Intelligence Unit, 2018). As such, guaranteeing free and fair elections is paramount to meet the popular demand for democracy.

Political environments have become increasingly mediated by the internet, where social media platforms offer opportunities for open communication. But if the Arab Spring revealed the role of social media in political mobilisation, and particularly regime change in Tunisia (Adi, 2014), the 2016 US presidential elections demonstrated that internet can also impact elections negatively (Howard et al, 2018). The online environment can be contaminated by *fake news*, both disinformation and misinformation, and computational propaganda – automated means such as bots dispersing hate speech and other forms of negative campaign or promotion (Howard et al, 2018). This can harm the integrity of democratic processes by confusing and misleading voters, reducing voter turnout, leveraging certain candidates or political parties, and reducing trust in political institutions (National Democratic Institute, 2014). Therefore, although social media have opened new avenues for civic participation in political processes, they have also brought new threats to democracy such as the revival of ethnic tensions and nationalist movements, the intensification of political conflicts, and ultimately caused political crises (Bradshaw and Howard, 2018: 4). These effects can be amplified or aggravated in developing countries, where democracies are younger and traditional media are less established.

As social media emerge in political life, citizen-led organizations in Sub-Saharan Africa have turned to online crowdsourcing to monitor elections. Crowdsourced election monitoring was first deployed in Kenya in 2007, followed by countries such as Nigeria and Ghana. It is complementary to traditional international election monitoring, offering another form of checks and balances (Aitamurto, 2012: 5). Yet, while existing literature focuses on the contrast between international and crowdsourced election monitoring (Grömping, 2012), and its deployments (Smyth, 2013; Smyth et al., 2016), the effects of crowdsourcing election monitoring on the transparency and quality of

elections remain widely unaddressed. This research aims to answer a broader question within the context of citizen-led movements and initiatives for election monitoring: can participatory democracy improve the quality of elections? Particularly, can crowdsourced election monitoring improve election transparency, therefore contributing to the quality of elections in Nigeria, as well as in Sub-Saharan Africa? Given the opaqueness of social media, and their power to shape public opinion and affect elections, the paper is interested in the ways crowdsourced election monitoring can be used to mitigate these harms by allowing for more election transparency. With social media at the heart of elections, ICT tools such as crowdsourcing must be at the service of democracy to ensure free and fair elections.

Literature Review: ICTs for Development

This research´s theoretical and empirical literature is centred on Information Communication Technologies (ICTs) for Development, an interdisciplinary approach providing a focus on the role of election monitoring in ensuring greater election transparency and guaranteeing free and fair elections, through the lens of participatory democracy mediated by new ICTs. This approach bridges the gap between different areas of knowledge: democratization and election monitoring in Sub-Saharan Africa, and the role of Civil Society Organizations (CSOs) and of ICTs (figure 1).

Figure 1. Theoretical fields and empirical literature for crowdsourced election monitoring.
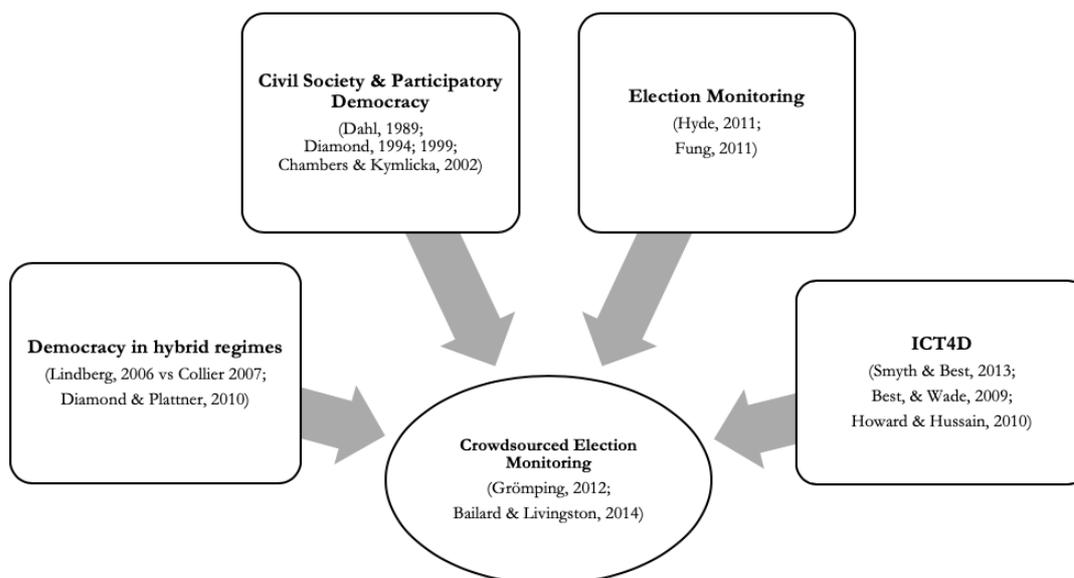
Source: Author.

Democratization in hybrid regimes

Has hosting competitive elections in Africa brought democracy closer or further away? The literature concerning the value of elections for democratization can, as of the 1990s, be divided between 'demo-pessimists' and 'demo-optimists' (Wiseman, 1995: 10). Collier represents the 'demo-pessimists', arguing that elections indorsed by Western liberal democracies in Africa "promoted the wrong features of democracy: the façade rather than the essential infrastructure" (2009: 8) and brought unaccountable and illegitimate governments to power which do not enhance the prospects of peace within national territories. By contrast, Lindberg (2006), on the 'demo-optimists' field, believes that repeated contested elections have a surprising democratizing effect in Africa through a mechanism of democratic lock-in. He avers that civic organizations and activism proliferate during electoral periods, through election monitoring and voter-education campaigns (2006: 147-148), highlights the contribution of election monitoring by the international community, that advocates and presses for political reform and broader civil liberties and political rights, and finds that African countries with a higher number of elections up until 2006 had a better level of civil liberties and increased peaceful competition, owning to elites adjusting their behaviour (2006: 141, 149).

However, competitive elections in Sub-Saharan Africa have not brought the democratic progress that Lindberg (2006) had hoped for. Between 1999 and 2006, many African elections were deeply flawed, and some rigged by dictators compelled to allow multi-party elections (Diamond & Plattner, 2010) and, in 2007, the international community witnessed ruling powers openly rigging national elections in Nigeria and Kenya, resulting in post-electoral violence in the latter (Diamond & Plattner, 2010: xi). Nonetheless, in a number of African countries, democracy levels remained unchanged or improved (Diamond & Plattner, 2010: x-xii), confirming Lindberg´s (2006) argument that, even if flawed, elections worked as a force for democracy. For instance, Ghana has experienced competitive elections since 2008, and peaceful turnovers in 2008 and 2016.

There are two relevant indicators of this democratic progress. Firstly, electoral processes in Africa have become less violent and more institutionalised as limits to political terms became widely accepted: for example, in 2006, the Nigerian Senate, following months of divisive national debate, rejected a bill that would have allowed President Olusegun Obasanjo a third term in office – a conflict resolved by the force of institutions and not violence (Posner et Young, 2010: 59). Secondly, the demand for democracy has grown in Africa, and democracy has become the preferred type of political regime (Mattes and Bratton, 2016), with people expressing more confidence in democracy in countries such as Ghana, Kenya, Senegal and Nigeria (Bratton, 2010: 107). There is also a demand for stronger formal institutions: Africans want responsiveness and accountability, whilst remaining

aware that that electoral democracy alone is not able to fulfil the promises of a responsive, accountable leadership between elections (Bratton, 2010: 115).

Participatory Democracy and Civil Society

Diamond and Plattner (2010) argue that the growth of civil society is a potentially long-term positive trend in Africa, and that "*more than ever, the building of democracy in Africa is a bottom-up affair*" (Diamond and Plattner, 2010: 50). According to Habermas, social movements have a dual orientation, as they are both users of the public sphere, pursuing their own political goals within existing forums, and its creators, expanding democratic processes and influencing the political system (Habermas, 1996: 370). Emerging from the gap between citizens and state, social movements can represent the expansion of the public sphere and the empowerment of marginalised groups, creating opportunities to participate, shape policies and criticise, features that define a democratized civil society (Chambers and Kymlicka, 2002: 99). CSOs should have freedom from government control and interference to pursue their own interests, causes and paths – as Chambers and Kymlicka posit, a healthy civil society is driven by shared meanings, whilst "*an unhealthy civil society is one that has been colonized by power or money or both*" (ibid.: 94), and a strong and independent public sphere is a condition for democracy because "*it transforms domination into self-rule*" (ibid.: 99). Perceiving "the Internet as a new kind of public sphere that allows for autonomous deliberation and opinion formation in a spontaneous fashion" (Zittel, 2006: 16), prudent regulation would be necessary to reincarnate Habermas' public sphere in the new age of digital reasoning (Zittel, 2006).

Participatory democracy is then a democratic system that incentivises greater citizen participation beyond voting, creating opportunities for people from all backgrounds and groups to contribute towards decision-making, and fostering a healthy civil society. As information and communication are key to these processes, the rise of ICTs has helped open the debate on participatory democracy, giving citizens from African countries the chance to overcome lack of media freedom and traditional media scarcity. Particularly, and given the rise of social media usage in African countries with significant ICT penetration (Table 1), mainly Nigeria (86 million people online) and Kenya (21 million), the conception of "*monitory democracy*" can also apply. Originally put forward by Keane (1991), a monitory democracy is one in which the public keeps a constant eye on the people in power (Schudson, 2015: 230). Further, a monitory democracy doesn't simply deliver decisions, but creates opportunities for citizens to judge the quality of those decisions (Keane, 1991). The participatory democratic spirit varies between "*politics of faith*" (redemption, populism) and "*politics of scepticism*" (pragmatism), both faces of democracy (Schudson, 2015: 236), both fuelled by distrust.

International Election Monitoring vs Domestic Election Monitoring

Douglas G. Anglin argues that the crisis in democracy bring to the fore the importance of elections as democracy consolidators, hence the contribution of election observers (1998: 471), and establishes the need for election monitoring in Sub-Saharan Africa. Hyde (2011), based on an original dataset of all domestic elections between 1960 and 2006, states that international election monitoring has increased around the world since the 1960s and became an international norm. Traditional election monitoring consists in the deployment of teams of trained election monitors and observers with the purpose of maintaining the integrity of an electoral process (Hyde, 2011), under a set of standardised rules based on common international electoral obligations (Carroll and Davis-Roberts, 2013). In contrast, a social monitoring approach involves the mobilization of citizens with minimal or no training with the purpose of monitoring and reporting events and incidents during an election using digital technology, including mobile technology (Smyth, 2013: 13). Schuler (2008) argued for the use of SMS based strategies for election monitoring prior to the rise of social media, which inspired studies such as Aker et al. (2013) on Mozambique's 2009 elections.

For African elections, election monitoring missions have been particularly important in post-conflict societies in the years immediately after significant upheavals. Although there has been a decrease in violence and coercion in elections, the rise of social media have brought new threats and challenges to African elections that formal monitoring has not yet been able to address, such as the emergence of organizations seeking to manipulate social media and harvest people's personal data, which has become a major challenge to the transparency and integrity of elections. In this scenario, social monitoring is more appropriate for this new electoral landscape where the political arena is just – or more – online as it is offline. With new opportunities and challenges brought by social media, social monitoring can help expose fraudulent behaviour and might become a requirement for electoral integrity and transparency.

Crowdsourced Election Monitoring

The rise of ICTs has put crowdsourcing at the service of democracy. As part of many countries' e-government strategies, crowdsourcing has become a key policy-making tool in initiatives such as participatory budgets, citizen petition sites, law and strategy processes, and open innovation (Aitamurto, 2012). For example, the Parliament of Finland has set up the Committee for the Future, placing crowdsourcing at the heart of government policy. A recent report shows that crowdsourcing offers stimulating possibilities for democracy as a complement to traditional democratic tools or experts, because "*[a] thousand pairs of eyes will spot potential problems easier and a thousand heads will come up with more new ideas than just a few*" (Aitamurto, 2012: 5).

Crowdsourcing for democracy is not exclusive to developed countries, and it has been used around the developing world. Crowdsourced election monitoring missions have been deployed in Mexico in 2009 by Cuidemos Del Voto!*,* Nigeria in 2011 and 2015 by Enough is Enough, and Pakistan in 2014 with PakVotes. This is a growing practice in Sub-Saharan Africa as relevant studies prove (Fung, 2011; Asuni and Farris, 2011; Salazar and Soto, 2011; Grömping, 2012; Smyth and Best, 2013; Smyth, 2013; Sambuli et al., 2015; Tuccinardi and Balme, 2013; Bailard and Livingston, 2014; Best and Meng, 2015; Bartlett et al., 2015; Moreno et al., 2017), with Howard and Hussain (2011) demonstrating the role of digital media in the unfolding of the Arab Spring powered by the 'crowd'. Best and Wade (2009) argue that there is a positive relationship between democratic growth and internet penetration (2009: 270) and Grömping (2018) notes that NGOs are increasingly using ICTs to document electoral processes, enabling citizens to monitor elections and share live observations such as issues in voter registration.

Table 2. Domestic election monitoring: types of crowdsourced election monitoring.

	Engagement with citizens	Reporters	Data Collection	Software	Example
Open Crowdsourcing	Active	Citizens on social networking sites	Social media feed	Ushahidi Aggie	Uchaguzi (Ushahidi)
Bounded Crowdsourcing	Active	Trusted/trained volunteers and staff	Social media feed	ELMO Aggie	Enough is Enough Nigeria
Passive Crowdsourcing	Passive	Doesn't have reporters	Listens to users on Twitter, Facebook, Instagram, Tumblr and other social networking sites	Twitter	#senevotes #zimelections2013 #ghanavotes

Source: Author, and information collected from Grömping (2018).

Crowdsourced election monitoring can be understood as a system in which *"any individual can register an observation about an election [which] is pooled with other individuals' observations to create a public depiction of the reality of the election that is offered back to the public and to election officials in real-time on election day"* (Fung, 2011: 194-195). It can, therefore, enhance election integrity and transparency by unleashing the potential of the 'crowd' to monitor misconduct and wrongdoings during elections, and holding electoral bodies and candidates accountable (Grömping, 2018). Fung (2011) advocates the potential of crowdsourced election monitoring for improving the quality and scope of election administration in aspects such as monitoring capacity, real-time civic engagement, legitimacy, vivid

depictions in an updated medium, transparent analysis and accessibility, benchmarking best practices and levels of voter satisfaction (2011: 194).

Grömping (2012) believes that crowdsourced election monitoring can have a positive effect on democracy, with the added value of crowdsourcing lying in the strengthening of civil society via a widened public sphere and the accumulation of social capital. Bailard and Livingston (2014) found that citizen-generated reports were correlated with higher voter turnout as more failures and abuses during elections were reported to officials and authorities, during the 2011 Nigerian Presidential election.

Methodology

The hypotheses for this study are as follows:

- *H_0: Crowdsourced election monitoring does not improve election transparency in Nigeria, and no findings showed whether it could improve election transparency in Sub-Saharan Africa.*

- *H_1: Crowdsourced election monitoring improves election transparency in Nigeria and has the potential for improving election transparency in Sub-Saharan Africa.*

- *H_2: Crowdsourced election monitoring improves election transparency in Nigeria, yet this is a case-specific outcome and cannot be generalized to apply to the region.*

The initial expectation will be to reject the null hypothesis and confirm hypothesis 1.

This research employs a mixed methods approach, using both quantitative methods, such as the Varieties of Democracy (V-Dem) dataset analysed by SPSS, and qualitative methods, such as the case study and process tracing, for the analysis and integration of different types of data.

The dependent variable, election transparency, was measured by the Clean Elections Index from the V-Dem Dataset (Coppedge et al., 2018a). The Index uses an interval scale that goes from 0-1 and it is calculated by taking the point estimates from a Bayesian factor analysis model of the following variables: electoral management body (EMB) autonomy (v2elembaut), EMB capacity (v2elembcap), election voter registry (v2elrgstry), election vote buying (v2elvotbuy), election other voting irregularities (v2elirreg), election government intimidation (v2elintim), election other electoral violence (v2elpeace), and election free and fair (v2elfrfair) (Coppedge et al., 2018a: 44) (see Appendix 3).

The independent variable, crowdsourced election monitoring, was measured by the Participatory Democracy Index from the V-Dem dataset (Coppedge et al., 2015; 2018a), and by qualitative data from mission reports and studies. The Participatory Democracy Index uses an interval scale that goes from 0-1, and is calculated from the electoral democracy index

(v2x_polyarchy) and the participatory component index (v2ex_partip) (Coppedge et al., 2018b: 41) (see Appendix 4). The qualitative data were collected from election monitoring organizations' reports, as well as past studies such as Bailard and Livingston (2014) and Best and Meng (2015).

The research design consisted of a comparison of the Sub-Saharan Africa region with a focus on three cases – Kenya, Nigeria and Ghana – narrowing it down to the analysis of Nigeria, to attempt to identify the causal mechanism between the variables over different election cycles (see Appendix 5). The case study approach enables a deeper understanding of the election period and political atmosphere (Smyth, 2013), introducing greater internal validity of the study at the expense of the generalization of results (Sambanis, 2004: 263). Case studies also allow the use of both qualitative and quantitative data (Yin, 1994: 14), which fits the current research design.

The case selection criteria attended to three conditions within the 2007-2017 timeframe: first, countries with significant ICT penetration, given that mobile communication and internet are a growing trend in Africa (see appendix 1); secondly, countries with relevant number of deployments of crowdsourced election monitoring in the region; and thirdly, countries with deployments in consecutive elections. As per Table 1, the countries that matched these criteria were Kenya, Nigeria and Ghana. Nigeria was selected as the main case based on its significant ICT penetration and on the presence of consecutive crowdsourced election monitoring missions deployed in the last two electoral cycles (2011 and 2015 general elections), when CSOs such as Reclaim Naija (n.d) and Enough is Enough (n.d.) came together in domestic election monitoring efforts. Finally, Nigeria stood out because, out of the three cases, it had the lowest score for democracy and voter turnout while having the largest population online.

Data Analysis

Crowdsourced Election Monitoring in Sub-Saharan Africa

Crowdsourced election monitoring was first used to monitor post-electoral violence during Kenya's 2007 general elections. Ten years on, and as African citizens became more aware of issues affecting elections, such as corruption, propaganda, censorship and often violence, it became more common, with coalitions of CSOs coming together to ensure more democratic and transparent elections through their own monitoring initiatives. To date, 19 crowdsourced election monitoring missions have been deployed in 14 countries to monitor mainly general elections, as shown in table 3. Ushahidi (meaning "*witness*" in Swahili), the first software developed for crowdsourced election monitoring, initially deployed in 2007, remains the most used software for crowdsourcing during these missions, with 11 deployments. It is currently a crowdsourcing platform for submitting violence reports and to map events (Rotich, 2017), employing open crowdsourcing where citizens have an active role in election monitoring by allowing people to send in reports during the electoral

periods. The second most used software is Aggie, with 5 deployments, followed by ELMO, developed by the Carter Center, with 3 deployments. Most of these missions were open or bounded crowdsourcing (table 2).

The flourishing of CSOs in the region brought new hope to the fight against corruption. According to Transparency International (2015), 58 % of Kenyans believe they can make a difference against corruption (Kenya appearing 8th on the list of 28 countries in Sub-Saharan Africa, led by Botswana with 72 %), along with 53% of Ghanaians (Ghana appears in 16th position), and a lower percentage (39 %) in the case of Nigerians, their country being in the bottom two with Sierra Leone. However, only 28 % of respondents believed that reporting corruption is the most effective way to stop it and 1 in every 4 Africans is pessimistic about the role ordinary people can play in fighting corruption, with only 12 % admitting to reporting bribes, owing to the fear of reprisals. New technologies, however, can be a tool in the service of democracy by mitigating these fears – Grömping (2018) believes that crowdsourced election monitoring unleashes the power of the crowd to report election wrongdoings such as intimidation, vote-buying and ballot box stuffing, by sharing these observations on social media and holding electoral bodies, parties and candidates accountable.

Table 1: Top 20 Countries in Sub-Saharan Africa with the largest population with internet access, internet penetration rate and crowdsourced elections.

Country	Internet Penetration in 2016 (%)	People with Internet Access in 2016	Crowdsourcing Election Monitoring Deployments
South Africa	52 %	28,580,290	2014
Nigeria	46.10 %	86,219,965	2011, 2015
Kenya	45 %	21,248,806	2007, 2013, 2017
Ghana	28.40 %	7,958,675	2012, 2016
Sudan	26.40 %	10,886,813	2010
Senegal	23.40 %	3,647,939	2012
Angola	23 %	5,951,453	-
Cote d'Ivoire	22 %	5,122,897	-
Zimbabwe	21 %	3,356,223	2013
Uganda	19 %	7,645,197	2011
Zambia	19 %	3,167,934	2011
Cameroon	18 %	4,311,178	-

South Sudan	17.10 %	2,179,963	-
Rwanda	12.40 %	1,478,216	-
Mali	12.20 %	2,212,450	-
Burkina Faso	10.20 %	1,894,498	-
Mozambique	6.40 %	1,834,337	2014
Tanzania	5.30 %	2,895,662	2010, 2015
Ethiopia	4.20 %	4,288,023	-
DR Congo	3.90 %	3,101,210	2011

Source: author and Internet World Stats (available at https://www.internetworldstats.com/stats1.htm)

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Using the V-Dem dataset filtered by region (e_regionpol) and year, a regression was run between the independent and dependent variables from 2007-2017. Figures 2 and 3 show a positive strong correlation between participatory democracy and election transparency both in 2007 (r^2 = 0.854) and 2017 (r^2 = 0.761). Even if the nature of this relationship remains unknown, participatory democracy can explain whether elections are more or less transparent.

Although the point cloud in the scatterplots doesn't show significant changes in distribution (see appendix 2.2), Nigeria stands out owning to a drastic increase from 2007-2017. This shows an increase of participatory democracy, reflecting a more active civil society and election transparency.

Neither Kenya or Ghana, however, demonstrate any significant improvements, and, in Kenya, both variables seem to have worsened.

The mean and median for 2017 are higher than in 2007, while having almost identical range and a lower standard deviation in 2017 (see table 4). Although not significant, these changes show that there has been some improvement in election transparency and participatory democracy in the region.

Table 3. Crowdsourced Election Monitoring Deployed Missions in SSA with significant ICT penetration, Ushahidi, since December 2007.

Country	Crowdsourced Missions	Election Type	Date	International Election Monitoring	Software	Relevant Studies
DRC	1	General	2011	EU-EOM The Carter Center	ELMO (The Carter Center)	-
Ghana	2	General	2012	EISA	Aggie	Meng (2013); Best and Meng (2015)
		General	2016	EU-EOM EISA	Aggie	Moreno et al. (2017)
Guinea	1	Parliamentary	2013	EU-EOM	G.V.T - Guinée Vote Témoin	-
Kenya	3	General	2007	EU-EOM	Ushahidi	-
		General	2013	EU-EOM The Carter Center	Uchaguzi (Ushahidi) ELMO	Bowman et al. (2015); Bock and Lederach (2012); Aarvik (2015); Sambuli et al.. (2015); Best and Meng (2015)
		General	2017	EU-EOM The Carter Center	Uchaguzi (Ushahidi)	-
Liberia	1	General	2011	The Carter Center	ELMO Aggie	Smyth (2013); Smyth et al.. (2016); Smyth and Best (2013)
Mozambique	1	General	2014	EU-EOM Carter Center-EISA	ELMO, Texeka-la / Ushahidi	-
Nigeria	2	General	2011	EU-EOM	Reclaim Naija (Ushahidi), Enough is Enough (Aggie)	Bailard and Livingstone (2014); Smyth (2013); Smyth and Best (2013); Smyth et al.. (2016); Best and Meng (2015)
		General	2015	EU-EOM	Enough is Enough Nigeria, ReVoDa (Aggie)	Smyth el al. (2016); Bartlett et al. (2015)
Senegal	1	Presidential	2012	EU-EOM	Senevote (OneWorld)	-
South Africa	1	General	2014		VIP: Voice	Ferree et al. (2017)
Sudan	1	General	2010	EU-EOM The Carter Center	Sudan VoteMonitor (Ushahidi)	-
Tanzania	2	General	2010	EU-EOM	Uchaguzi (Ushahidi)	-

|						
		General	2015	EU-EOM	Uchaguzi (Ushahidi)	Shayo and Kersting (2017)
Uganda	1	General	2011	EU-EOM	Uchaguzi (Ushahidi)	Hellström and Karefelt (2012)
Zambia	1	General	2011	EU-EOM	Bantu Watch (Ushahidi)	-
Zimbabwe	1	General	2013	ZimVoices (Ushahidi)	-	

Source: Author.

Figure 2. Correlation Participatory Democracy and Clean Elections Index Sub-Saharan Africa in 2007.
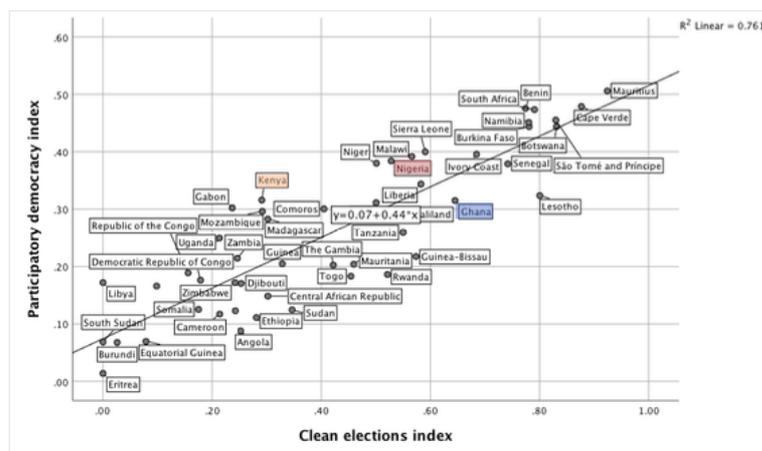
Source: Varieties of Democracy dataset (2018).

Figure 3. Correlation Participatory Democracy and Clean Elections Index Sub-Saharan Africa in 2017.
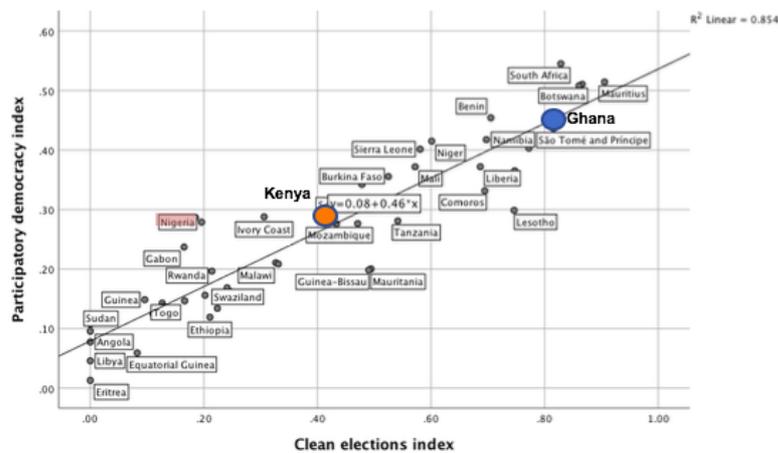
Source: Varieties of Democracy dataset (2018).

Table 4. Comparing measures of central tendency for election transparency in Sub-Saharan Africa in 2007 and 2017.

	2007	2017
Mean	0.3962	0.4280
Median	0.3992	0.4135
Minimum	0.00	0.00
Maximum	0.91	0.92
Range	0.91	0.92
Standard Deviation	0.2759	0.2599

Source: Author from Varieties of Democracy dataset using SPSS for analysis.

Comparing Kenya, Nigeria and Ghana

In 2015, Best and Meng released a study of identity politics versus political discourse on social media during Nigeria's 2011 Presidential Election, Ghana's 2012 General Election, and Kenya's 2013 General Election, each country´s first elections with substantial social media usage and crowdsourced election monitoring missions (since Kenya's first deployment in 2007), as shown in Table 5.

Table 5. Election Cycles since Kenya's 2002 elections that marked a democratic turnover in the country.

	Election cycle 1	Election cycle 2	Election cycle 3	Election cycle 4
Kenya	2002	**2007***	**2013***	**2017***
Nigeria	2003	2007	**2011***	**2015***
Ghana	2004	2008	**2012***	**2016***

***Elections with a Crowdsourced Election Monitoring** Deployment

Source: Author.

In hybrid regimes such as Kenya, Nigeria and Ghana, elections mirror the state of democracy by exposing misconduct. Although the 2002 election marked the beginning of a democratic era in Kenya (Anderson, 2003), the post-election environment of 2007 was characterised by civil unrest and violence, fuelled by ethnic divisions, and resulted in the deaths of about 1,300 Kenyans (Best

and Meng, 2015). Ushahidi, developed to monitor and respond to these violent incidents, was later expanded for overall election monitoring. Similar to Kenya's 2007 election, Nigeria's 2011 general election was also plagued with violence, intimidation and fraud. These issues, associated with corruption, were believed to be crippling Nigeria's democratic processes. Although Ghana's 2012 election was not affected by violence, campaigns used strategies of clientelism and opportunism to get votes. Yet Ghana is still the most democratic of the three countries and elections are perceived as more legitimate, a result of the role of political parties in supporting a robust democracy (Best and Meng, 2015).

The findings of Best and Meng (2015) proved that political discourse and pragmatism became more important for voters (Best and Meng, 2015) and suggest that Nigerians seemed to be aware of their democratic deficit and of rigged elections. Their work features an analysis of Twitter's content from Nigeria's 2011 election, showing that the topic "*Participatory Democracy*", originally from Goodluck Jonathan's manifesto, generated powerful discussions around democracy and good governance. Nigerians did not seem to debate policy stances, but were instead worried about the quality of democracy in the country. In Kenya's 2013 election, policy discussions on Twitter were slightly louder than identity politics compared to Nigeria, and in Ghana's 2012 election, users seemed more engaged with policy, with debate being more pragmatic.

Figure 4. Clean Elections Index by country and by election cycle.
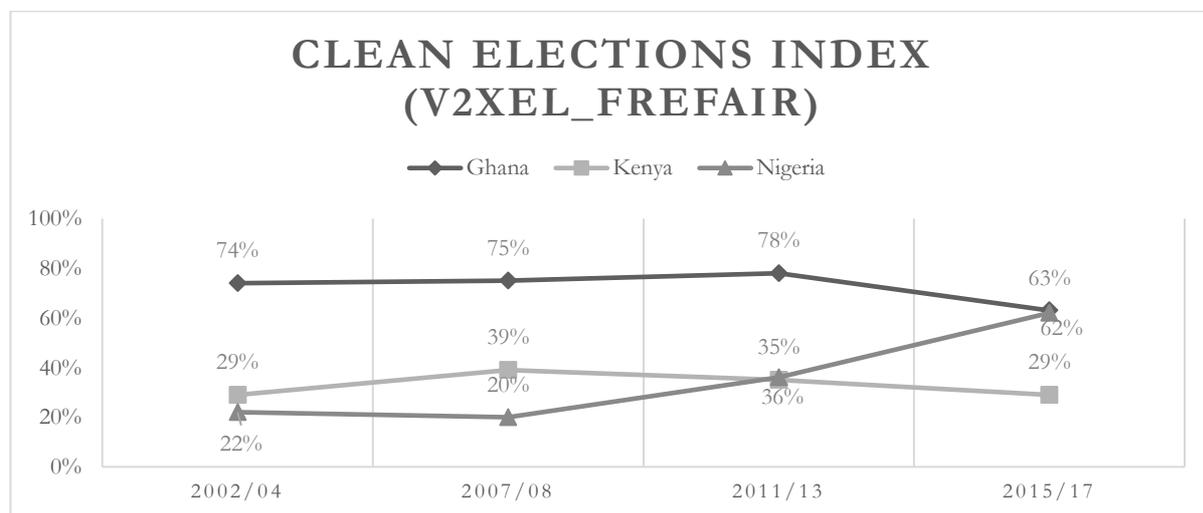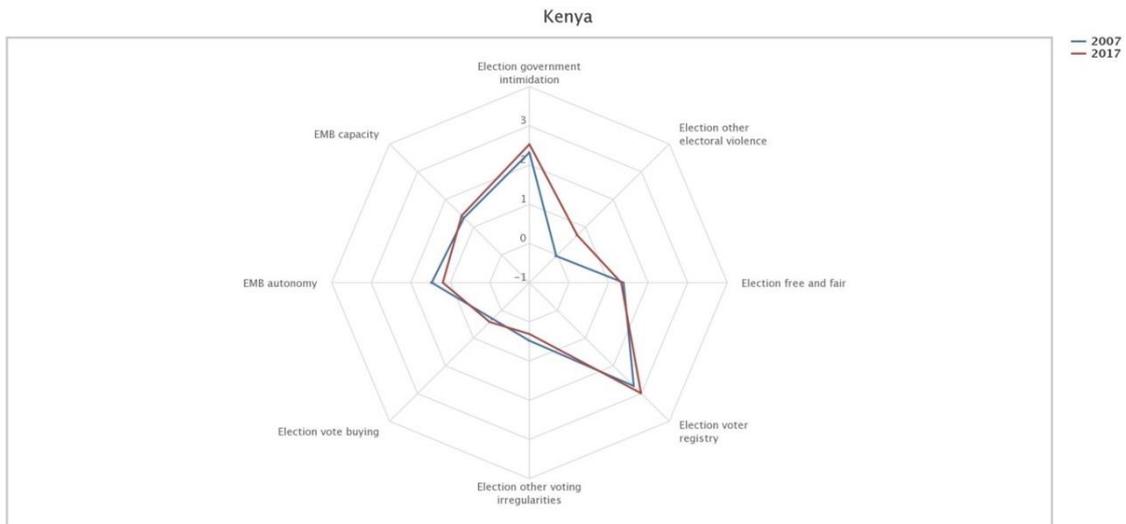

Source: Varieties of Democracy dataset.

A positive increase of election transparency from the third to the fourth cycle would have been expected for all three cases. However, in Kenya, election transparency decreased by about 4% from 2007 to 2013 and 6% from 2013 to 2017. In Ghana, election transparency suffered a 15% regression from 2012 to 2016, despite the fact that, across four election cycles, the country shows

the highest election transparency. Nigeria not only remained the only case where election transparency increased between election cycles with deployments (26%), but also registered a consecutive positive increase totalling 42% since the first deployment, while Kenya and Ghana registered total decreases of 10% and 12% respectively.

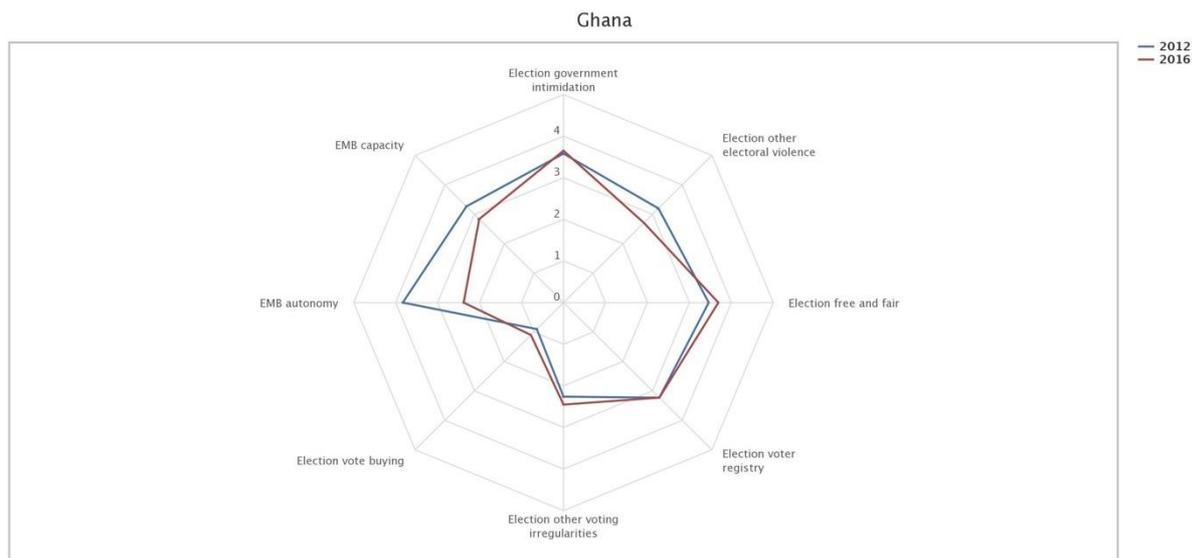Figure 5. Clean Elections Index: variable breakdown in Kenya in 2007 and 2017.

Source: Varieties of Democracy dataset.

Figure 6. Clean Elections Index: variable breakdown in Nigeria in 2011 and 2015.
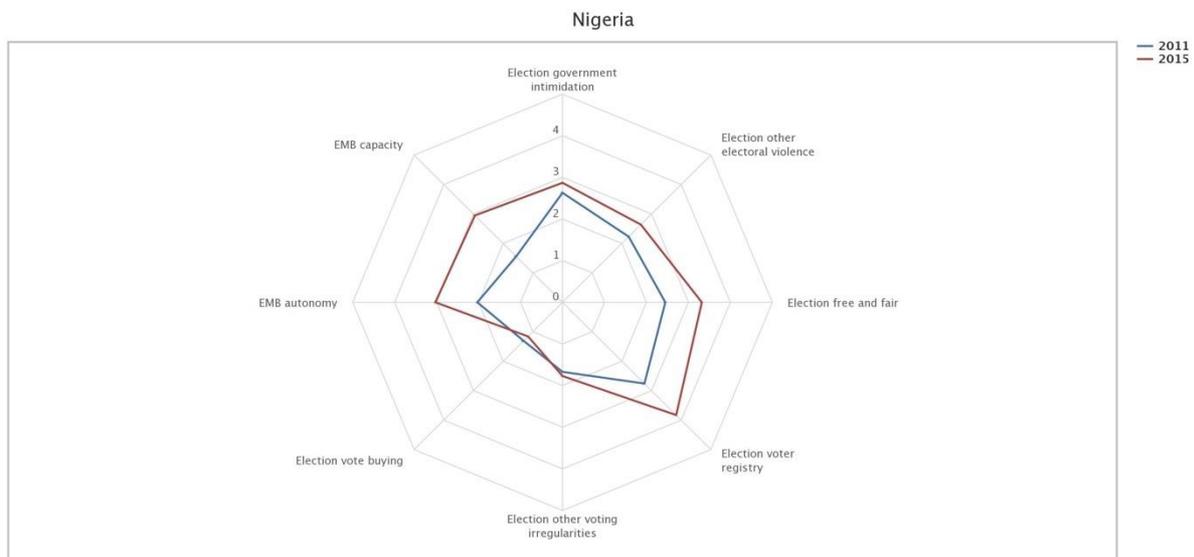
Source: Varieties of Democracy dataset.

Figure 7. Clean Elections Index: variable breakdown in Ghana in 2012 and 2016.

Source: Varieties of Democracy dataset.

A breakdown of the election transparency data will illustrate the character of each election and the Clean Elections Index's scores. These variables are presented in Appendix 3. The breakdown of election transparency in the radar graphs in Figures 5, 6 and 7 does not show many similarities between the cases. However, confirming the analysis in Figure 6, Nigeria seems to be consistent with the improvement in most aspects of election transparency, with the exception of vote buying between 2011 and 2015. Ghana continues to be the country with the most favourable profile in election transparency, scoring better than Kenya and Nigeria in every single aspect.

As table 6 shows, in Nigeria and Ghana, the main pressuring issues are vote buying, voting irregularities and electoral violence. Although the reality of elections differs from country to country, there are common problems affecting elections in Sub-Saharan Africa, which can be mitigated by technology.

Table 6. Hierarchy of most pressuring aspects (from worst – lowest ranking and points - to best – highest ranking and points) affecting the 2015/17 election cycle in Kenya, Nigeria and Ghana.

	Kenya	Nigeria	Ghana	Aggregated Points	Overall Ranking
Vote buying	2nd	1st	1st	4	1st
Voting Irregularities	1rd	2nd	3rd	6	2nd
Electoral violence	3st	3rd	4th	10	3rd
EMB autonomy	4th	6th	2nd	12	4th

EMB capacity	6th	5th	5th	16	5th
Government Intimidation	7th	4th	7rd	18	6th
Free and fair elections	5th	7th	8th	20	7th
Voter registry	8th	8th	6th	22	8th

Source: Author.

Crowdsourcing Nigerian Elections

Nigeria is a resource- rich country that remains crippled by the experience of civil war between 1967 and 1970, following its independence from the United Kingdom in 1960, and by a chaotic transition to a republic. It has been trapped in an ongoing democratization process since 1999, ending three decades of military rule, and exhibits high levels of corruption. But are there prospects for change? Under the People's Democratic Party, Olusegun Obasanjo became the President of Nigeria on 29 May 1999 – which later became Democracy Day. Obasanjo was committed to democratic reforms and improving the country´s international reputation. His second term, following his re-election in 2003, became notable for the introduction of much needed checks and balances in Nigeria (Collier, 2009).

However, as incumbents look to remain in power, vote-buying and government intimidation have become usual practices in African elections, and new technologies, while useful to tackle these issues, with social media being praised for fostering political participation at Nigeria's 2011 and in 2015 elections (Madueke, 2017), also opened up a whole new world of potential strategies to rig elections and to exercise the same electoral wrongdoings (see Cambridge Analytica controversy during 2015 Elections in Nigeria in Cadwalladr, 2018).

In 2011, CSOs formed the coalition Enough is Enough (n.d.) to promote good governance and public accountability in the face of Nigeria's perceived high levels of corruption. Enough is Enough were behind several initiatives such as Shine Your Eye (n.d.), an SMS and web platform that facilitates engagement with National Assembly members, and ReVoda (n.d.), a mobile app that turns citizens into election observers. Reclaim Naija (n.d.) also emerged as a national platform for grassroots engagement in promoting electoral transparency and democratic government, bringing together a vast network of grassroots organizations across Nigeria, along with individual participants, mostly informal sector workers, such as mechanics, carpenters, traders, electricians, hairdressers. These movements were behind crowdsourced election monitoring missions in Nigeria´s general elections, using technology such as Ushahidi and Aggie, and live reporting of incidents to the

electoral committee through situation rooms full of untrained, yet committed citizens. The growth of civil society in Nigeria was facilitated by the rise of social media, which grew with internet availability. As seen in Figure 8, participatory democracy in Nigeria increased after 2007.

Commonly, voter turnout is perceived to be an indication of participatory democracy. However, as Table 7 shows, voter turnout in Nigeria has continually decreased since 2013, with the 2015 elections registering the lowest voter turnout (43.65 %) to date since the beginning of democratic rule in Nigeria.

Yet, despite the decreasing voter turnout, participatory democracy has slowly increased in Nigeria, as shown in figure 8. This index features other indicators such as the civil society participation index, measuring whether major CSOs are routinely consulted by policymakers, the commitment of people to these organizations, women´s participation and the process of legislative candidate nomination within party organization – from highly decentralized to party primaries (see Appendix 4).

Figure 8. Participatory Democracy, Electoral Transparency and Internet Growth in Nigeria from 2003 to 2015.
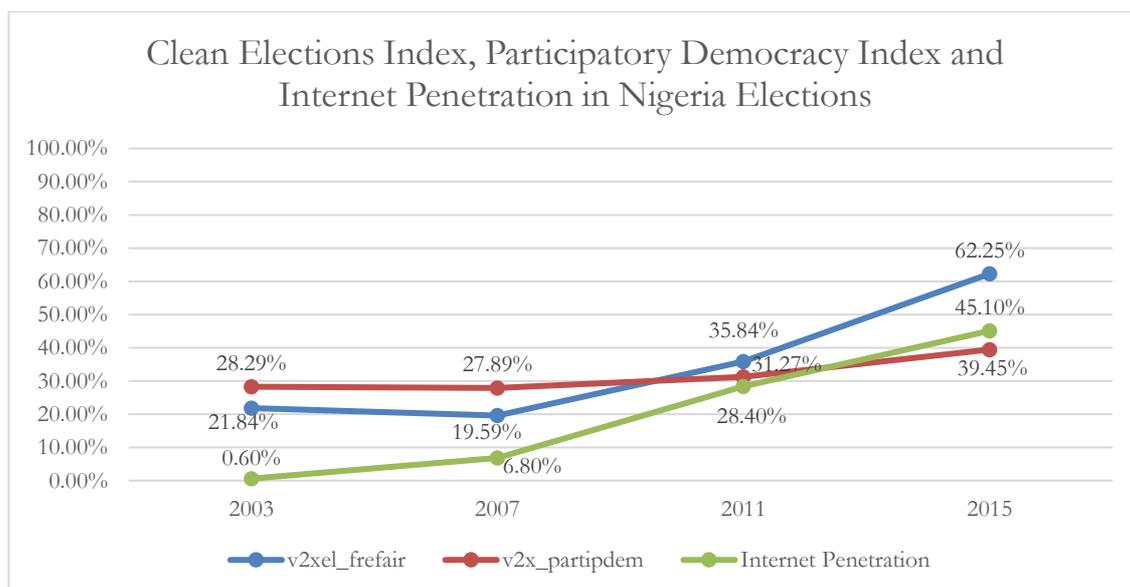
Source: Author; Varieties of Democracy dataset.

Table 7. Voter turnout in Nigeria from 2003-2015.

Elections	Registered Voters	Turnout	Percentage
2003	60,823,022	42,018,735	69.08 %
2007	61,567,036	35,397,517	57.49 %

| 2011 | 73,528,040 | 39,469,484 | 53.68 % |
| 2015 | 67,422,005 | 29,432,083 | 43.65 % |

Source: African Elections Database available at africanelections.tripod.com/ng.html.

Figure 9 features the breakdown of the Clean Elections Index, which allows for the understanding of the effects of crowdsourced election monitoring on election transparency, and shows that, despite the unfavourable picture of election transparency in Nigeria across different election cycles, the results only started to improve substantially after the first crowdsourced election monitoring mission in 2011.

Figure 9. Clean elections index breakdown by variable in Nigeria.
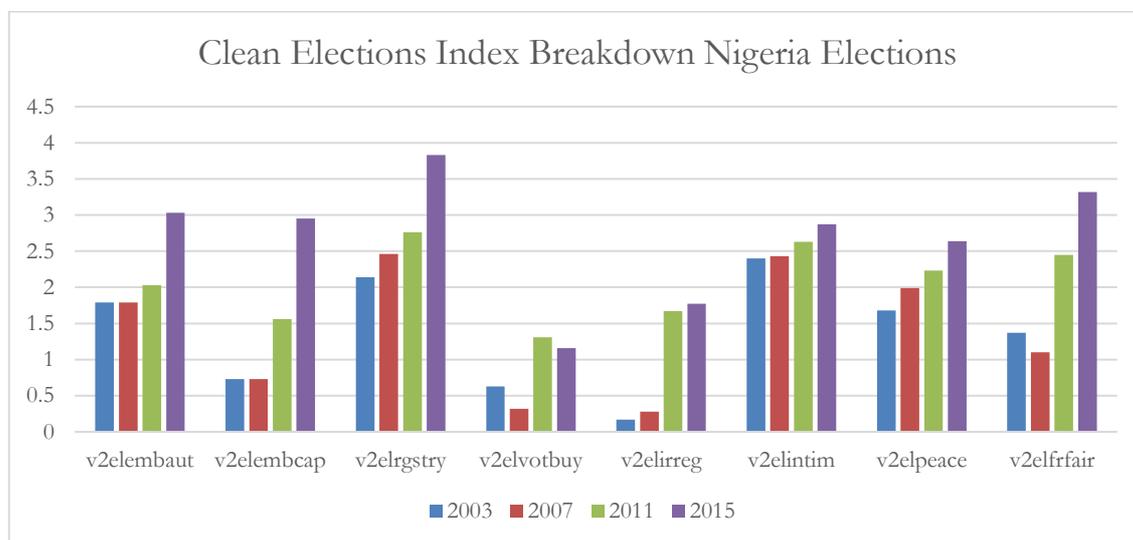
Source: Varieties of Democracy dataset.

Among the most substantial improvements on election transparency from 2011–2015 feature, firstly, the electoral management body's capacity to act faster on reports and incidents submitted by citizens, through a more efficient use of resources; secondly, improvements in the accuracy of the voter registry, including voter education and better practices; and thirdly, the electoral management body´s increased autonomy from the government and its ability to impartially apply electoral laws, as, thanks to the vigilance demonstrated by ordinary citizens, who watch the elections unfold on social media where they express their views, there is more pressure and scrutiny for the electoral body to follow the law and demonstrate fairness. Nonetheless, and although elections have become increasingly more democratic and transparent in Nigeria, the public perceptions of corruption have worsened, although this could be due to the fact that citizens will perceive campaigns, candidates and government to be more corrupt in light of the increased available information, even if in reality corruption has not increased (Transparency International, 2018).

Vote buying is still a problem in Nigeria, although it has drastically improved since the first crowdsourced election. An explanation for this is that vote buying happens offline, particularly involving the most vulnerable, such as low-income voters, who are targeted in rural areas deprived from internet access and social media, and is therefore outside the scope of CSOs taking a more active role in election monitoring.

The progressive decrease of electoral violence confirms Lindberg's (2006) belief that repeated elections result in more peaceful competition. It seems that this is not exclusive of holding multi-party elections, but that the new digital technologies and its new role in elections is a relevant factor. Whilst this seems to be true for Nigeria, the same cannot be confirmed for other Sub-Saharan countries.

It is relevant to add to this analysis that the recent election in Nigeria, in November 2019, had the lowest voter turnout in 20 years of democratization as only 30 % of Nigerians voted (see Oladipo, 2019), fitting with the data presented in Table 7. Voter turnout progressively decreased from 69 % in 2003, 58 % in 2007, 54 % in 2011 and 44 % in 2015, a symptom of continuous lack of trust and faith in the political system and institutions. In this latest election, polling stations were reported closed due to violent outbreaks, and there were problems with voter registry, issues that had been identified as pressuring in past electoral cycles in Nigeria. Although some believe that these problems could have affected the turnout, it is not yet possible to understand the extent to which they influenced the election results and how they reflect on election transparency. Yet, some analysts suggested that the use of technology helped improve voting systems (electronic voting) and voter education and awareness, while decreasing fraudulent behaviour.

Results

Was it proven that crowdsourced election monitoring, as a manifestation of participatory democracy, can improve election transparency, and therefore contribute to the quality of elections in Nigeria, as well as in Sub-Saharan Africa? To understand this, we need to look at the hypotheses and our results.

- *H_0: Crowdsourced election monitoring does not improve election transparency in Nigeria, and no findings showed whether it could improve election transparency in Sub-Saharan Africa.*

Although election transparency and participatory democracy improved over a ten-year period in Sub-Saharan Africa, no evidence was found that crowdsourced election monitoring can improve election transparency in the region. However, in the case of Nigeria, we can see that, since the first deployment of crowdsourced election monitoring in 2011, election transparency

progressively improved from approximately 20 % in 2007 to 36 % in 2011, and 62 % in 2015. Participatory democracy increased since 2007, despite a steady decrease in voter turnout since 2003. We showed how citizens were able to report incidents and wrongdoings in real time through crowdsourced election monitoring, which capacitated the electoral management body to act immediately on information received and confirmed by software such as Ushahidi. In every election in Nigeria where CSOs organized a crowdsourced election monitoring mission, almost every single aspect of election transparency improved. For these reasons, we reject H_0.

- *H_1: Crowdsourced election monitoring improves election transparency in Nigeria and has the potential for improving election transparency in Sub-Saharan Africa.*

There were common problems to elections in Kenya, Ghana and Nigeria, such as vote buying, voter registry issues and electoral violence. However, the comparative analysis of the three cases did not show a consistent increase of election transparency in election cycles where crowdsourcing election monitoring missions were deployed: Therefore, it was not possible to identify a causal mechanism to link the dependent and independent variables. In Kenya and Ghana, election transparency decreased by a total of 10% and 12% respectively since the first electoral cycle with significant ICT penetration, while in Nigeria, election transparency increased by 32%. Therefore, we also reject H_1.

- *H_2: Crowdsourced election monitoring improves election transparency in Nigeria, yet this is a case-specific outcome and cannot be generalized to apply to the region.*

The growth of the political participation of CSOs in Nigeria through movements such as Enough is Enough and Reclaim Naija show increased civic and political awareness in the country; there is also a demand for accountability and transparency, with social media playing a big role. Therefore, significant findings regarding the case of Nigeria confirm that the improvement of election transparency is linked to the increase of participatory democracy through crowdsourcing initiatives, such as crowdsourced election monitoring. Having rejected the idea that this is true for Kenya or Ghana, or the Sub-Saharan Africa region, we demonstrated that this link is valid for Nigeria. Therefore, we accept H_2.

Conclusion and Further Research

Several areas for further research were identified, relating to processes of democratization in Sub-Saharan Africa, the rise of social media and ICT penetration in the region, and the growth of the civil society's participation in political processes. Firstly, *technology can contribute to mitigate issues affecting election transparency*. There were common problems to the elections in these countries, such as

vote buying, voter registry issues and electoral violence, which technology can help to overcome, especially through crowdsourcing systems that can inform and capacitate the electoral management body in real time. Exposing these issues becomes easier as access to internet expands, opening channels of communication to share information and to mobilise people. This is yet to be confirmed by further deployments and research.

Secondly, *in African countries with more democratized civil societies, these were empowered by the growth of ICTs.* African countries such as Kenya and Nigeria – although not democracies – have a more democratized civil society that fulfils Habermas's dual orientation (users of the public sphere in pursuit of their own political goals, but also creators of the public sphere by expanding democracy and influencing the political system). Data showed that CSOs in Kenya, Ghana and Nigeria, flourishing along the rise of ICTs, helped capacitate electoral management bodies and reinforce their autonomy. It is still unclear whether internet availability necessarily means more political participation, therefore more research is needed as ICTs permeate Sub-Saharan Africa and civil societies become more aware of political processes.

Thirdly, *the digital age in Sub-Saharan Africa: awareness, participation and scrutiny.* Social media is becoming more relevant in some African elections. Enough is Enough in Nigeria uses a variety of tools that rely on access to the internet and to social media that allows it to reach out to more voters for voter education and awareness campaigns, capitalizing on the fact that more than 86 million Nigerians have access to the internet, the largest group of people in Sub-Saharan Africa. As social media has the potential to add a new level of scrutiny, then what would a digital era mean for incumbents and one-party states in Sub-Saharan Africa? Therefore, a recommendation for further research is on the importance of regulating social media to counter emerging threats such as misinformation, disinformation and *fake news*, and to create mechanisms to mediate this new public sphere.

Fourthly, *elections represent opportunities to improve democratic processes.* According to Fukuyama, the failure of institutionalisation in Sub-Saharan Africa was responsible for the stagnant democratization (2015: 12). Yet, this did not shake the demand for democracy nor the determination of CSOs in electoral monitoring, as seen in Nigeria where election transparency improved considerably in 2011 and 2015. This confirms Diamond and Plattner's idea that building democracy in Africa is a bottom-up affair (2010: 50). Although civil society has been noted as an essential condition for democracy, is it enough to advance democracy when institutions are weak? If so, can the growing participation of civil society in the political sphere become the engine of democratic advancement? Nigerians, out of 28 countries in Sub-Saharan Africa, are amongst the ones who least believe that people can fight

corruption. Yet, Nigeria is an example of civil society´s strength in taking a more active role during elections. The role of CSOs such as Enough is Enough and Reclaim Naija in the 2011 and 2015 elections are examples of how participatory democracy has increased in the country, despite voter turnout progressively decreasing since 2007. The social and horizontal nature of crowdsourced election monitoring makes it accessible for citizens to engage during elections.

The conclusions presented above should be interpreted with care. It is also important to point out that the dependent and independent variables in this study, taken from the V-Dem dataset, include other components that were not addressed in depth in this study. Still, we chose to use the V-Dem Clean Elections Index as election transparency for the dependent variable since we believed the components were the most relevant to this research and for looking at election cycles over time, although this single measure is not, on its own, enough to claim causality.

All in all, this ambitious yet limited research contributes to the literature on the changing political landscape in Sub-Saharan Africa facilitated by the rise of ICTs - as social media permeates people's lives, political affairs and elections, and opens up new opportunities for civil society to take part and even shape democratic processes, it also brings new threats and challenges whose dimension remains unknown. Therefore, it is of the most relevance and urgency to further research these topics.

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Appendices

Appendix 1 – Smartphone Adoption in Africa 2010-2020
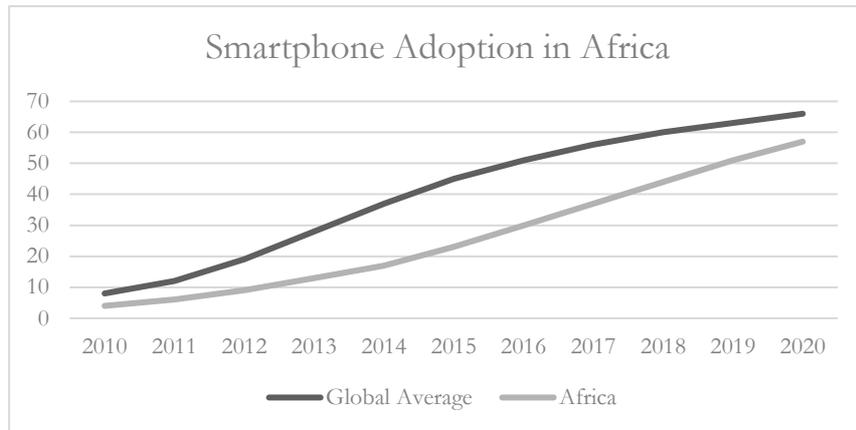
Source: GSMA Intelligence, available at https://www.gsmaintelligence.com/research/?file=3bc21ea879a5b217b64d62fa24c55bdf&download (accessed on 2 July 2018).

Appendix 2 – Statistical regression between Participatory Democracy Index and Clean Elections Index using SPSS Statistics for the Sub-Saharan African region

2.1. Pearson correlation coefficients – Participatory Democracy and Clean Elections Index

2.1.1. Pearson correlation coefficient for 2007

<div align="center">Model Summary</div>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.924a	.854	.851	.10666	.854	274.111	1	47	.000

a) Predictors: (Constant), Participatory democracy index

b) Dependent Variable: Clean elections index

2.1.2. Pearson correlation coefficient for 2017

<div align="center">Model Summary</div>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.872a	.761	.756	.12850	.761	152.463	1	48	.000

a) Predictors: (Constant), Participatory democracy index

b) Dependent Variable: Clean elections index

Data source*: V-Dem dataset,* analysed using SPSS.

2.2. Box Plots Output – 2007 vs 2017

2007   2017
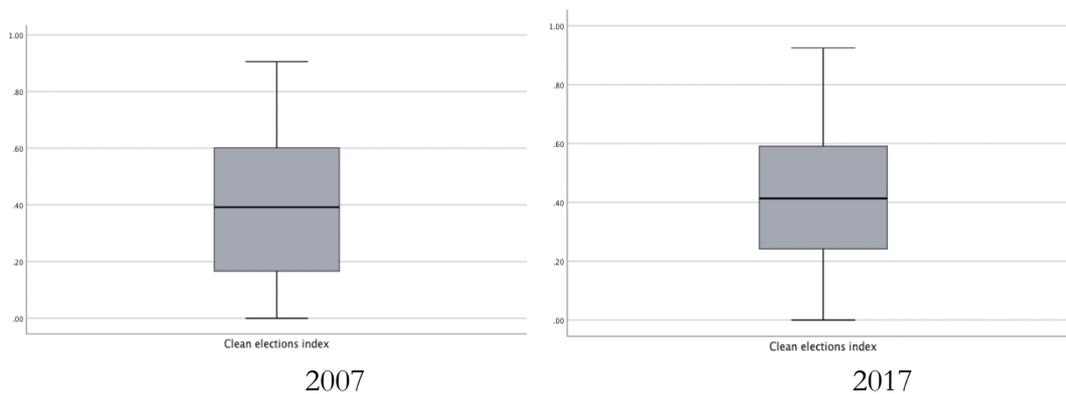
Data source*: V-Dem dataset,* analysed using SPSS.

Appendix 3. Codification of the Clean Elections Index, Establishing Variables and Survey Questions

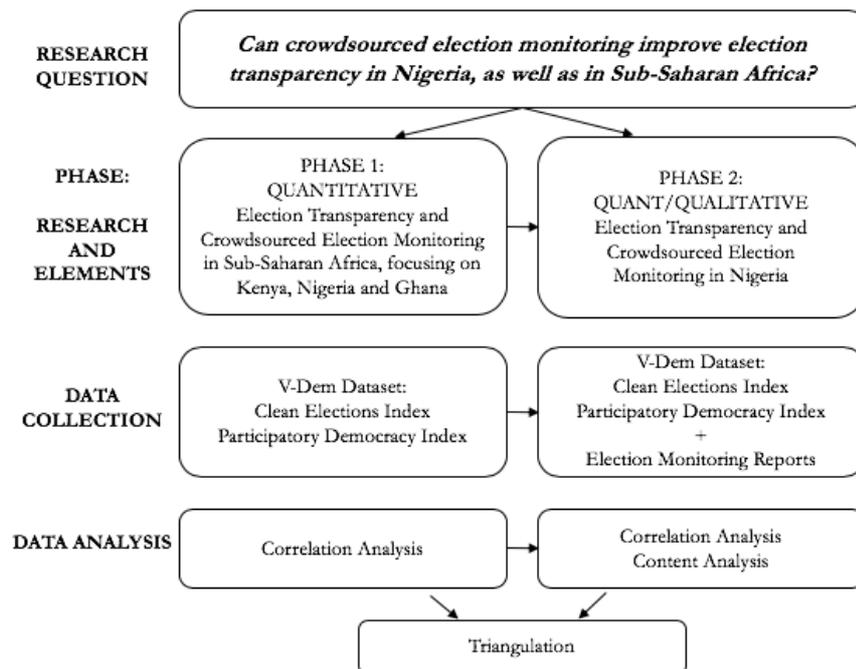| Variable	Question	Coding
Clean elections index	*To what extent are elections free and fair?*	v2xel_frefair
1. EMB autonomy	*Does the Election Management Body (EMB) have autonomy from government to apply election laws and administrative rules impartially in national elections?*	v2elembaut
2. EMB capacity	*Does the Election Management Body (EMB) have sufficient staff and resources to administer a well-run national election?*	v2elembcap
3. Election voter registry	*In this national election, was there a reasonably accurate voter registry in place and was it used?*	v2elrgstry
4. Election vote buying	*In this national election, was there evidence of vote and/or turnout buying?*	v2elvotbuy
5. Election other voting irregularities	*In this national election, was there evidence of other intentional irregularities by incumbent and/or opposition parties, and/or vote fraud?*	v2elirreg
6. Election government intimidation	*In this national election, were opposition candidates/parties/campaign workers subjected to repression, intimidation, violence, or harassment by the government, the ruling party, or their agents?*	v2elintim
7. Election other electoral violence	*In this national election, was the campaign period, election day, and post-election process free from other types (not by the government, the ruling party, or their agents) of violence related to the conduct of the election and the campaigns (but not conducted by the government and its agents)?*	v2elpeace
8. Election free and fair	*Taking all aspects of the pre-election period, election day, and the post-election process into account, would you consider this national election to be free and fair?*	v2elfrfair

Note: The variables used a scale from 0 – 4, where 0 meant the worst-case scenario and 4 the best-case scenario. For example, for the variable *Election vote buying* where the question was "*Was there evidence of vote and/or turnout buying?*", 0 would be "There was systematic, widespread, and almost nationwide vote/turnout buying by almost all parties and candidates", while 4 would be "There was no evidence of vote/turnout buying". Source: V-Dem Code Book (Coppedge et al., 2018b: 44, 375).

Appendix 4. Codification of the Participatory Democracy Index, Establishing Variables and Survey Questions

Variable	Question	Coding
Participatory democracy index	*To what extent is the ideal of participatory democracy achieved?*	v2x_partipdem
1. Electoral democracy index	*To what extent is the ideal of electoral democracy in its fullest sense achieved?*	v2x_polyarchy
2. Participatory component index	*To what extent is the participatory principle achieved?*	v2x_partip
2.1. Civil society participation index	*Are major CSOs routinely consulted by policymakers; how large is the involvement of people in CSOs; are women prevented from participating; and is legislative candidate nomination within party organization highly decentralized or made through party primaries?*	v2x_cspart
2.2. Direct popular vote index	*To what extent is the direct popular vote utilized?*	v2xdd_dd

Source: V-Dem Code Book (Coppedge et al., 2018b: 41, 46-47, 377).

Appendix 5. Research Design using a Mixed-Methods Approach

Source: Author.