Effects of Digital Technologies on Africa's Electoral Democracy

Perspectives from South Africa

Maxwell M. Maseko [iD]

Tayarisha Centre – Wits School of Governance
University of the Witwatersrand
maseko.maxwell@gmail.com

Abstract

This paper uses a South African case study to closely examine how the recent explosion of digital technologies has impacted electoral democracy in Africa. It seeks to answer a key research question about the risks and benefits of using technology in elections on the continent. Although South Africa has not adopted e-voting, the Independent Electoral Commission (IEC) piloted the use of thousands of new voter management devices in the 2021 local government election. At the time, the IEC also stated that it had delivered its 'most technologically advanced election' yet. Despite embracing some of the technological changes, the IEC argues that it is not yet cost-effective to introduce new voting technology in South Africa. There is strong evidence from other African countries as well, suggesting that the constitutionality and feasibility of electronic voting devices is questionable. The integrity of elections can also be doubtful if the process is not inclusive of the population. Aside from a thorough literature review, this paper analysed a combination of official IEC statements and reports on technology and e-voting in South Africa, including public pronouncements on the use of digital technologies on the African continent. Insights from this work will benefit election officials, policymakers, scholars, and others interested in the advancement of research in this growing field of study.

Keywords: Digital Technologies, E-Voting, Electoral Democracy, Voter Management Devices, South Africa, Africa.

Introduction

Most recent accounts of several scholars and practitioners have painted a gloomy picture of democracy globally, especially in Africa. There are many challenges that are often linked to a country's social-political climate marked by prolonged periods of exploitative colonialism, neo-colonialism, imperialism, and a brutal apartheid system (Khapoya, 2012). According to Fombad (2021), the evolution of electoral democracy on the continent in the last three decades points to an authoritarian mobilisation and resurgence. He argues that while elections have become the norm in many African nations, they are increasingly being used to disguise various forms of undemocratic practices. This begs the argument that the future of electoral dem:ocracy in these countries may not be secure.

Details of the Democracy Index of the Economist Intelligence Unit 2022 will be discussed later in the study, but generally, the results show that 2022 was a disappointing year for democracy, with an immeasurable stagnation in democratic practices especially in Sub-Saharan Africa. The report also shows that a positive effect of the restoration of individual freedoms in some countries was temporarily curtailed by the COVID-19 pandemic as nations sought to find ways of halting the spread of the disease (Sambo, 2021). The index ranks 167 countries based on their democratic quality using five main categories including their electoral process and pluralism, functioning of government, political participation, political culture, and civil liberties (Economist Intelligence Unit, 2022).

Based on this observation above and many other factors still to be discussed, Fombad (2021), Sambo (2021), and several other scholars argue that a rethink is needed to improve the quality of elections in Africa, promote democracy, and constitutionalism. A global boom in the use of digital technologies especially during the height of the COVID-19 pandemic could provide an answer to some of these challenges. According to Gumede (2016), African regimes have fallen previously because of popular mobilisation against them on social media. For example, during the so-called Arab Spring in 2011/2012, young people in North Africa used social media, the Internet, and blogs to organise protests and make their voices heard in ways that were not possible before (Gumede, 2016). However, based on the research problem, Maphunye (2019) warns that the use of digital technologies in elections could present several problems for election management bodies. Their feasibility and constitutionality provoke several questions, including whether they comply with national election legislation (Maphunye, 2019). Furthermore, African countries must also contend with a lack of digital infrastructure, costly foreign technologies, high illiteracy levels, minimal or weak connectivity, low bandwidth, poverty, and acute inequalities (World Bank, 2018; Sambo, 2021).

The author hopes that the lessons drawn from this paper will assist scholars, researchers, and practitioners in their quest to better understand the complexities presented by digital technologies in cyberspace. This paper also aims to provide recommendations on how to address Africa's information and communication technology (ICT) challenges. Therefore, this study's contribution is the practical and policy insights into the impact of digital technologies on the continent's electoral democracy through a focused case study analysis. It is hoped that scholars, researchers, and practitioners will be inspired to do more research in this field while keeping up with the demands of a global digital explosion and a worsening digital divide in the developing world. Collaborations between digital media companies who care about democracy and policymakers can help the world understand the threats posed by digital transformation to democracy in Africa. This is particularly important given the numerous benefits of democracy towards improving the lives of ordinary citizens on the continent.

The rest of the paper is organised to include a section explaining the main terms being investigated by this study such as digital technology and electoral democracy, and the two main research questions to be answered based on the risks and benefits of using digital technology in elections in Africa, and how risks can be managed such that digital technologies can improve the quality of electoral democracy in Africa. Thereafter, the methodology explains how the data was collected and analysed, and an explanation of what constitutes a 'strong' democracy is provided to contextualise how digital technologies can offer platforms for enhanced citizen participation in electoral processes and public deliberation. This study also includes an overview of the literature further explaining the

concepts of digital technology and electoral democracy using country-specific examples from the African continent and South Africa in particular. The findings of the study are presented, and a conclusion is made to highlight what scholars and practitioners can do moving forward above developments in the digital space and democracy.

Conceptual framework

The two concepts defined below are critical to understanding and answering the research questions of this paper. The definition of *digital technology* is broad and can also include the use of tools, systems, and devices such as personal computers and mobile phones to generate, create store, or process data (Johnston, Kervin, and Wyeth, 2022; Laverty 2012). In keeping with the aims of this paper, the term is used interchangeably with Voter Management Devices (VMDs) and other technologies to achieve improved citizen engagement and increased participation in elections. Fombad (2021) argues that over the centuries, philosophers and students of politics have offered overlapping definitions of democracy. However, there are key elements endorsed by Bratton and Van de Walle (1997); Peters (2002), and others. These link the definition of democracy to a form of political regime in which citizens choose their leaders in competitive elections that are free and fair, there is freedom of the press, a separation of powers, and so-called checks and balances related accountability. Freedom House (2023) argues that *Electoral Democracy* is a narrower concept that includes a competitive, multi-party-political system, the holding of regularly contested elections conducted through secret ballots, reasonable ballot security, and the absence of massive voter fraud. It also includes significant public access of major political parties to the electorate through the media and open political campaigning. Furthermore, countries with electoral democracy have some respect for the rule of law and civil liberties such as freedom of assembly (Freedom House, 2023).

Research Questions

This study aims to answer the following key research questions,

- What are the risks and benefits of using digital technology in elections in Africa?
- How can risks be managed such that digital technologies can improve the quality of electoral democracy in Africa?

Methodology

This study relied on qualitative data collection methods. According to Teherani, Martimianakis, Stenfors-Hayes, Wadhwa, and Varpio (2015), qualitative research is the systematic inquiry into social phenomena in natural settings, and the researcher is the main data collection instrument examining why events occur, what happens, and what those events mean to the participants. Weiss (1995) also argues that qualitative research provides a better understanding of a phenomenon, especially when the goal is to obtain coherence, depth, and density in the data. Furthermore, this type of research involves collecting and analysing non-numerical data such as text to understand concepts, opinions, or experiences (Bhandari, 2023). Weiss and Bhandari add that qualitative research is commonly used in the social sciences to gather in-depth insights into a problem or generate new ideas for research.

An extensive literature review was also executed regarding issues and factors affecting the applicability of digital technologies in elections in Africa, including political, social, technical, and legal factors. These factors were selected after critically analysing contemporary issues in various countries. The study also analysed a combination of official IEC statements and reports on digital technology in South Africa, including public pronouncements on the use of digital technologies across the rest of the African continent. The content discussed in these statements and reports covers information on the introduction of digital technologies, technology implementation, challenges, benefits, regulations, and policy considerations.

What constitutes a democracy?

Perspectives in this paper are drawn from an understanding of what constitutes a democracy. According to the Civics Academy (2024), the presence of six main features may indicate a strong democracy. They argue that features include respect for basic human rights as outlined in a country's constitution (including the right to vote and freedom of speech and assembly), a multi–party political system paired with political tolerance (and also promoting the use of dialogue to resolve conflict), a democratic voting system (the holding of regular free and fair elections in line with the constitution in a representative democracy), respect for the rule of law (public officials can exercise power and make decisions if authorised to do so by law and independent courts uphold the rule of law), democratic governance (including the separation of powers between the executive, judiciary and legislature), and citizen participation (empowering individuals to participate freely in social and political life).

However, Anderson, Fish, Hanson, and Roeder (2001) caution that democracy itself is insufficient and needs consolidation. According to Stokes (1999), political parties play a key role in organising politics in modern democracies, however, there is another scholarly side that argues that the same parties can give voice to extremists and reduce the responsiveness of governments to the citizenry. Unpacking this debate amongst scholars is crucial for understanding the challenges that new democracies have with issues of representation and governance. It is also key to examining the role and opportunities for digital technologies to make democracies healthier.

Literature Overview

According to Ayawli, Samuel, and Dotse (2015), most elections in Africa are conducted using ballot papers, and often this process is accompanied by numerous irregularities including ballot box stuffing, double or multiple voting, and intentional/unintentional miscounts of votes. They further argue that sometimes, the result is political unrest which can go on for long periods. Globally, countries such as Brazil, India, the United States of America, and Estonia have reported numerous successes whilst using digital technologies in their elections, some for over two decades (Omarjee, 2019). However, it has not all been cheerful in these countries. For example, after the US Congress passed the Help America Vote Act (HAVA) in 2002 mandating the reform of election processes to include more modern technologies, there have been some concerns about the introduction of precinct–based optical scanners and direct recording electronic (DRE) voting machines (Verified Voting, 2005). Such concerns include the extensive reliance on voting machines to record and tally votes exclusively through electronic means while providing no paper ballot that can be verified by the voter. According to Verified Voting (2005), there are also concerns

about software errors that are unavoidable, the difficulty in performing meaningful counts without a voter-verified paper ballot, and the existence of possible fraud in case of human interference in electronic voting systems.

Countries such as Paraguay, Germany, Ireland, and the Netherlands abandoned the process for various reasons including opposition from political parties (Ayawli et al. 2015). According to Omarjee (2019), these countries and various experts in the field have argued that digital technologies can strengthen the credibility of their elections by reducing the risk of double voting and spoilt ballot papers.

Not much has changed recently in the way Africans can register and cast their votes in elections. Peters (2002) argues that healthy democracies are critical for Africa's rebirth. She adds that various socio-economic and political programmes such as the New Partnership for Africa's Development (NEPAD) are evidence of the commitment of many African countries to eradicate poverty, promote sustainable growth and development in Africa, integrate African economies in the world economy, and accelerate women's empowerment. According to Peters, the NEPAD charter also undertakes to respect global standards of democracy, political pluralism, the existence of several political parties and workers' unions, and free and fair elections. Indications from various literature readings are that the current system of governance in Africa is challenged in many ways that governments of Western countries are not. Sambo (2021) argues that election management bodies in Africa have been using manual voting systems in their elections for long periods resulting in disputed results and high operating costs. He further argues that the COVID-19 pandemic has not helped the situation, forcing many countries into extended lockdown and compelling some of them to postpone their elections. The rise in the use of digital technologies, especially social media platforms can offer solutions to some of the movement restrictions imposed by the pandemic including promoting election campaigning online, speedily dissemination of political information, and facilitating public debate (Dad and Khan, 2023).

The introduction of digital technologies, especially the Internet is seen by cyber-optimists as one of the biggest tools for democratisation and political freedom (Shirky, 2008; Diamond, 2010). They also argue that digital technology assists activist groupings aiming to reinvigorate democratic processes. Such technology enables citizens to report news, expose wrongdoing, express opinions, mobilize protest, monitor elections, scrutinize government, deepen participation, and expand the horizons of freedom (Diamond, 2010). Cyber-optimists argue that governments and citizens alike have little choice but to embrace technological changes in a digital world. According to Mickoleit (2014), several examples can be made globally about the successes of digital technologies in influencing political agendas and policy processes. These include the Arab Spring of 2012 hailed as a game-changer for global politics leaving many to believe that digital democracy was on the rise, the #BlackLivesMatter first coined in 2013 following the acquittal of George Zimmerman in the shooting of unarmed Black teenager Trayvon Martin in the United States of America. Since then, there have been several other online campaigns discussing important topics such as elections, political campaigns, disasters, and emergencies.

Electoral Democracy Overview in Africa

Africa is made up of 55 countries with diversified democracies. Most of them hold regular manual elections as demanded by the United Nations Universal Declarations on elections. Eritrea is the only country that does not hold regular elections (Sambo, 2021). A militarized

authoritarian state, national elections were last held in 1993 following its independence from Ethiopia (Freedom House, 2023). Furthermore, citizens are required to perform national services often for their entire working lives and the government shut down all independent media in 2001 (Freedom House, 2023). According to the Economist Intelligence Unit's (EIU)'s 2022 Democracy Index, out of a score of zero to 10 and based on the five main categories highlighted earlier, many nations, especially in Sub-Sharan Africa continue to be concentrated at the bottom of the Democracy Index rankings. Mauritius is the continent's only *full democracy*, which means that the country respects basic political freedoms and civil liberties, its political culture is conducive to the flourishing of democracy, the functioning of government is satisfactory, and media are independent and diverse and there is an effective system of checks and balances. Furthermore, Mauritius' judiciary is independent, and judicial decisions are enforced.

The EIU's Democratic Index shows that there are six *flawed democracies* in Africa, including South Africa, Namibia, Botswana, Lesotho, Carbo Verde, and Ghana. Furthermore, countries in this category are typically classified as those with free and fair elections, and basic civil liberties are respected even though there are problems such as infringements on media freedom. The democracy index states that countries with flawed democracies have significant weaknesses in other aspects of democracy, including problems in governance, an underdeveloped political culture, and low levels of political participation. Fourteen countries such as Kenya, Liberia, Malawi, and others are classified as *hybrid regimes*, meaning their elections have substantial irregularities often preventing them from being free and fair. The government puts pressure on opposition parties and candidates, and there are serious weaknesses in political culture, the functioning of government, and political participation. The democracy index also states that corruption in hybrid regimes is more widespread, and the rule of law and civil society are weak. Typically, there is harassment of and pressure on journalists, and the judiciary is not independent.

Authoritarian forms of government continue to dominate the African continent, with 23 countries still classified as such. The democracy index states that countries in this category are outright dictatorships and state political pluralism is absent or heavily circumscribed. Some formal institutions of democracy may exist, but these have little substance. Elections, if they do occur, are not free and fair and there is disregard for abuses and infringements of civil liberties. The democracy index shows that media is typically state-owned or controlled by groups connected to the ruling regime. Furthermore, the democracy index shows that as of 2022, there has been a stagnation of democracy especially in West Africa. There have been three successful military coups in Chad, Mali, and Guinea in 2021 and Burkina Faso in 2022. Failed coup attempts also occurred in Guinea Bissau, São Tomé and Príncipe, and The Gambia in 2022.

Overall, the 2022 Democracy Index shows that electoral institutions in Angola, Kenya, and Senegal proved resilient as they were tested against a backdrop of heightened public discontent and an anti-incumbent backlash. Maphunye (2019) argues that Africa's elections require constant innovations and improvements to deliver results that enjoy wider acceptance and universal legitimacy. However, there seems to be polarisation between so-called traditionalists and reformists/modernists around the adoption of digital technologies to boost electoral democracy. Aker and Mbiti (2010) argue that Africa has some of the lowest levels of infrastructure investment in the world, even though access to mobile technology has increased dramatically in some regions such as Sub-Saharan Africa in recent times. According to Fombad (2021), another reason for the decline in the quality of electoral

democracy in Africa is the repeal of presidential term limits in many countries. He further asserts that democracy entails the sharing of power, which means that no leader, no matter how competent and effective, can consider himself/herself indispensable.

In a bid to promote electoral democracy and deal with some of the challenges highlighted in this paper, regional groupings such as the Economic Community of West African States (ECOWAS) try and confront the issue of military dictatorships in West Africa (Campbell and Quinn, 2021). However, ECOWAS has been less effective in preventing third-term bids by incumbents. The Southern African Development Community (SADC) has also been criticised for its inability or unwillingness to address some critical political matters in the region. This includes its alleged failure to confront the ruling ZANU-PF in Zimbabwe about human rights abuses in that country (Campbell and Quinn, 2021).

Digital Transformation and Africa's Elections

Dad and Khan (2023) argue that the nature of elections around the globe has been transformed due to an explosion of digital technologies in recent times. They also argue that various technologies such as social media have impacted election campaigning, dissemination of information, and opinion formation with various election management bodies such as the Independent Electoral Commission (IEC) also adopting digital technologies to boost the administration of their elections. Meanwhile, Fatai (2022) argues that in Africa, nearly all recent general elections have used some kind of digital technology be it biometric voter registration, smart card readers, voters' cards, optical mark recognition, direct electronic recording, or electronic result transmission. Amongst the principal reasons for using technology is to contain electoral fraud and promote the credibility of elections, especially during the height of the COVID-19 pandemic (Fatai, 2022). However, the reliability of some of these devices has been questioned, with some experts blaming problems in the management of elections rather than malfunctioning devices.

Ibeanu (2022) argues that two main issues lie at the heart of the debate about the quality of elections in Africa. Firstly, it is the concern around the level of human intervention in determining the outcome of elections. He also argues that the question is one of trust in election managers – whether they will respect the rules, ensure that citizens can participate fully and freely in elections, and have a level playing field for all candidates and political parties registered. Ibeanu notes that the level of trust by citizens in African elections has progressively declined since the 1990s as evidenced by the many contestations of election results. Secondly, the efficacy of election managers to deliver quality elections. In most African countries, elections are poorly planned, the procurement and delivery of materials is slow, the casting of ballots and the tabulation of results are archaic, and the declaration of outcomes is tardy and inefficient (Ibeanu, 2022). These challenges create opportunities for the promotion of digital technologies as the future of credible elections on the continent.

Kolade, Obembe, and Olufemi (2023) argue that the adoption of digital technologies in Africa's elections has disrupted the balance of power between citizen voters and state actors. They say state actors are struggling to maintain control amid an emergence of systemic loopholes in the application of digital technologies. As Fatai (2021) also put it, while digitisation holds great prospects, some political actors remain unconvinced due to technology failure, structural and systemic problems, including the lack of funding for election management bodies. Generally, the perception in Africa is that those who organise elections will use their positions to promote self and sectional interests (Ibeanu, 2022).

He argues that the trust of the electorate in election management bodies has declined. Furthermore, many parts of Africa are still very remote with poor communication facilities, weak electricity connections, and weak civil society organisations that cannot promote civic engagement and civic education in election matters (Ibeanu, 2022).

According to Runde and Bryja (2023), changing demographics, increased urbanization, and digital transformation are affecting all nations. They argue that much of Africa is also experiencing this trend as many people move to live in cities. Digitalisation has played a key role in accelerating the dissemination of information and increasing connectivity with the number of Internet users on the continent crossing 570 million in 2022 (Runde and Bryja, 2023). According to Sambo (2021), countries such as Kenya, Libya, Mauritius, Nigeria, Morocco, Seychelles, and Tunisia have a higher national Internet penetration factor, while countries such as Somalia, South Sudan, and Mozambique have often been affected by ravaging wars which destroy digital infrastructure. Runde and Bryja (2023) also agree about the Internet coverage and usage gaps raised by Sambo.

> Overall internet penetration in Africa was only 40 percent in 2022, compared to the global average of 66 percent. There are also major spatial inequalities in access to digital tools. Only 5 percent of intermediary cities in Central Africa and 20 percent in West Africa are currently within 10 kilometres (7 miles) of fibre–optic cables, and just 6 percent of rural areas have any digital connectivity. Bridging this gap will require substantial investments in broadband infrastructure, user skill development, and the establishment of appropriate regulatory frameworks. In order to achieve Africa's full potential and leverage the skills of the continent's growing young population, over a billion new users will need to be connected to affordable and high–quality broadband internet access by 2030, necessitating an additional $100 billion in new investments over the next 10 years (Runde and Bryja, 2023:1)

Runde and Bryja's sentiments are shared by Ibeanu (2022) who also argues that technology divides between young and old, urban and rural, rich and poor, and between men and women have led to the exclusion of many Africans in elections. While the young generations have embraced technology as they use smartphones and laptops as communication and business tools, a large population in African countries lives in rural communities (Sambo, 2021). Furthermore, many people in rural areas cannot afford to buy gadgets, power, and data used for Internet services and there is also a lack of digital skills (Sambo, 2021).

Ibeanu (2022) argues that digital technology in Africa and its application in election management has been disadvantaged due to its production in Western countries as opposed to being sourced locally. Mayet (2023) concurs with Ibeanu and others arguing that digital technologies can be used to improve the electoral process, but they can also stifle democratic proceedings. The most impoverished civilians are likely to be intimidated by various technologies and therefore choose not to engage in this way (Mayet, 2023). Other concerns about digital transformation for many African countries include the spread of misinformation and disinformation campaigns during political and/or election campaigns, issues around the safeguarding of personal information collected during the electronic voter registration process, and cybersecurity challenges (SA Government News Agency, 2023).

South African perspectives

South Africans go to the polls once every five years to choose national, provincial, and local leaders. The IEC manages the process. South Africa is a representative democracy, meaning citizens do not govern the country themselves, but vote for others to represent them in the national, provincial, and local spheres of government. The country's Constitution of 1996 is often referred to as the most progressive in the world in local media and it makes provision for public participation (Fombad, 2021). Every citizen over the age of 18 who is registered can vote. The country became a democracy in 1994 after transitioning from apartheid (Siddle and Koelble, 2016; Rossouw, 2019). Its history is rooted in colonialism, systematic racism, apartheid, sexism, and oppressive legislation, with governance problems also exacerbated by worsening poverty, inequality, and gender-based violence (World Bank, 2018). Exactly three decades since the introduction of democracy, promises of a better life by the ruling African National Congress have failed to narrow the imbalance between the rich and the poor (Sguazzin, 2021), and inequality has also manifested itself in unequal access to education, health services, and jobs (World Bank, 2018). South Africa's youth unemployment rate increased to 62.1 % in the first quarter of 2023 (Statistics South Africa, 2023).

Furthermore, South Africa's ranking by the Economist Intelligence Democracy Index of 2022 leaves much to be desired, although it may appear to be better than that of other African countries. According to the Economist Intelligence Unit (2022), South Africa is ranked 45th out of 167 countries reviewed. The results show that the country is not a full democracy but is classified as a *flawed democracy*. As already stated, this means that while elections are free and fair, there are still problems with infringements on media freedom and basic civil liberties. South Africa also suffers significant weaknesses in governance as evidenced by rising violent service delivery protests, poor management of local government structures, and generally low levels of citizen participation in elections. Schrire (2021) argues that the outlook for democracy is not promising partly due to the country's dependence on opposition politics to ensure accountability, and there's evidence of state capture emphasizing widespread corruption in government.

The advent of new technologies has impacted democratic and political engagement in South Africa. With over 40 million active Internet users (*representing over 70% of the population*) at the start of January 2022, the country has one of the highest numbers of Internet users in Africa (Statista, 2023). However, it has been a long-standing general concern that Internet availability to access and use digital technologies is largely confined to urban areas, which constitute 68.33% of the population (Statistics South Africa, 2023). Matsheza (2011) also warns that online connections are still out of reach for most South Africans as many people cannot afford to pay for them. If they can afford to pay for connections, they must wait for long periods for installation.

IEC officials were forced to look at other alternatives after manual voting presented various challenges in the 2021 local government elections following the outbreak of the COVID-19 pandemic. The IEC piloted the use of VMDs to boost electoral management and deployed over 30 000 such devices countrywide to collect personal data from voters. The devices that replaced worn-out Zip-Zap barcode scanners came with a lot of promises. According to the IEC (2021), the devices were a game-changer for voter registration, allowing the IEC to capture voter information electronically and to locate voters in the correct voting district. They were also a live tracking tool for voter participation on election day, served as an administrative and management tool within the voting station, could report incidents at

the station on registration and voting days, and could track and pay election officials. The VMDs require Internet access customized for election management only (IEC, 2021). While the organisation said their deployment was a success, there were some challenges as noted by Mzekandaba (2021) who argues that the details of over 60 000 voters were not uploaded into the electoral system and as a result, they could not vote. Proposals by the IEC to test e-voting were also rejected by Parliament's Portfolio Committee for Home Affairs, citing fears of hacking and insufficient budgets.

According to the IEC (2008), other major challenges since the dawn of democracy have been low voter turnouts during local elections as opposed to national elections. The organisation noted that the trend was more noticeable among younger voters. It also noted that this was happening despite a rise in the number of political parties. It remains unclear whether the answer lies in apathy, lethargy, or disillusionment. At a strategic conference in Johannesburg to discuss electoral democracy in South Africa, the IEC also noted the absence of a compulsory voter system which could potentially help with voter apathy, the problem of managing special votes in municipal and ward elections leading to allegations of disenfranchisement of people in the elections of local representatives, the formula used in the funding of political parties limited the capacity of smaller parties to mobilise their memberships and sustain themselves, and the implantation of floor crossing raised serious concerns and challenges for South Africa's democracy.

The explosion of the Internet in the late 1990s presented an opportunity for the South African government to respond to some of the challenges presented here, but it appears that the process has been slow. On one hand, Internet-based technologies have opened the political space for representative democracy. On the other hand, there is a consistent culture to continue with politics and governance the way that they are, benefitting the interests of a small elite. The benefits of digital democracy have been widely documented, including improved citizen participation.

Findings

Benefits of using digital technologies

Three main benefits were reported following the piloting of VMDs in South Africa's 2021 local government elections. Firstly, South Africa's elections were declared free and fair by both the IEC and international observers suggesting that democratic practices are alive and well. An application to postpone the elections was heard in the courts. This is an important lesson for African countries and their leaders to always respect the rule of law, even in times of uncertainty as observed during the pandemic. Furthermore, the use of technologies in elections, whether partially or fully, does not replace the importance of respecting the rule of law when disagreements arise.

Secondly, the use of VMDs helped to peacefully resolve the issue of restricted political mobilisation, freedom of movement, and association experienced during the COVID-19 pandemic. This suggests that the VMDs achieved their aim of upholding the credibility and integrity of the elections.

Thirdly, South Africa's IEC asserts that the use of VMDs has enabled it to deal with the issue of double voting and spoilt ballot papers experienced in previous elections. This is because

a live and centrally connected voters' roll gets updated nationally after people cast their votes at voting stations.

Risks of using digital technologies

Three main risks were reported following the piloting of VMDs in South Africa's 2021 local government elections. Firstly, the new VMD technology presented some serious challenges including the exclusion of an estimated 100,000 people from the voters' roll due to malfunctioning devices and some elements of human error. There were also reports of poor Internet connections at some voting stations during the 2021 local government elections. Democracy is devalued and the credibility of an election can be questioned if citizens are excluded from participating. Nevertheless, the outcome of the election was peaceful despite this anomaly.

Secondly, South Africa's 2021 elections highlighted the need for proper budgeting by African governments. According to the Electoral Commission Annual Report (2022), budget cuts amounting to R382 million in the 2020/21 and 2021/22 financial years led to the cancellation of planned voter registration ahead of the elections. Furthermore, the IEC argues that South Africa has not formally adopted a position on e-voting and a business case for biometrics is not viable. Such a move is deemed expensive to monitor and could reduce transparency in the voting process even though it has the benefits of speed and accuracy in vote counting.

Thirdly, VMDs did not resolve the issue of voter apathy, low voter registration numbers, and low voter turnouts. This points to a need for IEC officials and other African countries to find lasting solutions. Roodt (2021) argues that about 46% of all eligible voters turned out to vote in South Africa in 2021, the lowest figure since the fall of apartheid. A crisis looms for African governments if patterns of non-participation in elections persist.

Recommendations

The following recommendations are made to address Africa's ICT challenges and improve the quality of electoral democracy.

- African leaders should prioritise innovation in their democratic processes and look for new ways to harness technology in an ever-changing digital era.
- African governments should build stronger partnerships between themselves and digital giants operating in their space to reduce the impact of cybersecurity concerns, including spreading misinformation and disinformation.
- An enabling socio-political environment must be introduced to promote the participation of the private sector in the equitable delivery of ICT services to benefit all citizens. Some healthy competition may help to reduce data costs and increase access to ICT services for citizens.
- Africa's policies and strategies for development must include clear ICT visions, be action-oriented, and have measurable and achievable targets to strengthen democracy.
- At the very least, African countries should use both traditional and modern methods of participating in an election while they find more effective ways to digitalise.

Conclusion

The purpose of this article was to provide better insights into the complexities presented by digital technologies in cyberspace and make recommendations on how to address Africa's ICT challenges. While digital technologies offer promising opportunities to enhance electoral processes in Africa by improving access, they equally present significant challenges related to the digital divide and misinformation. Even in countries with free and fair elections and good Internet connectivity such as South Africa, there are still some concerns about the failures of digital technology to deliver on its promises. This means more work for researchers through potential collaborations with practitioners and other stakeholders to further investigate the root causes of the persistent ICT challenges. The evidence also shows that while digitalisation undoubtedly exposes democracy to new threats across the continent, its benefits cannot be understated. It is also evident from this paper that holding regular free and fair elections does not mean that a country's democracy is not without problems as we have seen in the example of South Africa.

References

Achieng, M. and Ruhode, E. (2013). The adoption and challenges of electronic voting technologies within the South African context, *International Journal of Managing Information Technology* (IJMIT) 5(4), 1–12. https://doi.org/10.5121/ijmit.2013.5401.

Aker, J.C. and Mbiti, I.M. (2010). Mobile phones and development in Africa, *Journal of Economic Perspectives* 24(3), 207–232. https://doi.org/10.1257/jep.24.3.207.

Ajayi, K. (2013). *The ICT culture and transformation of electoral governance and politics in Africa: The challenges and prospects*, 5th African European Conference on African Studies, Centro de Estudos Internacionais do Instituto Universitario de Lisboa, Madrid, 27–29 June 2013.

Anderson, R.D., Jr., Fish, M.S., Hanson, S.E., and Roeder, P.G. (2001*). Postcommunism and the theory of democracy,* Princeton University Press, Princeton, NJ. https://doi.org/10.1515/9780691230948-009

Ayawli, B., Samuel, K., and Dotse, S. (2015). E-voting: Success and Failures. Lessons for Africa*. International Journal of Management and Information Technology.* 10. 2283–2292. 10.24297/ijmit. v10i7.593. https://doi.org/10.24297/ijmit.v10i7.593

Bhandari, P. (2023). *What is qualitative research? | Methods & examples*, Retrieved from https://www.scribbr.com/methodology/qualitative-research/ (Accessed 24 May 2024).

Bratton, M. and Van de Walle, N. (1997). *Democratic experiments in Africa: Regime transition in comparative perspective,* Cambridge University Press, Cambridge. https://doi.org/10.1017/CBO9781139174657

Civics Academy (2024). *What are the key features of democracy?,* Retrieved from https://civicsacademy.co.za/what-are-the-key-features-of-a-democracy/ (Accessed 24 May 2024).

Dad, N. and Khan, S. (2023) Reconstructing elections in a digital world, *South African Journal of International Affairs.* https://doi.org/10.1080/10220461.2023.2265886

Diamond, L. (2010). Liberation technologies, *Journal of Democracy* 21. no. 3:pp69–83. https://doi.org/10.1353/jod.0.0190

Economist Intelligence Unit. Democracy Index. (2022) *Frontline Democracy and the Battle for Ukraine,* EIU Report.

Electoral Commission Annual Report. (2022). Retrieved from https://nationalgovernment.co.za/entity_annual/2998/2022-electoral-commission-(iec)-of-south-africa-annual-report.pdf (Accessed 25 May 2024).

Fatai, A. (2022). *Digital technology can improve Nigeria's elections: Lessons from 2019,* Retrieved from https://theconversation.com/digital-technology-can-improve-nigerias-elections-lessons-from-2019-175551 (Accessed 20 November 2023).

Fombad, C.M. (2021). An overview of the state of electoral democracy in Africa, *African Journal of Legal Studies*. doi: https://doi.org/10.1163/17087384-12340087 (online pp. 1–24).

Freedom House. (2023). Freedom in the world research methodology, Retrieved from https://freedomhouse.org/reports/freedom-world/freedom-world-research-methodology   (Accessed 17 November 2023).

Freedom House. (2023) *Eritrea.* Retrieved from https://freedomhouse.org/country/eritrea (Accessed 17 November 2023).

Gumede. W. (2016). *Policy Brief 9: New technologies boost democracy and development in Africa,* Retrieved from https://www.democracyworks.org.za/policy-brief-9-new-technologies-boost-democracy-development-in-africa/ (Accessed 24 May 2024).

Ibeanu, O. O. (2022). Digital technologies and election management in Africa's democratisation process, *Africa Development / Afrique et Développement*, Codesria, Vol. 47, No. 2, Special Issue, pp. 15–40. https://doi.org/10.57054/ad.v47i2.2197

IEC. (2008). *Reflections on the state of electoral democracy in South Africa*, Multi-Stakeholder Conference, Johannesburg.

IEC. (2021). Voter management devices (vmd). Independent Electoral Commission.

Johnston, K., Kervin, L. and Wyeth, P. (2022). *Defining digital technology,* Retrieved from https://www.digitalchild.org.au/blog/defining-digital-technology/ (Accessed 15 November 2023).

Khapoya, V. B. (2012). Colonialism and the African experience, *In the African experience.* 4th Edition. Routledge.

Kolade, O., Obembe, D. and Olufemi, J. (2023). *Digital disruption of Africa's electoral process: Insights from Nigeria's 2023 presidential election.* https://doi.org/10.2139/ssrn.4481059

Laverty, A. (2012). *ICT, social media, and election in Africa: A prospective study,* Retrieved from http://theafricanfile.com/ict/ict-social-media-and-elections-in-africa-a-prospective-study/ (Accessed 15 November 2023).

Maphunye, K.J. (2019). The feasibility of electronic voting technologies in Africa: Selected case examples, *The Journal for Transdisciplinary Research in Southern Africa* 15(1), a621. https://doi.org/10.4102/td.v15i1.621.

Matsheza, S. (2011). *Capstone: Defending the Public Sphere in the Information Age: The Possibilities and Constraints of Mobile Technology for Increasing Political Action and Democratic Participation in Zimbabwe.* (MA Dissertation. University of Maastricht).

Mayet, H. 2023. *The role of digital technologies in African elections*, Retrieved from https://medium.com/civictech/the-role-of-digital-technologies-in-african-elections-e8adddda340f (Accessed 20 November 2023).

Mickoleit, A. (2014). *Social media use by governments: A policy primer to discuss trends, identify policy opportunities, and guide decision makers.* OECD Working Papers on Public Governance, No. 26, OECD Publishing.

Mzekandaba, S. (2021). *New tech 'catapulted' electoral management, says IEC*, Retrieved from https://www.itweb.co.za/content/JN1gP7OYgWwqjL6m (Accessed 9 November 2023).

Omarjee, L. (2019). *E-voting: Which countries use it, where has it failed and why?,* Retrieved from https://www.news24.com/fin24/e-voting-which-countries-use-it-where-has-it-failed-and-why-20190510 (Accessed 9 November 2023).

Peter, B. L. (2002). *The challenges of democracy and democratisation in Southern Africa*. SA Yearbook of International Affairs.

Roodt, M. (2021). *What did we learn from South Africa's local elections?*, Retrieved from https://africanarguments.org/2021/11/what-did-we-learn-from-south-africa-local-elections/ (Accessed 25 May 2024).

Rossouw, M. (2019). *Public participation: An imperative for governance and human rights – lessons from South Africa,* Retrieved from http://futureafricaforum.org/2019/03/04/publicparticipation-an-imperative-for-governance-and-human-rights-lessons-from-south-africa/ (Accessed 5 August 2023).

Runde, D. F. and Bryja, T. (2023). *The role of AGOA in accelerating Africa's digital transformation,* Retrieved from https://www.csis.org/analysis/role-agoa-accelerating-africas-digital-transformation (Accessed 21 November 2023).

SA Government News Agency. (2022). IEC official sentenced for local government election fraud, Retrieved from https://www.sanews.gov.za/south-africa/iec-official-sentenced-local-government-election-fraud (Accessed 14 November 2023).

Sambo, P. (2021). *The applicability of Internet voting in Africa*, Retrieved from https://www.intechopen.com/chapters/77251 (Accessed 14 November 2023).

Schrire, R. (2001). *The realities of opposition in South Africa: Legitimacies, strategies, and consequences. Democratization*. 8:1. pp135-148. https://doi.org/10.1080/714000189

Sguazzin, A. (2021). *South Africa wealth gap unchanged since apartheid, says world inequality lab.* Time Magazine, Retrieved from https://time.com/6087699/south-africa-wealth-gap-unchanged-since-apartheid/ (Accessed 15 November 2023).

Shirky, C. (2008). Here comes everybody: The power of organizing without organisations.

Siddle, A. and Koelble, (2016). *Local government in South Africa: Can the objectives of the developmental state be achieved through the current model of decentralised governance?,* Swedish International Centre for Local Democracy, Retrieved from https://icld.se/app/uploads/files/forskningspublikationer/siddle-koelble-icld-report-7.pdf (Accessed 14 November 2023).

Statistics South Africa. (2023). *60,6 Million people in South Africa,* Retrieved from https://www.statssa.gov.za/?p=15601 (Accessed 13 November 2023).

Stokes, S. C. (1999). *Political parties and democracy. Annual review of political science 1999* 2:1, 243-267. https://doi.org/10.1146/annurev.polisci.2.1.243

Teherani A, Martimianakis T, Stenfors-Hayes T, Wadhwa A, and Varpio L.(2015) Choosing a Qualitative Research Approach. *Journal of Graduate Medical Education*. 2015 Dec;7(4):669-70. https://doi.org/10.4300/JGME-D-15-00414.1. PMID: 26692985; PMCID: PMC4675428.

Vankov, N. (2013). *The Strategic Dimensions of Political Marketing*, Economic Alternatives 3(3), 74–80.

Verified Voting. (2005). *Summary of the problem with electronic voting*, Retrieved from https://verifiedvoting.org/wp-content/uploads/2020/08/revised_summary31.pdf (Accessed 24 May 2024).

Weiss, R.S. (1995). *Learning from strangers: The art and method of qualitative interview*

studies. New York, Simon and Schuster, Retrieved from https://www.poetrypedagogy.com/uploads/8/9/3/8/89385582/weiss_learning_from_strangers.docx (Accessed 14 November 2023).

World Bank Report. (2018). *Overcoming poverty and inequality in South Africa: An assessment of drivers, constraints, and opportunities.* World Bank, Washington, DC. © World Bank, Retrieved from https://openknowledge.worldbank.org/handle/10986/2961 (Accessed 15 November 2023).