The Adoption of Information Technologies in Elections: A Case Study of Kenya

Name

Institution

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**Introduction**

**Background to the Research**

 Information technologies have emerged as critical factors in the success of many organizations, businesses, and governments for the fact that they allow efficient and fast methods of information sharing and securing. For this reason, there has been a high rate of adoption of such technologies worldwide, across almost all industries. The use of such technologies in elections has been debated for some time. Proponents of the adoption of such technologies cite success in other industries and argue that it has the capacity to revolutionize elections (Krosnick, Miller, and Tichy, 2004). On the contrary, those against these technologies have cited the possibilities of failure resulting from such issues as cyber-attacks and others (Gueorguieva, 2008). The perceptions of both sides have been credible at least to certain perspectives, since information technologies have been incorporated into elections and transformed the experience of voters and managers. One of such areas that have been greatly boosted by the use of technologies is the transmission of results, which has allowed the electorate to monitor the progress of their preferred candidates and ensured transparency. As much as such success has been realized, using technologies in elections has been controversial in some cases, since there have been allegations of a lack of transparency resulting from an interference with the information systems.

 The purpose of the research being proposed in this work will be on the use of technologies in the elections of Kenya, one of the three nations of the East Africa Region. The research will focus on the gaps in the use of information technologies in three general elections of the country, in 2007, 2013, and 2017. The focus on Kenya is special for the fact that the country has been one of the leading in terms of the adoption of technologies for such purposes in Africa. While other countries have attempted to use the same technologies, it is notable that the case study of Kenya has highlighted important lessons on the effectiveness of the technology usage. For example, Kenya uses information systems in registering its voters, transmitting results from polling centers, and in allowing the public to track the progress of the electoral process (Mutung’u, 2017). Most of the purposes for which information technologies were used were quite successful. The most notable of such success have been in the registration and confirmation of the voter register, which has eliminated the need, for example, for voters to carry their voter registration cards to the polling stations. The election managers have been able to go through the large voter register with ease, since the use of technology lets them to use biometric systems to identify individual voters when they turn up to vote (Mutung’u, 2017). However, the area of results transmission has been the most criticized in the recent past. In fact, in the just concluded August 2017 elections, the Supreme Court of the nation was compelled to annul the re-election of President Uhuru Kenyatta after Chief Justice Maraga found that the credibility of the elections had been compromised by a lack of credibility in the transmission of results (Burke, 2017; Ombour, Schemm, 2017; Al Jazeera and News Agencies, 2017; Freytas-Tamura, 2017).

**Gap in Literature**

 Extant literature on the role of technologies in elections has focused on the advantages and disadvantages. For example, the purpose of such researches has been to study the extent to which technologies could be effective in transforming the nature of the electoral process (Krosnick, Miller, and Tichy, 2004). Some of the studies have explained the potential drawbacks of using technologies in the exercise (Geist, 2010; Elections Canada, 2017; The Economist, 2014). However, few of such studies have focused on the manner in which the drawbacks of the use of technologies in elections could be dealt with (Option Technologies International Limited, 2017). Combined with the fact that none of such studies has focused on any African nation, it will be a pioneer research that will provide an insight on how the flaws in the usage of technology could be addressed in future.

**The Objectives of the Proposed Research**

 The proposed research will seek to study the relationship between the use of technologies in elections and the quality of the outcome. The specific objectives of the study will be as follows:

1. To determine the levels of adoption of election technologies in the Kenyan Elections.
2. To establish the levels of success of the usage of technologies of elections in Kenya.
3. To determine the factors that have affected the use of technologies in Kenya negatively.
4. To recommend best practices that could be useful in dealing with the gaps in the usage of election technologies in Kenya.

**The Main Research Question**

* To what extent does the use of information technologies affect the credibility of the electoral process in Kenya?

**Subsidiary Research Questions**

* What advantages and disadvantages has the incorporation of information technology into the electoral system of Kenya brought to its electorate?
* Which of the factors on the list of the disadvantages of election technology has been the most significant in the electoral process? What effects has such a factor brought to the nation?
* What role do information technology students have in dealing with flaws of the use of election technologies in Kenya?

**Literature Review**

 The adoption of election technology was heralded as one of the most significant steps in reforming the electoral system in most nations. For example, in the US, there were many debates concerning the ways of raising voter turnout using technologies that would help people to vote at their convenience (Gross, 2017). Kenya was in a general election mood for the better part of 2017. The nation was eager to adopt technologies that would reduce the instances of fraud such as those that happened during the 2007 elections, which plunged the East African nation into turmoil (BBC News, 2013). The controversy concerning the usage of election technologies in the 2017 general elections was a concern for the politicians and electorate alike.

 The country used technology in the 2013 general elections in areas such as results transmission, electronic voter identification, and biometric voter registration (BBC News, 2013). This technology allowed an immediate transmission of poll results from each polling station in the country to the tallying centers and improved the efficiency of identification of voters. Similar integrated technological systems were used in the just concluded August 2017 elections. Before the elections, there was debate concerning the credibility of the elections concerning the possibilities of the adoption of a complementary system to the extant technologies that would be effective in the event of technological failure (Treisman, 2017). Such a concern was the bone of contention for the opposition in the country, which was infuriated by past events in which there were allegations of wide spread fraud, such as the case of 2007.

 The Independent Review Commission submitted its Krieglar report after it had been given the mandate to investigate all the elements of the 2007 general elections and recommend the manner in which the situation could be remedied. In the report, the commissioners found that there existed institutional weaknesses that included bureaucratic procedures, as well as inadequacy of training of election managers has affected the elections. In addition, Krieglar found the absence of voters from the voting register, the stuffing of ballots, delays in results transmission, negative propaganda and hate speech at the time of campaigns, the use of sexist tactics, errors in the summation of results, a delay in the declaration of the winner among other issues as the additional faults in the electoral system (Mutung’u, 2017).

 The recommendations of the Krieglar report were in six themes. The themes included the counting and tallying of votes, the role of actors within the electoral process, post-election procedures, the structure of organization and operation of elections, the legal and organizational frameworks on the conduction of elections, and conduct of the 2007 elections (BBC News, 2013). The report further noted that the electoral management body, the Electoral Commission of Kenya, should have leveraged the use on Information and Communication Technologies that would have helped in streamlining some of its activities and improved the efficiency of the electoral process, particularly during the processing of results (Mutung’u, 2017). For instance, the report indicated that the adoption of an integrated secure system of data transmission and tallying of results that would allow the media to access proceedings would help in deflating anxiety related to waiting of results.

 The elections of 2013 were conducted using three components of election technologies: the biometric voter registration, the electronic voter identification, and the results transmission system. The technology used in registration of voters was implemented successfully, since there was a registration kit that included a camera, a fingerprint scanner, and a laptop used in the capturing of the fingerprints and images of the voters (BBC News, 2013). The registration kit linked the collected data to the personally identifiable data that included the addresses for voters and their national identity information. However, it should be noted that the electronic voter register failed to work as expected. There were two forms of the same technology. The first was that included a confirmation of voter details using a laptop with fingerprint readers while the second used hand-held readers. During that time, it was noted that some of the devices ran out of power while some of them crashed, and the body in the management of the 2013 polls was not adequately prepared to deal with the challenges of equipment failure. The technologies used in the transmission of results also failed for the fact that a forced discontinuation occurred because of the fact that bugs in the transmission technologies and an information overload meant that the system could not be as effective as it had been purposed to be (BBC News, 2013).

 The results of the elections in 2013 could not be easily verified in terms of their credibility. For this reason, the opposition leader moved to the newly inaugurated Supreme Court of Kenya to petition the declaration of Uhuru Kenyatta as the fourth president. During this petition, the technology involved in the delivery of a free and fair generation election was among the fundamental issues that needed to be addressed. Specifically, the Supreme Court was to determine if the use of electronic technologies during the general elections was mandatory or discretionary (BBC News, 2013; Mutung’u, 2017). During the hearing, the petition maintained that when the newly appointed Independent Electoral and Boundaries Commission abandoned the use of electronic means of results transmission and voter verification to the manual ones. Much disarray also occurred as there could be no guarantee to the credibility of the process. It was also contested that the electoral process had been marred by tallying inaccuracies that the departure from an electronic system had occasioned. Delivering the majority verdict, Chief Justice Willy Mutunga argued that the electoral management body had been left with no other option expect reverting to the traditional manual system after the electronic system had failed (BBC News, 2013). In addition, the court established that such failures had occurred for the fact that the there had been insignificant efforts to determine the reliability and credibility of the electronic systems.

 The August 2017 elections also raised concerns of the use of technologies in elections. For instance, the Supreme Court ruled in favor of the petitioner in a case that challenged the re-election of President Kenyatta. This time, the court found that the transmission of results had been marred by cyber-attacks on the electronic databases, as well as unauthorized entries into the same database. As a result, as the opposition had alleged, the results of the elections were interfered with favor of the incumbent President Kenyatta. Therefore, the court ordered a fresh election, directing the electoral management body to pay special attention to the mistakes highlighted in the ruling. For this reason, the nation has been divided concerning the use of technology in its elections, since significant accusation has been raised concerning the integrity of the electoral body, including its information technologies staff that is under the secretariat headed by the Chief Executive Officer, Ezra Chiloba (Al Jazeera and News Agencies, 2017). Therefore, it is clear from the case study of Kenya that while using information technologies in elections could be useful, there is always a concern about effectiveness.

**Methodology**

 The proposed research will explore the objectives and answer the proposed research questions using the qualitative approach to research. According to Creswell and Poth (2017), qualitative research is useful when a researcher seeks to study the basis of human character. The approach of research allows the collection of as many views as possible from respondents. These opinions will be analyzed, and such a research may reveal the relationships among different variables. As much as the study does not involve human behavior, the fact that there have been two petitions in the last two general elections in Kenya suggests that the electorate and politicians alike have been concerned with the effectiveness of such approaches. For this reason, the study will be useful in the explanation of why such dissatisfaction has been witnessed in the country.

 The qualitative study will further adopt the case study design, which as Creswell and Poth (2017) note “… involves studying a single event, organization, or entity using multiple data sources”. The study will involve a deep analysis of the case of Kenya and the experience with the last three general election in which the use of technology was present. The fact that the nation has more than 40 million residents means that there is a large sample of such resources from which the data for analysis is collected.

 Three hundred respondents will be recruited for the study. First, the researcher will send five hundred consent letters to the prospective respondents that will be recruited through governmental agencies in Kenya. The reason for sending as many consent letters as possible will be to deal with the fact that some of the respondents might fail to return them, which will indicate their unwillingness to be involved in the study. Those that will return their consent letters will then provide a base for recruitment using the random sampling technique. According to Kazimierczuk, Zawadzka, and Koźmiński (2009), random sampling allows each of the respondents an equal chance of being involved in a study. The criteria for inclusion of the respondents will be the fact that they can communicate fluently either in Swahili or in English.

 Collected data will be analyzed using the SPSS program and content analysis. The latter will allow the investigator to group the different categories of respondents’ responses to the study questions into themes, and the statistical tool will provide the basis of establishing the correlation among the different variables. This way, it will be possible for the researcher to determine the effect of technologies on the credibility of the electoral process in Kenya. The data will then be presented using visuals such as tables, charts, and graphs that will allow readers of the research paper to have a quick understanding of the associations among the different variables that will be studied.

**Projected Implications of the Findings**

 The findings of the research will contribute to existing literature on the effectiveness of information technologies used in elections. For the case of Kenya, the results and recommendations will add to the ideas that have been proposed by such commissions as the Krieglar and Waki on the measures that should be taken to improve the credibility of elections. The recommendations will highlight the levels of contribution of IT students in solving societal issues.

References

Al Jazeera and News Agencies (2017). Kenya Supreme Court annuls result of presidential polls. *Aljazeera.com*. Retrieved from http://www.aljazeera.com/news/2017/09/kenya-supreme-court-annuls-result-presidential-polls-170901084743579.html

BBC News (2013). Q&A: Kenya's vote count. *BBC News*. Retrieved from http://www.bbc.com/news/world-africa-21698223

Burke, J. (2017). Kenyan supreme court annuls Uhuru Kenyatta election victory. *The Guardian*. Retrieved from https://www.theguardian.com/world/2017/sep/01/kenyan-supreme-court-annuls-uhuru-kenyatta-election-victory

Creswell, J. W., & Poth, C. N. (2017). Qualitative inquiry and research design: Choosing among five approaches. *SAGE Publications*.

Elections Canada (2017). A Comparative Assessment of Electronic Voting*. Elections Canada*. Retrieved from http://www.elections.ca/content.aspx?section=res&dir=rec/tech/ivote/comp&document=benefit&lang=e

Freytas-Tamura, K. (2017). Kenya Supreme Court Nullifies Presidential Election. *Nytimes.com*. Retrieved from https://www.nytimes.com/2017/09/01/world/africa/kenya-election-kenyatta-odinga.html

Geist, M. (2010). Why Voting by Internet Is a Bad Idea*. The Tyee*.Retrieved from https://thetyee.ca/Mediacheck/2010/03/09/InternetVoting/

Gross, G. (2017). 5 ways to improve voting security in the US. *PCWorld*. Retrieved from https://www.pcworld.com/article/3128072/security/5-ways-to-improve-voting-security-in-the-us.html

Gueorguieva, V. (2008). Voters, MySpace, and YouTube: The impact of alternative communication channels on the 2006 election cycle and beyond. *Social Science Computer Review*, *26*(3), 288-300.

Kazimierczuk, K., Zawadzka, A., & Koźmiński, W. (2009). Narrow peaks and high dimensionalities: exploiting the advantages of random sampling. *Journal of Magnetic Resonance*, *197*(2), 219-228.

Krosnick, J. A., Miller, J. M., & Tichy, M. P. (2004). An unrecognized need for ballot reform: The effects of candidate name order on election outcomes. *Rethinking the vote: The politics and prospects of American election reform*, 51-73.

Merriam, S. B. (1998). Qualitative Research and Case Study Applications in Education. Revised and Expanded from "Case Study Research in Education.” *Jossey-Bass Publishers*, *350*.

Mutung’u, G. (2017). A Brief on Technology and Elections in Kenya 2017. *Diplo Internet Governance Community*. Retrieved from http://www.diplointernetgovernance.org/profiles/blogs/a-brief-on-technology-and-elections-in-kenya-2017

Ombour, R., &, Schemm, P. (2017). Kenya’s Supreme Court annuls presidential election result for irregularities, orders new vote. *The Washington Post*. Retrieved from https://www.washingtonpost.com/world/kenya-supreme-court-cancels-presidential-election-result-for-irregularities-orders-new-election/2017/09/01/ceee81d6-8ef4-11e7-84c0-02cc069f2c37\_story.html?utm\_term=.28c5daeac9f3

Option Technologies International Limited. (2017). Improve Electronic Voting. *Optiontechnologies.com*. Retrieved from https://www.optiontechnologies.com/improve-electronic-voting

The Economist (2014). Why the Elections are Bad for You*.* *The Economist*. Retrieved from https://www.economist.com/blogs/economist-explains/2014/04/economist-explains-8

Treisman, L. (2017). Kenyans use tech to stop election fraud. *CNN*. Retrieved from http://edition.cnn.com/2017/07/27/africa/kenya-elections-technology/index.html

Wanambisi, L. (2017). Jubilee initiates plan to amend election laws*. Capital News*. Retrieved from https://www.capitalfm.co.ke/news/2017/09/jubilee-initiates-plan-amend-election-laws/