

Biometric Technologies, Electoral Fraud and the Management of Elections in Nigeria and Zimbabwe

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Abstract

The introduction of biometric technologies (BT) in Africa's developing democracies has raised concerns on the BT effect on voter turnout and voter confidence. Questions have also been raised about BT effectiveness as an anti-rigging and anti-fraud solution that would ensure credible elections. Through secondary and survey data, the study used Nigeria and Zimbabwe in Africa as units of analysis, as both countries have similar historical trajectory and conditions like weak institutions, reliance on international donors and the use of BT. The study discovered that at the pre-election stage, BT use enhanced election credibility as evidenced in computerized voter register and Smart Card Readers (SCR). It also discovered that at the election stage, biometric technologies served as an effective anti-rigging measure by eliminating cases of unregistered voting, ballot stuffing and multiple voting. The study further shows that the application of biometric technologies affects voters' confidence and turn out negatively. For instance, the more biometric technologies (BM) are deployed and used in Nigeria and Zimbabwe, the modest the level of voters' turnout (43.65% in 2015 elections and 52% 2000 elections respectively), showing the limitations of BT in resolving issues of voters' confidence, turnout and electoral fraud in Nigeria and Zimbabwe.

Keywords: Biometric Technology; Elections: Fraud; Election Management; Nigeria; Zimbabwe.

1. Introduction

The introduction of biometric technologies (BT) in Africa's developing democracies, especially in Nigeria and Zimbabwe, was based on the need to eliminate electoral fraud, increase voters' turnout and boost voters' confidence in the electoral process. This was predicated on the belief that increased voters' confidence and turnout through the elimination of electoral fraud would increase the integrity and credibility of elections in the continent (Afolabi and Ogunne 2018). In Nigeria, BT was used extensively during the 2015 general elections and in subsequent elections. It was introduced in Zimbabwe in 2017 for voter registration and used in the 2018 general elections. In the two countries, the problems and challenges of manual voters' register, multiple voting, ballot snatching and underage voting among others, necessitated the adoption of biometric technology as an anti-rigging and an anti-fraud measure. This, it was hoped, would achieve the twin purpose of preventing voters' fraud and increasing voters' turnout during elections (Gelb 2018). Seemingly insurmountable electoral challenges characterised Nigeria's elections (Afolabi and Quadri 2015) and in Zimbabwe (Chigora and Chilunjika 2016) before the adoption of BT.

However, very little is known on how effective BT, as an election administration technique, has been in these two countries especially. Furthermore, very little assessment has been conducted of its value as an anti-rigging solution and how these technologies have contributed towards ensuring credible elections and how these technologies have impacted on management of elections in Africa. Nigeria and Zimbabwe because it was expected that BT introduction would eliminate electoral fraud without diminishing voter turnout and the political tensions that result from fraud concerns.

This article discusses the effects of the introduction of BT on electoral fraud and voter turn-out in Nigeria and Zimbabwe. It begins by unpacking the issue of election administration and voter turnout. This is followed by the discussion of problems of election administration in Nigeria and Zimbabwe before the discussion moves to an overview analysis of the drivers of electoral fraud and electoral democracy in Africa. This dovetails into a discussion of biometric technologies in elections, focusing on the usefulness and limitations of BT in addressing electoral fraud. Then the impact of BT on elections in Africa focussing on Nigeria and Zimbabwe is analysed. This analysis is central to understanding

the nature of electoral fraud and the role of BT role is curbing and eliminating it, with its impact on voters' turnout. The paper thereafter concluded with an interrogation of the extent of BT effectiveness on elections in the two countries and the feasibility of achieving credible elections.

The paper relied on a review of relevant extant literature, using a case study method as well as data gathered from surveys on elections in Africa. Data so collected were subjected to thematic descriptive and content analysis. This was with the view to unravel the effect of biometric voting on voter turnout, electoral fraud and voter confidence in elections.

2. Election Administration and Voters Turnout

Election administration procedures have been found to affect voters' turnout, either positively by increasing turnout, or negatively by reducing turnout (James 2010). Where electoral procedures are cumbersome and voting requirements are strict, some voters would be discouraged to get involved in the electoral process. Alternatively, voters are likely to turn up during elections to vote when the process is easier for them. This also implies that innovations such as biometric technology (BT) in election administration could either increase or reduce voter turnout. While the assumption, in theory, is that BT might reduce voter turnout in societies where literacy is low, the effect in practice may vary across voting groups and societies (urban/rural, literate/illiterate, male/female, old/young, rich/poor etc.). Wolfinger and Rosenstone (1980: 6-8) found that BT is useful 'in terms of benefits and costs of voting to the individuals...the easier it is for a person to cast a ballot. The more likely he is to vote'

Positive changes in voter turn-out in the West is linked to a variety of factors. It has been linked to the introduction of poll taxes (Filer, Kenny and Morton 1991; Kousser 1974; Rusk and Stucker 1978); registration procedure (James, 2010; James 2011); and registration closing dates (Mitchell and Wlezien 1995). The introduction of postal voting in some parts of UK led to an increase in voter participation (James 2011) as was the case in the states of the US in the 1970s and 1980s, (Magleby 1987; Southwell 2004) and in the Swiss Cantons elections between 1970 and 2005 (Luechinger, Rosinger and Stutzer 2007). Similar trends were observed regarding the introduction of internet voting in the West. It had a positive effect on voter turn-out among young voters (Gibson 2001). But in

the UK local elections in 2002 and 2003, the introduction of internet voting depended on the extent to which voters used the internet, as a result, the impact was low (James 2010; 2011).

Identification requirements during voting are yet another election administration procedure that has been found to influence turnout. While identification has been tagged important for curbing electoral fraud, it also can influence turnout negatively (James 2010; Vercelloti and Anderson 2006. Alvarez, Bailey and Katz (2008a) also found that stricter identification process negatively affected less educated and lower-income population, and racial and ethnic minorities in the West (Barreto 2007 and Ansolabehere 2009).

The introduction of compulsory voting in election administration has also been found to increase turnout (Birch 2009; Tingsten 1963; Jackman 1987; and Hooghe and Pelleriaux 1998). It has also been found that compulsory voting law has significantly increased turnout only where there are sanctions to non-voters, otherwise it has no impact on turnout (James 2010; Birch 2009: 85).

These explanations are true to the extent that cultural differences exist in different settings (Bertrand, Briquet and Pels 2007). As such, it is unrealistic to expect voter behaviour to be similar across geopolitical regions and cultural boundaries. Hence, Schaffer (2008) avers that similar electoral reforms can have different effects in different situations. Therefore, the introduction of certain policies in election administration including biometric technology effect on voters' turnout boils down to factors that are peculiar to individuals and groups in both developed and developing democracies, Nigeria and Zimbabwe inclusive.

3. Election Management in Nigeria and Zimbabwe: Issues and problems

Election management, while on the surface may appear easy, is riddled with difficulties, the critical of which is how to make votes count. In Africa and other developing democracies, the problem of election management is steeped on the nature of elections and electoral democracy where the idea of losing is considered anathema and opposition is seen as an enemy. Elections and its management, which is the primarily the responsibility of the Electoral Management Body (EMB), are usually approached as akin to warfare by politicians which creates problems for the EMB in terms of managing the political class proclivity to manipulate elections and the electoral process.

The history and profile of the EMBs in Nigeria and Zimbabwe do not inspire much confidence in the electorate given the non-credible electoral outcomes that have been witnessed in the countries under reference (Afolabi 2014). The issues of electoral fraud are directly tied to the institution, structure and frameworks of election management and electoral institution, structures and frameworks depict the workings of an EMB (Afolabi 2014). The institutional aspect of the EMB in Nigeria and Zimbabwe including the laws setting them up is worth interrogating. In these cases, the institution is tied to the executive arm and is open to executive control, like the presidency, so the EMB as an electoral institution does command trust or inspire confidence in the conduct and management of elections. This in turn tends to reduce voters' turnout (Fraga, 2018), enable electoral manipulation, increases fraud and depresses turnout.

Key concerns with EMBs include the structure of power, the process of recruitment of the bureaucracy and the quality/integrity of the staff. If any of the building blocks of the structure of EMB is flawed, it will be difficult to guarantee the integrity and credibility of elections. Concerning electoral frameworks/process, the questions relate to how strict the rules are, level of compliance by political parties, election financing including the sources and level of finance that parties could seek and receive. For instance, a strict and/or flawed electoral framework/process will likely also decrease voters' turnout. The process described above has been witnessed in Nigeria leading to decreased voters' turnout (Afolabi and Ogunne 2018).

Furthermore, the questions of how electoral infringements are handled and resolved also contribute to the credibility of elections. In Nigeria and Zimbabwe, electoral disputes are hardly resolved through the judicial process in time. In most cases, the judicial process takes a long time and those sworn in based on disputed elections stay in office for more than half of the tenure the constitution prescribes. In Nigeria and Zimbabwe, issues in EMBs' institution, structure and frameworks/process are muddled. When infractions occur, there are no clear-cut procedures to prevent re-occurrences and where laws/rules exist, they are not enforced for varieties of socio-cultural and political reasons (Jennings 1999). This is because political, and even electoral issues are not just technical processes but are intertwined with socio-cultural and economic determinants that can shape electoral and democratic outcomes. When the negativities associated with the political process is higher than positives, either as a result of unpleasant memories

from undemocratic regimes (like in Nigeria and Zimbabwe), or disappointment from civil rule, the tendency is for citizens to become alienated and withdrawn from the electoral process.

4. Electoral Fraud: Understanding the Drivers

Electoral fraud has been identified as a peculiar feature of undemocratic elections (Alvarez *et al* 2008). The nature and dynamics of electoral fraud are broad (Lehoucq and Molina 2002) and its antidotes are beyond total comprehension (Lehoucq 2002). The incidence of electoral fraud cannot be divorced from the desperation to access and maintain power in Africa. As has been alluded to in the work, politics and by extension, electoral democracy in most emerging democracies is based on winners takes all, necessitating the deployment of legal and illegal means to win at the ballot. As it is becoming increasingly clear that elections matter, more resources are being deployed by politicians to circumvent the process and rules guiding elections, even if it necessitates engaging in electoral infelicities.

Electoral fraud pertains to infelicities, irregularities and manipulations that attend the management and conduct of elections. Perceptions of and actual incidents of electoral fraud harm the electoral integrity and voter turnout in elections. Once trust is lost and/or there is a perception that an EMB or its staff are compromised, the tendency is to see the conduct of such election and its outcomes as tainted. This is because ‘perceptions of fraud can be as damaging as actual incidents of electoral fraud’ (Electoral Commission, 2014: 1). Instructively, electoral fraud can occur at any stage of the electoral process/cycle; pre, during and post-election stage. Fraudulent elections, while occurring in all democracies, has become identified with electoral democracy in Africa. This is related to the widespread incidences of election rigging, manipulations, doubts and scepticisms that have emerged about the possibility of credible elections in the continent (Sanusi and Nassuna 2017).

Electoral fraud or perception of it is on the rise (Lehoucq 2002; Hill *et al* 2017). While as Hills *et al* (2017) argue, electoral fraud is rare in most developed democracies, hence, they attract less scholarly attention, the controversial results produced by the 2000 presidential election in the United States illustrates the fact that this can also manifest in old democracies (Issacharoff, Karlan and Pildes 2001

and Merzer 2001) and can occur in several forms, especially in postal and internet voting (Birch and Watt 2004). While fraud increases with social inequality, the political competition shaped by institutions determine the strategies politicians choose to rig election (Lehoucq 2003). It is linked to poverty (Jensen and Justesen 2014), lack of voter education as well as voter intimidation thus compromising the interest of the weaker actors in electoral competitions (Collier and Vicente 2012). It can also take the form of vote-buying and selling, ballot stuffing, ballot snatching, voters' intimidation, vote falsification, voters' coercion, election results manipulation and electoral violence among others. It is, therefore, necessary to examine the factors that account for the high level of prevalence of electoral malfeasance, which is what this paper attempt below.

3.1 *Dependent Independent Electoral Management Bodies*

Some Election Management Bodies (EMBs) are dependent on the ruling political party/government in power (Norris 2015; Elklit and Reynolds 2001). These EMBs are only independent in name being highly dependent on the government for appointment, funding and logistics. The arbitrary appointment of EMB officials, executive control of the purse (fund) and the existence of weak laws are part of the foundational problems of EMBs in Africa (Afolabi 2014). In some cases, partisanship comes from the fact that many of the appointed electoral commissioners are members of the ruling political party (Omotola 2010). With the level of partisanship so high, trust and confidence in the electoral process are often low, and the introduction and use of BT, has not restored the trust.

The ballot fraud is thus made possible and easy in Africa by incumbents' control over the elections via supposedly independent electoral commissions (Collier and Vicente 2012). Suffering from weak institutionalisation and a carry-over mentality of the military era, EMBs are often manipulated to effect electoral fraud through a false declaration of false/fake results (Afolabi 2014). This often creates room for electoral fraud. When the former head of the Zimbabwe Electoral Commission, George Chiweshe, noticed that president Robert Mugabe was losing the 2008 presidential elections, he withheld the results (Makumbe 2009; Mapuva 2010). Other electoral fraud incidents abound in Zimbabwe (Chigora and Chilunjika 2016). Similarly, when it was noticed that Emmerson Mnangagwa was losing the election in 2018, the results were delayed

and announced late at night (Hopps 2018). Also, during the Olusegun Obasanjo administration, (1999-2007), the Independent National Electoral Commission of Nigeria (INEC) displayed partisanship by favouring the ruling party/ruling government and serving as a tool for the executive to decide electoral outcomes without recourse to the actual votes cast (Sahara reporters 2007).

However, for van Ham and Lindberg (2015), the effect of independent EMBs on electoral integrity are mixed. While regional comparative studies on Latin America and Africa show that independent EMBs can foster electoral integrity (Hartlyn *et al* 2008; Rosas 2010; Fall 2012); a broader global comparative study of EMBs show a negative effect of EMBs on electoral integrity or a weak effect on electoral integrity (Birch and van Ham 2014), or no effect at all (Norris 2015).

3.2 *The Zero-Sum Game Nature of Electoral Contest*

Electoral politics in Nigeria and Zimbabwe amounts a zero-sum game where the winner takes all. Winners have access to public purse without checks and balances. Given the access to the state's fund, the reluctance of the incumbent political party/leader is arguably the most important factor that has driven electoral fraud on the continent. The desperate manoeuvring to remain in power perpetually by politicians, irrespective of the party they belong to, has been a major driver of electoral fraud in Africa (Arnold 2014; Mapuva 2013). This was the case in Zimbabwe from 1980 till 2017 with Mugabe as president. It was evident also when elections held in-between 1980 and 2017, they were marred by allegations of electoral fraud and partisan connivance by Zimbabwe EMB (ZEC) with the ruling party/government. Even the 2018 Elections, which took place after Mugabe was removed from power, were subject to similar perceptions. In Nigeria, unsuccessful attempts were made by former President Olusegun Obasanjo to cling to power through the infamous third term move by which he sought a third electoral term in power by through electoral manipulation. Many times, the tendency to cling to power have resulted in electoral violence, which enabled electoral fraud and violence in (Mapuva 2010; 2013) which has resulted in hundreds of deaths as witnessed in Nigeria in 2007 and 2011 general elections.

This is all part of an autocratic tendency in African politics generally. Harming Africa's democratic space is the culture of intolerance, giving rise to autocratic mentality. This is also connected to long years of military rule. In this culture, the

opposition is seen as an enemy that must be defeated, inclusive of electoral fraud. This impedes democratic politics on the continent (UNDP 2016). A corollary effect of this is that rights, freedom and choice of citizens and the electorates are trampled upon, including the freedom and rights of electorates to vote and to be voted for (Lopez-Pintor 2010). The autocratic political culture encourages acts of electoral intimidation, electoral coercion, vote-buying, political assassinations and electoral violence among others (Vorrath 2011).

3.3 *Ethnicisation of Electoral Politics and Poverty*

Through coalition-building efforts and political settlement, ethnicity has sometimes been employed and exploited to perpetuate and justify electoral fraud, violence and autocracy as each ethnic group seeks a stake in the power configuration. Each ethnic group share of the political power and its accruable benefits are distributed based on the number of votes delivered to the ruling party/government. The race to contribute votes, which determines the proportion of ministerial and other appointments has made ethnicity a veritable tool that is used to perpetrate electoral fraud. Likewise, the competition among ethnic groups and the perceived attempt by one ethnic group to dominate and the rivalry it spurns, extends to electoral politics, resulting in different kinds of fraud, as each group tries to achieve its electoral goal. Bratton (2008) argued that ethnic voters vote along ethnic lines in the hope they will benefit from such choices, and this mentality predisposes them to engage in fraudulent electoral activity to realize this. Electoral fraud driven by ethnicity in Africa has been observed in Nigeria and Zimbabwe too, among other countries (Afolabi 2017; Mapuva 2013: 91).

Relatedly, the high incidence of measurable poverty seen in the low standard of living in Africa has contributed to rampant cases of electoral fraud (Afolabi 2017). As a driver of electoral fraud, it manifests in vote-buying, corrupt inducement of EMB staff and recruitment of poor persons to serve as political thugs and agents of violence. It must be understood that poverty in Africa is a political and economic tool used by Africa's elites to buy and sell votes to fraudulently influence electoral choice and outcomes. The incidence of poverty is usually used in conjunction with ethnicity and other factors to perpetrate electoral fraud in the continent (Afolabi 2017).

3.4 Influence of Military Rule

In several African countries, the long years of military rule had the effect of institutionalising authoritarian ethos and culture because the military as an institution is hierarchical with an autocratic command structure. For example, most of the constitutions in post-military democratic states in Africa are the handiwork of the military. In Nigeria, the 1979 and the 1999 constitutions were drafted and promulgated under military rule. The military ethos could not but affect the democratic politics of the post-military rule where the logic of force (military) is preferred to the logic of reasoning and persuasion (democracy). In Zimbabwe, as in most of Southern Africa, there was no formal military rule, but the military leadership was enlisted by longstanding rulers to play a background role in fostering authoritarian tendencies. Studies show that Mugabe's reign of political violence and harassment of electoral competitors was assisted by the armed forces who were his major supporters (Blessing-Miles 2020). It was the military that also decided Mugabe's fate and keeps his successor in power with many of its leaders now appointed into civilian positions including deputy president and minister of foreign affairs (BBC News 2017). Thus, the militarisation of politics in Zimbabwe is an important trend in the political process in the country, though it differs from Nigeria where there was full military take-over several times. The net effect of this is a command electoral democracy where the elites (civilian and military) decides electoral outcomes and the electorate have limited influence (Afolabi 2019).

3.5 Biometric Technologies: Usefulness and Limitations

To reduce and possibly eradicate election fraud and malfeasance, many EMBs have had to turn to the use of BT to improve the integrity and credibility of elections (Gelb 2018). Biometrics generally refer to the 'measurement and analysis of unique physical or behavioural characteristics, especially as a means of verifying and identifying an individual' (Wolf 2017: 1). Biometric technology, therefore, involves the science of verification, identification and capturing of the physical, anatomical and biological features/characteristics of humans for many purposes that mainly borders on security and often used to prevent criminalities and

apprehend criminals (Bolle *et al* 2004). Commonly captured through electronic means are thumbprints, face/eye impressions, fingerprints, palm prints, retina and iris scans, voice patterns and DNA profiles and other physical details that make up the biometrics of individuals (Bolle and Pankanti 2004). With its origin in biological sciences, BT has become expanded and is now used in election management (Jain, Flynn and Ross 2008; Jain, Bolle, and Pankanti 1999).

Upon the return to civil democratic rule in Africa in the 1990s and 2000s, the use of the analogue/manual systems in election management became untenable given the increasing incidence of fraud in elections. Thus, many countries embraced the use of digital cameras and digital fingerprint pads for voter registration and validation. In Africa, presently more than half of all countries have adopted BT (Gelb 2018), an increase that is tandem with world trends (Wolf, IDEA, 2017). Such reforms by EMBs, according to Wolf (2017) are done with the understanding that BT would generate trust and confidence in the electoral process, and at the same time, eliminate the loopholes exploited in manual processes.

But BT does not guarantee fraud-less elections (Piccolino 2016). While one of the benefits associated with the use of biometric technology is that it accurately identifies and verify voter identity, it cannot verify the eligibility of voters to vote. Indeed, in many places in Nigeria, where power (electricity) infrastructure is weak, complaints of malfunctioning of the card readers are common (Afolabi and Ogunne 2018). Also, as Wolf (2017: 17) has argued, a registrant that is ‘underage, is a citizen or is eligible to vote in a certain constituency, cannot be checked biometrically’. This also aligns with Envrensel (2010), who argues that although BT aids the electoral process, it cannot detect foreigners, the right citizens and underage voters.

While BT has closed certain loopholes for electoral frauds, it has opened new windows for fresh means of electoral manipulations. In Nigeria in 2015, though the biometric technology curbed incidences of multiple voting, it could not address the issue of rampant underage voters recorded in the elections. Secondly, research has not established a direct relationship between biometric technology and increased citizen awareness of and participation in the electoral process (Afolabi and Ogunne 2018). There is the possibility that the BT if not well handled, could decrease voters’ registration drive due to limited access to electronic devices needed to participate in electoral processes via the BT. Afolabi

and Ogunne (2018) noticed that voter turnout plummeted to 43.6% in 2015 when the BT was introduced and used as compared to voters' turnout at 53.68% in 2011 before the BT use. Inadequate awareness campaigns, low-stress registration day activities, the high cost of procurement and use of the BT, long registration timeline, and lack of skilled/dedicated EMB staff are contributing factors (*Ibid*).

Other limitations and challenges encountered are the modest to high rate of failure-to-capture; failure-to-enrol; false match rate (sometimes also called the false accept rate); detection/deletion of false duplicates; false non-match rate (sometimes also called the false reject rate); and undetected duplicates (Wolf et al, IDEA, 2017). More insidious challenges include corrupt EMB staff, voter intimidation/bribery, suppression of the opposition, disputed voter eligibility, non-existent persons on voter roll and harsh political climate (Gelb 2018). All of this often relates to the pre-election stage. During election day, incidents witnessed are malfunctioning of scanners and readers; mutilated PVCs, non-verification at polling stations and non-recognition of voter fingerprints. Cases of voter impersonation, multiple voting, ballot stuffing and ballot snatching can also surface. Post-election challenges include votes stealing, deliberate miscounting of votes, votes total miscalculation and alteration of votes tally. These types of fraud are often perpetrated on behalf of both the ruling and alternative political parties alike.

The introduction of biometric technology into Nigeria's elections and the electoral process followed a gradual trajectory. As the case with most EMBs across the world, the voters' register was manually compiled and used before the BT was adopted. The problems, inaccuracies, distortion and manipulations associated with the manual register necessitated its upgrade to a more reliable platform. In Nigeria, beginning in 2002, the optical mark recognition (OMR) technology was used for voters' registration. After its use in 2003 general elections, INEC, noting its challenges, introduced electronic voting based on four interrelated platforms in 2006, viz; electronic voter register (EVR), electronic voting machines (EVM), electronic voter authentication (EVA) and electronic transmission of results (ETR). This marked the introduction of biometric technologies for voter register and voter authentication. Subsequently, handheld data capturing devices (about 32, 000) were used for voters' registration to capture two thumbprints, and an electronic photograph of each registrant. The INEC has since improved on its operations through ICT training for its staff and introduction of more biometric

technologies (Jega 2015a; INEC 2014).

In 2011 after amendments to the electoral Act (Electoral Act 2010), INEC introduced more BT involving the register optimization process. This process includes 1) Data Consolidation Exercise and 2) Automated Fingerprint Identification System (AFIS) (INEC 2015). The AFIS was a Standardized Biometric solution developed by the National Institute of Standards and Technology (NIST) for the Federal Bureau of Investigation (FBI). Using the AFIS software 'allows the Commission to execute a de-duplication process on its database of registered voters' (Afolabi and Ogunne (2018: 4). The de-duplication process identifies multiple registrations and appropriately flags such. It also minimises the number of individuals wrongly flagged as duplicates. Thus, 'the de-duplication process eliminates confirmed multiple registrations' (*Ibid*). Thus, Direct Data Capture Machines (DDCMs) were obtained and used for the 2011 and 2015 general elections by Nigeria's EMB (INEC).

Also, Permanent Voter Cards (PVCs) were produced for registered voters. With about 70 million voters in the 2015 general elections, the PVCs were produced based on data collected from registrants using AFIS. For instance, any registrant with less than two fingerprints does not get a PVC. Those with special features not in conformity with registration rules were denied PVCs as none was printed for them and their records deleted from the register (INEC, 2015). The PVC was used in the 2015 elections based on the belief that it is tamper-proof, not susceptible to counterfeit and can last more than 10 years. The PCV was also used in conjunction with Smart Card Readers (SCRs).

The formal introduction and use of BT in Zimbabwe started on 21 July 2017, with the Zimbabwe Electoral Commission (ZEC) taking full control over voter registration, compilation, maintenance and custody through Statutory Legal Instrument 85 of 2017. The legal instrument also is known as the Electoral Regulations of 2017 granted ZEC the powers to replace the manual voter register with biometric voter registration. Biometric technologies were later used for the 2018 general elections. It should be noted that the regulations were approved by the Minister of Justice, Legal and Parliamentary Affairs, further confirming the interference, dependency and partisanship of the Zimbabwe EMB (ZEC). Being a citizen, 18 years and above were the requirements to be registered as a voter through the BT platform (Election Resource Centre 2017).

In addition to the above requirements, biometric voter registration took place

at ZEC approved district and provincial offices, with the existence of mobile registration centres. At the end of registration, a certificate is issued showing the name, identity and a serial number of the voter, ward number, local authority, constituency, district of the voter and polling station where a ballot will be cast (Election Resource Centre 2017).

Like in Nigeria, efforts were made by political actors to circumvent the positive impact and effectiveness of adoption of the BT in Zimbabwe. Reported cases of intimidation by community leaders forcing registrants to submit their serial numbers (ZESNd 2017), to cases of lack of education of voters to the benefits and process of BT as well as the deployment of coercive measures against poor vulnerable voters in the rural areas. Other challenges and limitations include low/lack of electricity to power the mobile registration centres, change of names of registration centres without notice, sloppy arrangements including late arrival of ZEC staff, lack of technical knowhow of the BT systems and functions and malfunctioning of the registration equipment (ZESNh 2017; ZESNi 2017; ZESNj 2017).

The introduction of the BT comes at a huge cost in relation to organising elections, acquisition and use of the biometric technology and the money spent per each voter. The table below shows Nigeria and Zimbabwe expenditure when BT was introduced into the electoral process in the two countries

Table 1: Elections Costs in Nigeria and Zimbabwe (2015 and 2018)

Country	Year	Registered No of Voters	Election Cost US\$	Biometric Technology US\$	Cost Per Election per Voter US\$	Per Voter Biometric Cost
Nigeria	2015	70 million	603 million	59 million	\$8.6	\$0.85
Zimbabwe	2018	5,5 million	270 million	55 million	\$49.0	\$10

Source: Adapted from Gelb 2018

As can be seen from the table, the cost of the BT procurement and use is high and might not be sustainable (Chindaro 2017; Wrong 2013). It is important to point out the substantial variation in the per-voter election costs and the per voter biometric costs. These variations could be traced to both the supply side and demand side variables. The supply-side talks of the high cost of procurement, cost of the training, cost of replacement and cost of usage of the BT in countries where infrastructure are almost non-existent and EMBs are manned by low skilled ICT staff. On the demand side, the huge population, repeat trial and error format in the usage of ICT and desperate measures by politicians have added to the cost of BT's use. Also, it is unlikely that the variations would reduce unless holistic measures that address and eliminates the supply and demand sides problematics are adopted to reduce high costs associated with the BT use; high costs which might be unsustainable in the long run for Africa's poor economies.

That is why Wrong (2013: 4) argued that BT 'cannot replace a society's generalised buy-in to the democratic process'. The challenges and limitations associated with biometric technologies still affect the integrity and credibility of elections. This in turn continues to affect voters' turnout negatively. For instance, where the ruling party is determined to conduct sham elections or retain power at all costs, there is little BT can do. More importantly, there are arguments that BT introduction and use for African elections is more of donor-driven, and not tied to local needs, thus many African countries adopting the BT are funded by foreign governments and international agencies (Gelb 2018), raising the question of its sustainability.

4. The Analysis of the impact of the BT on Elections: Nigeria and Zimbabwe

The BT introduction and use, especially the card reader trumpeted by INEC as an anti-fraud device and programmed to work in specific locations (polling units) have reduced multiple registration and voting. As witnessed during its test-test run, and subsequently in the general elections in 2015, especially the electronic card readers performed well in reading PVCs and confirming their validity. This, along with other innovative features of BT has boosted voters' confidence in the elections being credible (Afolabi and Ogunne 2018; Agbu 2015). Furthermore, it has helped to clean up the voters' register as opposed to the old register that was

unreliable. This has also helped to reduce electoral fraud in that respect. As to its effect on voters' turnout, the effect has been to decrease voters' turnout. Why this is so is explained below.

In practice, in Nigeria notable challenges have limited the impact of BT resulting in decreasing voters' turnout, while marginally boosting voters' confidence and curbing certain electoral frauds. The challenges include widespread hitches ranging from low/lack of technical understanding by INEC staff in the case of Nigeria; difficulty in recognising and authenticating fingerprints of voters; malfunctioning of card readers, ghost voting, voters register padding and mishandled, and mutilated PVCs. All these were some of the factors responsible for reduced voter participation when BT was used in 2015 in Nigeria. For instance, ordinary and notable Nigerians were not recognised to vote during the 2015 general elections, including the then-president Goodluck Jonathan (Amenaghawon 2015).

As said, registrants with less than two fingerprints did not get a PVC, thus affecting a large segment of disabled persons. Most physically challenged individuals complained that the BT capturing process was unfavourable to them, with many of them unable to participate. Also, the inability to detect foreigners and underage voters also limited the effectiveness of BT as anti-electoral fraud technique. These abnormalities limited the extent of the effectiveness of BT's use in curbing electoral fraud and increasing voters' turnout. This in turn also explains why despite voter confidence in certain aspects of the effectiveness of BT, overall voter confidence in its introduction and use has been modest.

In sum, BT introduction, while it has tremendously helped to clean up the pre-election stage process, it has nevertheless been unable to stop nor reduce electoral fraud and increase voters' participation/turnout significantly as politicians devise new methods to circumvent BT's effectiveness as anti-electoral fraud device. BT's impact has further been limited by BT's technical hitches, INEC staff limited technological know-how (especially its ad-hoc staff) and vote collation manipulations. As witnessed during its test-test run, and subsequently in the general elections in 2015, card readers were less successful in reading some voters' fingerprints and had difficulty matching them against the voter registry (National Democratic Institute 2015; Agbu 2015). In many cases, some of the card readers malfunctioned, resulting in manual accreditation of voters, opening the process to manipulations and fraud. All these inadvertently created

rooms for electoral fraud, especially in instances where those who presented fake (cloned) cards were allowed to vote after much pressure from politicians, which undermined confidence in the electoral process. This invariably decreased voters' turnout.

These challenges were noticed also during the 2018 general elections in Zimbabwe which was marred by allegations of electoral fraud and incidences of political/electoral violence. BT introduction, while it was hailed would curb electoral fraud, increase voters' confidence and turnout, has in practice recorded modest gains in some respects, especially on the clean and verifiable register, curbed certain electoral frauds and increased voter turnout (IRI/NDI report 2018; BBC News 30 July 2018). It is unclear that BT was principally responsible for increased voters' turnout (IRI/NDI Zimbabwe International Election Observation Mission Final Report 2018; Bratton and Masunungure 2018). It is however worth noting that there was increased voter participation with more voters' registration in rural areas than urban centres, especially among the youths. These could also be attributed to Zimbabwe being significantly rural in its demographics (Bratton and Masunungure 2018). Therefore, compared to previous elections, the BT has helped to significantly increase voters' turnout, reduce the incidence of electoral fraud especially in 2018 elections and modestly boost voters' confidence in the Zimbabwe electoral process. However, questions persist in terms of the tendencies to resort to electoral manipulations by politicians and complicity by the country's EMB (ZEC) in determining electoral outcomes (EU Parliament Briefing Report 2018).

5. Concluding Remarks

Elections and its management in Africa give a picture of continuous attempts at eliminating electoral fraud, boosting voters' confidence and increasing voters' turnout thereby improving the integrity and credibility of elections in the continent. The introduction and use of BT, following electoral reforms and enactments of electoral Acts in several countries in Nigeria and Zimbabwe, signifies a step in this direction. The study noted that the way an EMB is conceptualised and operationalised, *ab initio* could help identify stages where electoral fraud could take place. In this wise, the paper looked at EMBs as an embodiment of institution, structure and framework/process, with each

susceptible to manipulations and fraud. Likewise, the paper identified drivers of electoral fraud and noted that each driver is rooted in psycho-social orientations that are linked to state-society relations and the zero-sum game of electoral democracy in Africa. These orientations are reflective of the evidence of electoral fraud that has attended Africa's elections and electoral history. The warped justification for this is summed in the unspoken belief that privileged public power over public service. It stands to reason that if contesting for an elective governmental post is for service, then there would be no need to for desperation to engage in electoral fraud. Therefore, elections and the negative concomitant recourse to electoral fraud are signs of the misplaced notions of what electoral democracy is.

The paper noted that even though BT had been introduced in Nigeria and Zimbabwe, the evidence of the effectiveness of BT has been mixed and has modestly positive at least, especially at the pre-election stage and during elections through reliable voters' register and voters' identification. It has nevertheless been unable to curb all incidence of electoral fraud, this occurring due to technical hitches, lack of ICT skilled staff, epileptic power supply and high cost of procurement, as well as sustaining and maintaining the biometric technology applications. More fundamental is the electoral fraud that occurs post- election through deliberate manipulation of votes, declaration of fictitious figures and partisanship of EMBs appointees. This is summed up as a human factor. This factor has resulted in voters' confidence not significantly increased as is the case in Nigeria. While voters' participation and turnout increased in Zimbabwe, it decreased in Nigeria, presenting a mixed picture suggesting the subject of the BT impact on voter turn needs deeper probing. To a large extent, it is important to state that voters' participation and turnout would increase if biometric technology use is simplified and useable by the voters as an innovative election administration technique. But in all, the tackling of the problem of electoral fraud needs actions beyond BT's introduction and use. These include to include voters' education and campaigns that seek altitudinal and psycho-social change about power and electoral democracy.

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