http://www.coahuilatransparente.gob.mx/BD/InformeAnualActividades/INFORME %20ANUAL%2020183.pdf (accessed 20.11.2020)

7. RotacionPersonal[ElectronicResource].URL:https://www.occ.com.mx/blog/los-costos-la-rotacion-personal/(accessed20.11.2020)

8. Bergsma W. A bias-correction for Cram'er's V and Tschuprow's T // Journal of the Korean Statistical Society 42 (3), 323-328.

APPLICATION OF ICT AND E-VOTING SYSTEM FOR EDO GUBERNATORIAL ELECTION 2020 IN NIGERIA

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Introduction

Information Communication The advancement in and continuous Technology (ICT) has led to its wide range adoption in virtually every facet of human lives, including in democratic processes such as election and voting. There is no gainsaying the fact that ICT is now being applied in every sector including Education, Banking and Commerce because of it seeming advantages. Similarly, different governments across the world have also welcomed the application of ICT and E-voting system in elections. The [4] defined E-voting as a form of computermediated voting in which voters make their selections with the aid of a computer. E-voting, also known as Electronic voting allows for the use of technology in the basic election process which includes ballot composition, casting, recording, and tabulation. [7] asserted that electronic voting focused on the use of computers or computerized equipment to cast votes in an election while aiming for an increased voter's participation, reduced cost of conducting elections and improvement in the efficiency and accuracy of election results.[1] observed that many electoral processes now involve the use of ICT to ensure transparency and speedy completion of voting. In recent time, technologies such as smartphones, laptop computers smartcard readers as well as software packages have become an essential part of voting and electoral process [3] as they have been applied at different stages of the election process.

The Edo Gubernatorial Election 2020whichheld on the 19th of September, 2020, featured candidates from different political parties such as the People Democratic Party (PDP), All Progressive Congress (APC), Action Democratic Party (ADP) and New Nigerian Peoples Party (NNPP) amongst other political parties. The election which was widely considered as a free and fair election [6] witnessed the use of different ICT tools from the stage of voters registration, to voters verification and to dissemination of election results. The election marked a new era in the deployment of technology for voting as the Independent National Electoral Commission (INEC) enforced the use the Automated Fingerprints Identification System (AFIS) which was earlier introduced in the country in 2011. Furthermore, the country's national electoral body also implemented the use of INEC Voters Identification System (IVAS) otherwise known as Smart Card Reader (SCR) for voting and accreditation of eligible voters. The enforcement of these technologies in the Edo Gubernatorial Election 2020 marked a new dawn in the State history as the entire country moves towards the total implementation of Evoting system.

Application of ICT to Edo Gubernatorial Election 2020

In recent times, the Independent National Electoral Commission (INEC) has applied the use of ICT to elections in Nigeria. Most recent among those elections is the Edo State Gubernatorial election of 2020. In a bid to conduct smooth, free and fair election in Edo State, the electoral body employed diverse kinds of information technology in the electoral process. Furthermore, the proliferation of information technology has given the electoral body multiple options in the electoral process. The Edo gubernatorial election of 2020 witnessed a new level of adoption of ICT in the electoral process. Beyond just using ICT for casting of votes (E-voting), ICT tools were also adopted in the delimitation of constituency, capturing of qualified voters, verification of voters and use of smart card readers in voting. [6]noted that, much like the 2019 general election; the INEC relied heavily on ICT applications for the success of the 2020 gubernatorial election in Edo State. Some of the areas in which ICT was applied include:

1. Voter Data Capture and Registration

While the voter data capture and registration precedes the actual voting, it is, however, considered and important part of an electoral process. According to [1], voter registration is a process through which those qualified to vote are identified and included in a list called the register of voters. In the 2020 Edo gubernatorial election, the Nigerian Independent electoral commission deployed the use of different ICT tools in the registration of eligible of voters. Among the ICT tools applied are webcam and fingerprint capture machine for capturing the face and fingerprints of registered voters. The data capture and registration process also include the use of laptop computers for data entry, INEC web portals and E-mail IDs, mobile applications, internet and an electronic database software for storing data.

2. Voter Verification/Accreditation and Voting

Prior to the commencement of actual voting during the Edo gubernatorial election of 2020, eligible voters were accredited to ensure that voters do not cast their vote in the wrong constituency. To conduct this exercise, the electoral body in charge of the election used smart card readers which require fingerprints for authentication as well as the use of the permanent voters card (PVC).

3. Vote Counting and Computing

In order to improve the electoral process of the 2020 Edo gubernatorial election, the electoral body also put in place a system that had its own analytics software which makes it easier to count and compute election results. While registration and voting is ongoing, the smart card reader is able to automatically count the number of vote cast. This process reduces the chances of error in manually counting election results.

4. Result Dissemination

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Just like the 2019 general election in Nigeria, the Nigerian INEC adopted different technology to disseminate the result of Edo gubernatorial election 2020. Aside from the different election results circulating across different social media platforms, the election results were announced using traditional media as well as emerging technology. For instance, while the announcement was ongoing, viewers could still follow the result announcement on real-time through the INEC Website and social media handles.

E-voting System in the Edo Gubernatorial Election 2020: Reassessing the Challenges

The application of ICT and E-voting in the Edo gubernatorial election 2020 is not without some challenges. One notable challenge faced in the adoption of ICT in the Edo gubernatorial election 2020 is the issue of erratic power supply. Frequent power outage or inconsistency in power supply proved to be a challenge in the 2020 election as many electoral officers were unable to charge their drained card readers. This ultimately meant that the election was paused in some areas at some point to give room for charging of card readers. This not only slows the state of things, but also delayed the computation and announcement of election results.

Furthermore, lack ICT skilled among some electoral officers hindered the smooth running of things on the Election Day. According to [5], some polling units in Edo state had challenge in operating the card readers and sending of periodic election data to the central database due to lack of ICT skills. This challenge has been a perennial challenge facing ICT adoption in Nigeria as many Nigerians lack the digital skills to effectively use different ICT facilities.

In addition, most analysts associate the observed malfunctioning of voting smart card readers (SCRs) with technical and manufacturing faults (Election Monitor 2015), while others maintain that such an eventuality is a result of a combination of factors – such as the inability of some voters to read and write (Fujiwara 2015), the unpreparedness of the INEC and its ad hoc staff (National Democratic Institute 2015), and a generally low level of awareness (Dahiru, Abdulkadir, and Baba 2017).

Conclusion

The introduction of ICT and E-voting system in the Edo gubernatorial election 2020 has risen out of the need to conduct a viable, free and fair election. Aside from increasing speed and accuracy in election, the application of ICT and E-voting also ensures that election is more transparent, reliable and credible [2]. However, the INEC must seek for ways to address the challenges faced in the use of ICT and E-voting system in order to eliminate the hiccups observed in the 2020 election.

References:

1. Ayeni, T.P. &Esan, A.O. (2018). The Impact of ICT in the Conduct of Elections in Nigeria. American Journal of Computer Science and Information Technology, 6. 1. doi:10.21767/2349-3917.100014

2. Donatus, N.O., Amaefule, I.A., Ikenna, N.C., &Janefrances, J.E. (2018). Application of ICT and Electronic Technology in Election Management: Challenges in Rural Areas in South-Eastern Nigeria. International Journal of Advanced Engineering, Management and Science (IJAEMS), 4(5), 360-365.

3. Ejikemejombo N (2015) Information and Communication Technology and Administration of 2015 General Election in Nigeria. Mediterranean J Social Sci MCSER 7.

4. Encyclopedia Britannica (2020). Electronic voting. Retrieved from https://www.britannica.com/topic/electronic-voting

5. INEC Nigeria (2018). INEC Nigeria Procedure for Collation and Declaration of Results. Retrieved from https://www.medianigeria.com/category/politics/page/7/

6. Iwuoha, V.C. (2018). ICT and Elections in Nigeria: Rural Dynamics of Biometric Voting Technology Adoption, in: Africa Spectrum, 53, 3, 89–113.

7. Qadah, G.Z. &Taha, R. (2007). Electronic voting systems: Requirements, design, and implementation. Computer Standards & Interfaces, 29(3): 376-386. Retrieved from https://doi.org/10.1016/j.csi.2006.06.001

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