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Research Paper

IS E-VOTING A POSSIBILITY FOR BOTSWANA'S 2014 GENERAL ELECTIONS?

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ABSTRACT **This paper explores the possibility of using electronic voting in the 2014 general elections in Botswana. Electronic voting has a variety of benefits, including faster electoral**

ral processes in terms of voter registration, casting and counting of votes and, in terms of releasing the election results. The application of ICT in the electoral process is gaining momentum in developed countries because of the benefits associated with it. The paper explores the possibility of using this technology in the 2014 general considering the ICT infrastructure, strategies, policies and facilities available in Botswana. Data were collected from various stakeholders, including the Independent Electoral Commission, political parties and secondary sources. The findings suggest that although Botswana has the requisite infrastructure to support evoting, e-voting would not be possible in the 2014 elections due to a number of factors such as lack of a legal framework that supports e-voting, long consultation processes and lack of access to computers and the internet by the majority of the electorate. E-voting is thus a dream for Botswana, but one which may become a reality in the near future.

KEYWORDS :Electronic voting, ICT, elections, voter apathy, electoral process,

INTRODUCTION

Information and communication technology (ICT) is viewed globally as a viable means of improving government service delivery. The use of ICT leads to organizational transformation. Additionally, the availability of state of the art information technology and supporting services has compelled governments in both developed and developing countries to embrace benefits associated with adapting Information Communication Technology (ICT) to improve service and product delivery. More importantly, the upsurge of citizen involvement in the democratic processes has been high with citizens demanding transparent and accountable governments. As a consequence, governments are compelled to strengthen their democracies by using innovative strategies such as e-voting and e-government in order to enhance citizen participation, improve electoral processes as well as benefit from relatively lower costs, increased accessibility, flexibility, privacy, credibility and security associated with electronic facilities. It is against this background that this paper investigates the viability and benefits of e-voting in Botswana.

The first objective of this paper is therefore to explore the possibility of using e-voting in the 2014 general elections in Botswana. Secondly, the paper assesses how ready the Independent Electoral Commission (IEC), political parties, voters and other stakeholders are to embrace e-voting during the 2014 elections. In order to achieve these objectives, primary and secondary data were used to answer the main research question relating to the extent to which stakeholders are prepared and ready to embrace the use of information technology (IT) in the electoral process. As such, interviews were conducted involving officials from the IEC, the Ministry of Science and Technology and from both the ruling Botswana Democratic Party and the opposition Botswana Congress Party and the Botswana National Front. Because only six interviews were conducted, we cannot make generalizations relating to the findings from these interviews. However, these few interviews constitute a strategic selection of key informants who could give an indication of the extent of the use of ICT in Botswana. The interviews were conducted anonymously, with all the participants assured of the protection of their identities. Furthermore, the existing ICT infrastructure, national strategies and policies were assessed in order to establish whether they could support electronic voting system in the elections.

Understanding electronic voting

Electronic voting is an election system that allows a voter to record his or her ballot secretly by computer mediated medium. Put differently, it is when voters use an electronic system to cast their votes. This kind of voting can be done through direct electronic recording or optical mark recognition (OMR) systems based on scanners that recognize the voter's choice on special machine-readable ballot papers (IDEA, 2011). There are however other types of e-voting systems.

Undeniably, electronic voting (or e-voting) is beneficial as has been witnessed in countries that have experimented with this type of voting system. Unlike the conventional paper voting system, the process of voting electronically is said to be more reliable and less prone to human errors. However, experience and research elsewhere suggest otherwise. A study undertaken by Bishop and Wagner (2007) discovered that unreliability, insecurity and lack of transparency are inherent to electronic voting. Having said that, e-voting is viewed by some as a solution to voter apathy. For example, in a United Kingdom (UK) e-voting pilot there was an average of 50 per cent voter turn out compared to an average voter turnout of around 33 percent in conventional voting (The Register, 2003). The 18-24 year olds were attracted to the prospect of e-voting, even though the critics were of the view that this enthusiasm was based on novelty rather than substance (*ibid*). If we agree with the assertion that e-voting is a solution to voter apathy, then e-voting is the way to go for Botswana if it hopes to curtail the growing voter apathy.

The challenge, however, remains that of access to computers in developing countries, Botswana included. Access depends on the availability of computers (in public terminals). But this still remains a challenge in countries such as Botswana where the digital divide is still a major issue. In addition to reliability and accessibility, Dictson and Ray (2000) suggest that perhaps the most compelling benefit associated with online voting is the convenience that this type of voting provides. The convenience associated with of e-voting is believed to encourage voter participation. It is further contended that people do not have to stand in line for long hours to vote because voting can be done from their homes and absentee ballots can be reduced.

Furthermore, e-voting is attractive because it is easy to maintain and efficient to operate. Vote counting is much easier than with the traditional voting. This is important given the fact that a number of problems associated with the traditional voting had to do with counting.

Others believe that as a result of electronic voting, ballot casting, counting, tallying and posting are automatically done within minutes of the close of the poll (Ramachandran, 2004). This was the case in the Indian experience where, during the 2004 elections, there was a thirty second delay before the next vote could be cast thereby eliminating rapid stuffing of ballot by one individual (Bhattacharya,

2004). Fairweather (2003) concurs that electronic voting can allow people to vote securely and it is all inclusive in that disabled people who find marking a cross in the appropriate place on a ballot paper difficult are enabled to vote on equal terms with other people, at least if it is properly implemented.

But, however useful electronic voting maybe, the system has limitations. Security is a major concern when it comes to e-voting (Bishop and Wagner, 2007). It is possible to implement e-voting from a secure location like a polling station but as Fairweather (2003) argues, secure and anonymous voting from home remains fraught with problems. For example, it is impossible to guarantee that the ballot would be secret. For Bishop and Wagner (2007: 1) the security flaws include the fact that "malicious code could exploit vulnerabilities in the voting software to spread virally from machine to machine". As a consequence, they argue, a virus could infect the country's election management system and make it impossible for elections to be held.

In situations where the general trust in the electoral process is low, as it is the case in a number of developing countries, an introduction of electronic voting may only increase suspicion (Kitcat, 2004).This may lead to alienation if the introduction of e-voting means that both the elections and the electoral process are no longer controlled by voters and, instead, become the property of those who run or manage them (ibid). In this case then, the voting machine maker or a multinational corporation controls the whole system and the voter is alienated from the electoral process (ibid). The election becomes an external phenomenon inaccessible to the voter who can no longer scrutinize it. Such a situation may lead to perceptions of abuse. Transparency as a basic principle of democracy may be eliminated, because there is no open and transparent counting of votes (ibid). Therefore election as a means of empowering the voter is compromised, and the voter is alienated not only from the electoral process but also from his own vote (ibid). Finally Kitcat (2004) argues that whoever controls the voting machines can control the outcome of the vote.

Others argue that once the ballot has been entered, the voter has no method of confirmation that the vote was captured as intended (The Register, 2003). The lack of paper trail in case a recount is required works against the desirability of electronic voting (ibid). So, electronic voting does not seem to do much to reduce problems associated with paper ballot. In fact Bishop and Wagner (2007:1) capture this conundrum succinctly by stating that the "solution to one problem introduce(s) another".

Electronic voting in comparative perspective

If Botswana is to seriously consider e-voting, it is crucial that the country learns lessons from other countries that have tried this alternative voting system. There are a number of democracies that have used electronic voting in polling stations, but only a few will be discussed here for illustration.

The United States' experience with electronic voting has been the subject of scrutiny and controversy, particularly relating to the 2000 presidential election. Problems of butterfly ballots and hanging chad were identified (Lee, 2012). Butterfly ballot was a format used in the Palm Beach County and only for the presidential election ballot. It is said to be a butterfly because there are two columns for the names of candidates vying for the same office, and sandwiched between the names was a single column of punch holes (Wand, et al, 2001). Hanging chad refers to a small piece of paper that was supposed to detach sharply from a punch-card ballot but remain attached (Fessenden, 2000). Even with these problems it has to be conceded that electronic voting practices have existed longer in the United States with electronic machine voting system introduced in the 1990s and promising to revolutionarize voting.

Brazil started experimenting with electronic voting in the 1990s, starting with the Municipal elections of October 1996 (Avgerou et al, 2007). However by 2000 all the elections were fully electronic. By 2002 elections, more electronic voting machines were used nationwide in Brazil, and the results were tallied electronically within minutes after the polls closed. However, in the same year, some critics in Brazil argued that by relying on an electronic device, there was no way to verify that the vote was cast as intended and counted as it was cast (Farivar, 2012).

In May 2003 the UK had its e-voting trial in local elections involving over 1.5 million people in 18 local council areas using the internet, text message, electronic kiosk and digital television (The Register, 2003). However these electronic voting trials were heavily criticised for inherent flaws discovered (ibid). In one instance, one system violated its own security. This led some critics to conclude that the general election was a high profile target for hackers and that the risks were severe (Fairweather, 2003). In another instance, polling stations were without an internet connection on the polling day. In St Albans, there were technical glitches with local papers reporting that the confusion almost led to the vote being declared null and void (The Register, 2003). There were claims that the same UK pilots did not have sufficient monitoring to ensure that the results were not compromised (Verified Voting, 2004), and that it was not known what levels of fraud were experienced during the piloting stage.

Assessing the legal framework, policies and strategies for e-voting in Botswana

E-voting strategies and policies

One of the objectives of this paper is to explore the existing legislative framework and policy guidelines to assess the extent to which they can support electronic voting in Botswana. An interview with a representative of the Independent Electoral Commission (IEC) revealed that there were currently no laws, strategies or policies developed to guide e-voting and e-participation in the country. It emerged that the IEC had made some progress regarding the use of information technology to enhance the electoral process. For example, the IEC developed a voter's roll which has been computerised and can be accessed by all citizens and political parties through the use of personal computers. The voters' roll can be accessed through the internet and the data can be down-loaded into a memory stick. However, this was still not enough to support e-voting.

An IEC representative explained that the process of computerization of the voter's roll commenced with the manual registration of voters, and that the system retains voters' names in the original voters' register where the names were entered manually. However, he explained that no benchmarking was done against any regional or international sytems. The IEC official further indicated that the government does not have any specific policies to promote access to and affordability of internet services by households which could enable e-democracy, e-voting and e-participation. He indicated that he was aware of a system designed by the government in order to promote ownership of personal computers, so if this succeeded, it act as a foundation for implementing e-voting in the future.

ICT infrastructure for supporting e-voting

An interview with the Ministry of Science Technology, Department of Information Technology's egovernment official revealed that the government was in the process of developing an e-government infrastructure web portal. The hope was that once this portal was functional the public could access information where internet services are available. He further indicated that the establishment of business centres known as '*Kitsong*' centres (internet cafes), through post offices, would facilitate internet access, particularly in rural

areas, and that 24 of such centres were already in place. In addition, the government was planning to establish tele-centres throughout the country in order to widen internet access. Further, ICT access was being developed through the recently introduced I- Partnership, and this entails interest free loans availed to people to buy computers. The department of information technology was also involved in a project where all junior secondary schools were to be supplied with computers. Although the government was rated amongst the best in Africa in terms of ICT network, the challenge for Botswana is its small population size, which is deemed to be a disincentive for ICT growth and penetration. Although the use of ICT in government has developed considerably, and many processes in public institutions have been computerised, there are indications that ICT development and usage is lagging behind at the local government level.

The Ministry of Science and Technology has an e-government structure which has laid a foundation for e-voting, e-democracy and e-participation. Additionally, the IEC has developed a website which can be accessed from within and outside the country. For example, other countries in the SADC region can access the IEC through the internet. As a way of boosting ICT user confidence, an official of the Ministry of Science and Technology revealed that the IEC is working closely with the Ministry of Science and Technology to regularly upgrade their website. Regarding the ICT infrastructure needed to support e-voting, the official from the Ministry of Science and Technology said that the IEC and the Ministry needed to consult one another regarding user needs. He said that benchmarking the e-voting process, including testing the portal, could form part of the consultation process between the Ministry and the IEC.

The IEC official emphasised that access to the computer was the key to making e-voting a reality in the 2014 general elections. He said that at the moment, access to a personal computer was a problem for many in Botswana. He indicated that the IEC and other stakeholders have been exposed to various technologies which could facilitate the electoral process. For example, they were provided with machines that allow voters to cast their votes by simply pressing a button at a polling station. However, they had reservations about such a voting process and the use of electronic gadgets. Although in principle they were not opposed to the use of information technology to facilitate and improve the electoral process, they were of the view that introducing e-voting required a thorough cost-and-benefit analysis. The IEC was concerned about the reliability of the e-voting system, citing examples such as what happened in Florida, USA, where the results had to be recounted. The same issue was raised by the politicians who were interviewed in this study as they too cited the problems that the USA experienced with their own e-voting.

The official stated that many organisations were ready to embrace and apply technology to improve the electoral process. He also said the IEC was eager to embrace information technology as the foundation had already been laid down by the government. The Commission would explore the possibility of using the electronic means of voting and assess benefits of using such technology. But he also cautioned that ICT facilitated voting was still a challenge even in developed countries as there are problems and people still have to queue up for voting.

An opposition political party official who was interviewed said he was concerned about the use of information technology during elections. His main concern related to the verification process. With the paper ballot, the verification of election results was always a problem, so he was not sure that this kind of voting would be any different. Additionally, the concern of political parties was that the ICT infrastructure was not yet fully developed, as the majority of people in the country did not have access to a computer and internet services.

However, there was a general recognition, by the official from the ruling party, of the usefulness of ICT as a tool for expediting the electoral process. Also, an official in the Ministry of Science and Technology said that ICT enhances responsiveness and increases electoral fairness because unnecessary delays caused by manual ballot counting are eliminated. The major challenge then would be to improve ICT infrastructure and engage all stakeholders to facilitate electronic voting. Concerns regarding assured power supply after 2010 were raised by two respondents. Another member of the opposition said that the major problem of using electronic voting was the country's infrastructure which is not well developed. He said that the majority of the voters, (that is, those who do not have ICT skills, knowledge and access to personal computers and the internet) would be disadvantaged. The elderly would also be disadvantaged as they neither have computers nor computer skills. He also cautioned against the possibility of loss of employment due to the automation of the electoral process.

E-voting and the electoral law

According to the IEC official we interviewed, the Electoral Act does not provide for e-democracy, e-voting and e-participation. Section 17 of Electoral Act requires voters to present themselves to the polling station in order to cast their vote. An official of the IEC suggested that this provision would have to be reviewed and amended in order to allow for electronic voting. Once the law was amended, it would then have to be uploaded onto the IEC website for the public to access and read it. However, it has to be understood that the process of changing the electoral law would entail comprehensive consultation with all stakeholders, including political parties, civil society and all citizens and this was likely to take time and impact on the prospects of using e-voting at the 2014 elections..

E-voting and voter apathy

Those who are entrusted with the responsibility of managing elections or election related issues are of the view that e-voting would not necessarily result in improved voter participation. The IEC official we interviewed explained that voter apathy was not only a result of lack of ICT related infrastructure development, but it was also due to a variety of other reasons, including voters' general feeling that their participation in elections does not improve their well-being or create jobs. This is particularly apparent with people who are currently unemployed. Similar sentiments were echoed by opposition officials who stated that electronic voting was not a solution to voter apathy. However, for the most part, the opposition's major concern was that one's vote would not be secret if e-voting was used. Such suspicions, if they are widespread, would negatively affect voter turnout.

Another IEC official held a contrasting view, and suggested that e-voting might be a solution to voter apathy as voters may be motivated to cast their vote electronically due to benefits such as the speed in casting and counting of votes as well as timely release of election results. This view was shared by many who were in support of e-voting.

Furthermore, and perhaps more importantly, e-voting has the potential of enhancing public participation in elections as well as the potential to improve electoral processes. To this end, electronic voting remains a preferred avenue for dealing with problems that currently face the traditional paper ballot voting.

Internet security

The IEC official we interviewed cited internet security as a major problem that may impact on e-voting. This is a challenge, especially concerning the voter's roll. The security concerns include fraud and vote rigging during vote casting and vote counting. However, the above concerns were cleared by consultants who were engaged to

give an overview of using ICT systems and software in electoral and the voting process to IEC and other stakeholders. The consultants emphasised that security concerns were usually taken care of during the design and piloting stage. Even the e-government official said that security concerns were normally addressed during the planning, design and piloting stages. He indicated that internet security was a major component of ICT and the government would ensure that the system was benchmarked against international standards, although he cautioned that there is always room for human error in the use of ICT which may compromise the credibility of electronic voting. For example, there are cases of fraud in internet banking which may similarly affect e-voting. The same e-government official informed us that a voter's identification can be verified electronically like in a credit card or other system. The official from a political party said that security would always be a concern with the emergence of telecommunication gadgets such as telephones and mobile phones. He commented that the way forward was to embrace information technology and move ahead with advanced options such as electronic voting. The academic interviewed emphasised that electronic voting could guarantee fairness and democracy only if the system was protected from abuse.

E-voting readiness

Quizzed on whether the Government was ready for e-voting, officials that deal with egovernment indicated that the infrastructure was available at the central government level to support e-voting in 2014. The officials said it was up to other stakeholders such as the IEC and legislators to decide whether they want e-voting or not. What would be needed to implement e-voting is a web portal developed for the purpose. The IEC would then be approached to identify the services they would need from the portal. The e-government official stated that this would be followed by the development of structures to support evoting and benchmark the system with international e-voting systems.

However, the official from the IEC indicated that it was important to note that the IEC had not yet adapted advanced information technology and software, including ICT infrastructure and computer systems to support e-voting. The Independent Electoral Commission had undertaken an ICT assessment to identify the type of computers and systems that could allow e-voting and participation in 2014. So other ICT service providers were also expected to have a role to play in assessing the current infrastructure and facilities to support and make e-voting a reality. From the various statements by both the e-government official and the official from IEC, it was evident that the IEC was not yet ready for e-voting in the 2014 general elections. One of the major reasons for the uneasiness regarding e-voting is the constraints associated with it, including the problem of computer hackers meddling with the election register and results, especially once votes have been uploaded into the system for electronic counting.

The opposition party official we interviewed indicated that he did not support electronic voting because of the history of lack of credibility of elections in Africa. He also indicated that lack of capacity to participate in e-voting was another constraining factor identified by political parties. He said that e-voting was discussed in Parliament and MPs had indicated that they did not trust the technology. The mistrust arose from the fact that Members of Parliament were not sure the technology could protect the secrecy of the ballot.

In contrast, the ruling party official supported ICT use and said that it would promote fairness in elections. He said the system should be implemented in stages using an incremental approach starting with by-elections and later rolling it out to cover national elections. This was the case in South Africa where the evoting system was introduced in phases. He said that mobile phones were much easier to use to cast a vote, especially in rural areas where people may not have a computer but have access to a mobile phone. Even the official from the e-government office lamented that politicians and Members of Parliament did not use computers, or had not developed websites for their political parties. This reflected a lack of the will to learn, apply ICT and embrace innovation. The other opposition official opined that democracy was a complex issue, and that using ICT in elections posed challenges, including the possibility of the electoral system being manipulated. He suggested that there was need to have a highly developed ICT system to successfully use electronic voting. He further said that the major concern was that politicians were not ready to use information technology in voting, and that because ruling parties in Africa had the propensity to manipulate the electoral system in order to stay in power, Botswana's ruling party was likely to adopt those tactics and influence the outcome of the elections. He said that opposition parties would find it difficult to trust government officials to run elections electronically.

For e-voting to be implemented:

- The ICT infrastructure needs to be developed, and the people need to have access to a computer and the internet. There is need for all stakeholders to be consulted, particularly the political parties.
- There is need to overhaul the electoral laws in the country to accommodate e-voting. The IEC sees this as the major challenge because amending the laws is a long and difficult process.
- Political parties would need to be encouraged to buy into the idea of electronic voting.

We note, however, that electronic voting would not necessarily improve participation in the elections. For example, the IEC official said that the electoral law was changed to allow 18 year olds to vote, yet this has not improved voter apathy as the youth are still reluctant to vote. Secondly, voters would still have to stand in queues to vote. Potentially, this would deter the youth from voting.

Is e-voting a possibility for the 2014 General elections?

Regarding the reality of e-voting in Botswana for 2014 general elections, interesting arguments have been proffered, with IEC officials categorically stating that it was not possible to use it. The reason advanced for this was that Africa is associated with issues of mistrust and vote rigging. Experiences elsewhere have indicated that the computers can be used to rig elections by manipulating the voters' roll and the counting of votes. Echoing similar sentiments, an opposition official we interviewed stated that however good an instrument e-voting was at meso and micro levels, it could not be used at the national level due to African political environments that are prone to vote rigging and problems of results validation.

Nonetheless, an official from the department of information and technology was optimistic about the possibility of using electronic voting. He said electronic votingwas a possibility for 2014 elections provided ICT infrastructure was completed by putting in place the e-voting portal and revising the electoral laws. In addition, he said that issues relating to security concerns had to be addressed so that voters could trust the e-voting system. He further said efforts should be made to ensure wider access to computers, and to consult all stakeholders. Finally, he suggested that the stakeholders be given the opportunity to identify usage, and pilot the e-voting system before launching it in the 2014 elections.

CONCLUSION

It is irrefutable that Botswana has already invested heavily in ICT infrastructure, and has developed policies and strategies to close the digital divide (Mpabanga, Mpoeleng and Mokhawa, 2006). E-voting can easily be integrated into the already existing egovernment structures. However, Botswana seems not to be ready to use ICT resources in the 2014 elections. As the arguments in this paper suggest, the multiple benefits of using electronic voting include the speedy casting and counting of votes, and announcement of election results. Other benefits include increased voter participation, reduced election related costs and increased participation by the visually impaired. However, this does not mean that evoting has no inherent problems. There are indeed challenges and risks associated with evoting. These include issues of transparency, trust, openness and accountability. In addition, problems of vote rigging, meddling by computer hackers, and the possible manipulation of the system by the election administrators have been raised. Politicians do not seem to trust the use of computers in voting. However, these problems can be addressed by developing stringent security measures during the designing and piloting stages. Tight monitoring strategies can also enhance the credibilityof electronic voting. We argue that edemocracy need not be a quick fix for sickly politics. Without genuine thinking and changing the way that politics is run, technology will not help improve participation. Although electronic voting has been heavily criticised, it has some benefits. It is only that the problems associated with evoting should be addressed for it to work. Continuous monitoring of equipment during voting is critical; in the event that there are technical glitches these should attended to promptly and a backup system should put in place in case of a total systems failure. Another crucial consideration is that there should be a paper trail to ensure transparency. Our hope is that future research, using both quantitative and qualitative approaches, as well as theories of alternative voting systems and politics, would provide more innovative solutions relating to the use of ICT and electronic voting, and contribute towards the development of a more democratic, people friendly voting system.

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