



DEPARTMENT OF APPLIED
INFORMATION TECHNOLOGY

E-voting: Is it a Solution for Central Africa?

A case of the Cameroon Electoral Process

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Abstract

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Keywords: E-voting, paper ballot, electoral process, election,

Purpose: Empirical evidence suggests that election malpractices are a common feature in most third world electoral systems. As a result, many of these nations are adopting e-voting to conduct free, fair and transparent elections as opposed to the paper ballot system. But despite the adoption of this novelty, election results in most third world countries are still received with mixed feelings because of a general lack of confidence in the election organizing bodies. It is in this context that this study explores the successes and failures of e-voting in Cameroon.

Theory: The study employed the Diffusion of Innovation Theory to investigate the extent to which e-voting as an innovation has been diffused into the Cameroon electoral process.

Method: The survey research method was used to gather data for this study. A sample population of 50 was chosen to participate in the survey. To provide a fair representation of the sample population, two sample methods were applied; purposive or judgmental sample which focus on members of the Election governing body (ELECAM), government officials as well as top members of the ruling and opposition parties who were selected deliberately to provide information that cannot be obtain from other sources. Simple random probability sample targeted the public to provide a general inclusion of the sample population.

Results: Results of the study reveal that manual voting is often tedious and time consuming and the adoption of e-voting has made the voting process more efficient. The findings also suggest that the introduction of e-voting in Cameroon has mitigated some of the issues and challenges plaguing the Cameroon electoral process. The adoption of this process had the full support of government and the election organizing committee in providing the right resources and man power. But due to the negative experiences from a series of rigged elections prior to the adoption of e-voting, the results portrayed a lack of trust in the election organizing committee's ability to effectively handle the e-voting technology. The rate of diffusion of e-voting as an innovation was relatively low in the rural areas as opposed to urban areas.

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1 Introduction

The 20th Century experienced the dawn of the digital age, therefore most global economies, institutions and political systems have experienced a shift from using the traditional pen and paper to adopting the new Information and Communication Technologies (ICT). This transition is to enable nations and institutions meet up with some of the challenges that come with ICTs and globalization. As a result, many nations in the world are adopting e-voting as part of their democracies to enable, free, fair and transparent elections. This new development is to enable a calm political atmosphere in these nations. Based on the premise that a calm political atmosphere is a prerequisite for rapid economic growth, e-voting has been embraced to boost their economies.

This chapter will be introducing the study by presenting the background, problems and research questions. It will also explain my motivation for using Cameroon as my case of interest and a brief history of democracy and elections in Cameroon. The chapter ends by discussing the delimitations of the study.

1.1 Background

Many Central African nations achieved independence in the 1960s. Since then most nations in this region have been practicing democracy. In 2008 Atoubi's study on Election Related violence in Africa showed that despite the introduction of democracy, most Central African nations have been unable to enjoy the positive benefits of free and fair elections as there have been a recorded series of election malpractices ranging from voter's disenfranchisement, forceful suppression of political rallies, and mass boycott. The aftermath of elections has mostly been plagued by civil unrest, looting, destruction and damages of property, mass arrest of opposition leaders, fighting among political leaders and economic repression or sabotage (Atoubi, 2008). Cameroon is a Central African nation that is plagued with election malpractices. Cameroon as a nation has experienced a series of election irregularities since the introduction of multiparty politics and democracy in the 1990s (Nwekefor, 2017). Most problems that undermine the outcome of elections in Cameroon begin with the selective registration of voters. This method of disenfranchisement is undemocratic and is one of the root causes of instability in the political system in Cameroon (Nwekefor, 2017). The electoral process in Cameroon in the 1990s was complicated due to the absence of a valid national electoral register. Following the controversial presidential election of October 2011, the Cameroon government embarked on a reform of the electoral system by dissolving the existing pen and paper voter's registration system and replacing it with a biometric system (Agbor & Mukum, 2012).

During the 2003 federal and state elections in Nigeria at least 100 people were reported killed and many more were injured. Approximately 600 people were reported killed in Kenya during the 2007 elections following disputes over the results. It was also the case in 2007 in Sierra Leone when violence erupted between the Sierra Leone People's Party (SLPP) and the opposition's All People's Congress (ACP) (Atoubi, 2008). All this violence is because of lack of trust in the electoral systems

in these respective nations as citizens feel disenfranchised from the electoral process. This is contrary to Article 13(1) of the African Charter of Human Rights and Peoples' Rights (ACHPR) of 1981 which gives the right to every citizen of a nation in Central Africa to participate freely in the government of his or her country either directly or through chosen representatives in accordance with the law (Ibrahim & Rizzan, 2017). Therefore, most Central African nations have adopted e-voting to ensure free, fair and transparent elections.

1.2 Overview of the Cameroon Electoral Development by the Commonwealth Expert Team 2011 Report

Cameroon, a former French colony, gained independence on 1st January 1960 as the Republic of Cameroon with Ahmadou Ahidjo as the first President. "In 1966 President Ahidjo banned all political movement turning Cameroon into a single party state. He merged most of the political parties to form the Cameroon National Union (UNC)" (Commonwealth Expert Team, 2011, p.3). On the 4th of March 1982 Ahidjo resigned as President and was constitutionally succeeded by Paul Biya. The report further notes that in 1984 President Paul Biya reorganised the UNC as the Cameroons People Democratic Movement (CPDM) following a coup attempt the previous year and implemented the multiparty democratic system in Cameroon with the first presidential election held in 1992.

The Cameroon electoral landscape experienced two significant events since 2004; first was the establishment of an independent election management body know as Election Cameroon (ELECAM) in 2006, and the second was during the 2011 Presidential election when the Cameroon National Assembly passed an amendment to the constitution abolishing the presidential term limit. This corroborates (Ayogu, 2011) account of the Commonwealth Expert Team, that Law number 2006/11 of 29th December 2006, which was further amended in 2008 and 2010 governs the establishment of an independent electoral body known as Election Cameroon. The law provides ELECAM with the responsibility of organizing and managing elections in Cameroon. The law gives the government the power to choose top officials to run the affairs of ELECAM. This body was established to replace the Ministry of Territorial Administration and Decentralization which previously handled elections in Cameroon. However, (Ayogu, 2011) notes that the government of Cameroon has deliberately transformed ELECAM into an instrument of political control, through administrative arrangements in the organization's structure and process.

In 2012 due to pressure from opposition parties, ELECAM introduced the biometric voter's registration system. This was the dawn of e-voting in Cameroon which was followed by the deployment of 12000 biometric kits all over the nation to register voters by matching five fingerprints, photos and additional identification information. The introduction of the biometric voter's registration scheme was aimed at ensuring the credibility of election outcomes, improve election transparency and cut down irregularities in the voting process (Menang ,2015).

1.3 Problem discussion

To further discuss the statement of the problem, it will be important to throw some light on the functions of the biometric voter's registration system in Cameroon. This kit was introduced in Cameroon with the following questions in mind:

How can elections in Cameroon be rendered free and fair?, can the use of various technologies work even without the political will of the elections control body?, what is working, and what is not working to define a clear-cut strategy to improve elections in Cameroon?, the main goal of this system was to reach a wide number of voters both in rural and urban areas in Cameroon. It was also aimed at reducing voter registration errors and duplication of voters during registering (Ntembe, as cited in Nwokeafor, 2017, p. 308)

The biometric voter's registration kit has the following functions:

- a) Collection and storage of fingerprints and photos from registered voters
- b) Collection and storage of relevant demographic and biographic data of each voter as prescribed by the law. The law state that to be eligible to vote in Cameron you must 20 years and above
- c) Matching both biometric and biographic data collected from each registered voter.
- d) Printing of receipts as proof of registration to be issued to voters.
- e) Preparation of summary in list form of all registration conducted by the kit by the end of each day
- f) Encrypting and transferring (export) from the kit to a special USB at predetermined intervals and onward forwarding to the regional hub.

Despite the introduction of the biometric voter's registration system in Cameroon, election results are still flawed with heightened tension, violence and corrupt practices at all levels. This has eroded public confidence in elected officials and institutions (Ntembe, as cited in Nwokeafor, 2017, p. 313). Cameroon's political scenario has become more pervasive to the extent that the country is rated as one of the most corrupt nations in the world. Despite the relative calm that reigns in Cameroon after a series of flawed election outcomes, Cameroonians are less certain of election outcomes more than ever before, (Ntembe, as cited in Nwokeafor, 2017, p. 313)

1.4 Aim of the study and implication to Learning

The purpose of this study is to do an investigation on the prospects and challenges of the practice of electronic voting in Cameroon. This will be done through comparing the basic requirements of the implementation of e-voting with what is being practiced as e-voting in Cameroon today. The adult literacy level in Cameroon is 81.2% for male and 68.9% for female which will be taken into

consideration, as will the level of information and communication exposure of the adult literate population. The importance of this study is twofold. First is as a contribution in further problematizing ICT innovation and its prospects and challenges in providing solution to actualized problems; in this case, the election system in Cameroon. Though ICT innovation can provide solutions, it may also pose some challenges or difficulties for example in accessibility and usage. The second contribution is situated in its contribution towards improving voter's participation in elections in Cameroon by identifying and discussing some of the challenges that electronic voting system may pose. In this sense, it could be used by the election agency in Cameroon to make some changes towards improving on the electronic system.

1.5 Research Questions and Motivation for the case of interest

The research questions in this study deal with the development, prospects and challenges of e-voting in Cameroon. Focus is placed on the practice of e-voting, problems encountered, the cause of the problems and possible solutions to overcome the problems. The conceptual definition of e-voting will be compared to the operational definition from a Cameroon electoral perspective. This will be done by outlining the basic requirements for the implementations and compare them with what is practiced as e-voting in Cameroon.

As aforementioned in the discussion of the problem, Cameroon is a glaring example of a downtrodden country plagued by the nightmarish scar of election irregularities. Since the implementation of multiparty democracy in the 1990s, election results have been welcomed with mixed feelings and citizens of this central African nation have lost confidence in the electoral system despite the implementation of the electronic voting system. The country is presently in the middle of a political campaign in preparation for the next general election scheduled for October 2018. The findings from this project will provide answers to why despite the implementation of the electronic voting system in the Cameroon, citizens of this nation are still not satisfied with the outcome of election results. This answer will provide a drawing board to government officials, elections organizing bodies and opinion leaders to consult and further strengthen the electoral process in Cameroon. Findings from this study will make provision for open ended questions which will further pave the way for other researchers to conduct studies pertaining to electronic voting in the future. This thesis will address the following research questions;

- A) What are the main requirements that must be met for the effective implementation of e-voting in Cameroon?
- B) Are these requirements a reflection of what is practiced in Cameroon as e-voting?
- C) What are some of the challenges of e-voting in Cameroon?
- D) What are the possible solutions to overcome these challenges?
- E) What are some of the irregularities when elections are conducted?
- F) Has e-voting been a solution for these irregularities?

1.6 Delimitation

The findings of this study will be limited to the sample of people's opinions on the prospects, challenges and merits of e-voting as a practice in Cameroon. Because the research question is tilted more towards the use of the technology to practice e-voting and not on the technical components of the electronic voting system, these latter areas will not be researched extensively. Rather, emphasis will be placed on what people think have been the successes or failures of the tool and why. Although there are many other African countries that use this very tool in conducting elections, this study will be limited to Central Africa and Cameroon in particular.

1.7 Stakeholders

The stakeholders or parties of interest will be the Cameroon government in general and the election governing body in Cameroon (ELECAM) in particular. Some opposition leaders from the main opposition parties in Cameroon especially from the Social Democratic Front (SDF) will be considered and the general population (including rural and urban areas) will be taken into consideration too. Prioritizing the stakeholders from government, the election governing body, members of the main opposition party and the general population will provide a fair representation of my sample population, in academia, researchers and students interested in this topic will find the thesis of relevance because the findings will be based on empirical evidence.

1.8 Definitions

Election: This is part of a democratic process where a population through ballots chooses someone to represent them.

Vote: This is a formal indication of choice between two or more candidates or courses of action expressed typically through a ballot.

E-voting: This is the process whereby people can cast their secure and secret ballot through a large-scale communication channel by electronic means.

Biometric: A biometric is a behavioral or psychological characteristic of a human being that can differentiate one individual from another and that theoretically can be used for identification or verification of identity. It is more secure than any ID or password. ID or password can be stolen but biometric features cannot be stolen or duplicated.

Central Africa: This is the core region of Africa including Cameroon, Burundi, Central African Republic, Chad, The Democratic Republic of Congo, Equatorial Guinea, Sao Tome and Principe, Rwanda and Angola

Rural and urban Cameroon: In this study rural Cameroon refers to the villages and urban Cameroon refers to the large cities.

Affordance: This is the multifaced relational structure between an object/technology and the user that enables or constrains potential behavioural outcomes in a context. Faraj & Azad (2012, p. 254).

SPSS: Statistical Package for Social Sciences (A piece of software used for analyzing social scientific data).

Democracy: This is a system whereby supreme power is on the citizens of a nation or electorate who elect people to represent them, (Fukuyama et al., 2009).

African Democracy: To describe an African theory of democracy (Ademola, 2009) made it clear that “the universalist thinking that western democracy is the final form of human government has left African nations with no other choice but to adopt it because historically it is proved to be the most viable, desirable and imperative system for addressing the challenges of development in third world nations” p.107. In a related analysis, “western democracy has the inherent potentiality of guaranteeing development in Africa” p. 108. The above is an indication that the type of democracy practiced in Africa is borrowed from western nations. Therefore, the concept democracy in this thesis will be based on a western definition.

1.9 Work Plan

Chapter 1: This chapter will provide a general overview of the project, background, problems and research questions. A short description of democracy and elections in Cameroon will be given.

Chapter 2: This chapter will define the theoretical frame of reference for the study and will conclude in developing a framework for e-voting implementation in Cameroon. The framework will be based on the guideline of the Diffusion of Innovation doctrine which is the main theory used in the study

Chapter 3: This chapter will give a general overview of the choice of research method and approach, data source, time factor, population sample and motivation for chosen research method. It will conclude with research credibility.

Chapter 4: Literature review. This chapter will introduce the IDEA resource of electoral process with focus on guidelines for a credible electoral process. The chapter will conclude by highlighting the results of some articles regarding the success of e-voting in Africa.

Chapter 5: This chapter will present the data analysis in relation to the theoretical frame of reference

Chapter 6: This chapter will make provision of the summary of the study, conclusions, recommendations and open-ended questions for further research.

2 Theoretical Frame of Reference

This chapter of the study will describe the theoretical frame of reference in relation to the purpose of the study and the research questions which are used to analyze the empirical findings. A framework is also developed for e-voting adoption based on the aim of the study and the research questions.

2.1 Diffusion of Innovation theory

This theory describes the process through which innovations and ideas become diffused and adopted within wider networks. This theory has been studied and applied in a vast array of academic disciplines, including communication, marketing and public health. Everett Rogers, the brain behind this theory examined “the process in which an innovation is communicated through certain channels over time among members of a social system” (Rogers, 2003, p.5).

Infante et al. (1997) add that diffusion goes beyond the Two-Step Flow theory, dwelling mainly on the conditions that increase or decrease the likelihood that a novel idea, product or practice will be adopted by people in a given culture. By communication (Rogers, 2003) monitored the procedure by which participants create and communicate information with one another to reach a mutual understanding. While this information must not be entirely new, it must be considered new in some part by the recipients of the innovation. The benefits of adopting an innovation are initially viewed with uncertainty. This uncertainty (Rogers, 2003) explains is the degree to which many alternatives are associated with the occurrence of an event, but the relative probability of the alternatives is unknown.

In the case of e-voting, although fully adopted in Cameroon, this system of election is relatively new in this region. This fact supports the argument that the guiding principles of diffusion of innovation doctrine are ideal for conducting a study on the prospects and challenges of e-voting in Cameroon by focusing on the factors that increase or decrease the likelihood that a new idea is accepted in a political setting. The question here is how the Cameroon electoral system is coping with some of the challenges and prospects of e-voting as a new idea. However, several studies have investigated factors affecting innovation adoption. (Lemuria & France, 2005) grouped the factors under organizational, technological and environmental factors. These factors which will be explained below will either positively or negatively affect the rate of diffusion.

A) Organizational factors

Organizational factors include “the technological abilities of the country, institution or organizations involved, IT users and the available financial resources, organizational culture and management support during and after the implementation and adoption of an IT innovation” (Aguila & Padilla 2006, p.13). When Cameroon adopted the Biometric voting registration system, Election Cameroon (ELECAM) was at the helm of the system. A good top management backing and support for this new development will eventually be a big boost for its success and will eventually lead to a higher

or faster rate of diffusion. In relation to the technical know-how of the members of ELECAM, a good system must be put in place to train officials on how to operate the biometric kit. The findings of this study will show whether ELECAM has provided the right training to its members to face the challenges and prospects that come with e-voting in Cameroon.

B) Technological Factors

If a piece of technology is well designed, it will be easy to use and understand “because they contain visible clues to their operations” (Norman, 2002, p.2). In a related analysis, “poorly designed objects could be difficult and frustrating to use because they provide no clues or sometimes false clues because they trap the user and thwart the normal process of interpretation and understanding” (Norman,2002, p.2). In adopting a new technology, the following questions must be addressed; “What is the technology? how does it work? why it worked? what are the consequences? what will the advantages or disadvantages be in my situation?” (Rogers, 2003, p.14). This is because users must perceive the positive effect of an innovation before adopting it. This implies the technological infrastructure that will support the implementation or adoption of an innovation must be put in place before adoption.

C) Environmental factors

Any innovation that affects the political scenario of a country or region usually comes with a degree of uncertainty on how it will be perceived by the affected population. Even though e-voting has been practiced for a while in Cameroon, election outcomes have not yielded satisfactory results (as mentioned in chapter one). This is an indication that the diffusion rate has been relatively slow. However, most nations have abandoned e-voting projects due to fear or risk of potential technical error, (EDRI, 2009). A glaring example is during the 2000 elections in the United States of America where technical malfunction locked up the screens of some electronic voting devices on election day. It was a similar case in Ohio during the 2004 election in USA that experienced electoral irregularities because of error in the vote counting system gave more vote to one candidate than the others, (Global Research, 2009).

The process in Cameroon in the 1990s was complicated due to the absence of a validated country wide electoral register. Following the controversial presidential election of October 2011, the Cameroon government embarked on a reform of the electoral system by dissolving the existing pen and paper voter’s registration system and replacing it with a biometric system (Agbor & Mukum ,2012).

2.2 The Biometric Voters Registration Machine

This is the use of a merge of fingerprint and photo identification to identify voters during election registration process. This method is used to identify and detect duplicate impersonation thereby reducing fraud during the electoral registration process. The biometric voter's registration is in two forms, the stationery finger scanner and the handheld or mobile scanner.



Fig 2: Biometric stationary finger scanner y interface



Fig 3: Handheld biometric finger scanner

The most important feature of the biometric voter's registration machine is the fingerprint.” If you look at the surface of any finger you will find ridges and furrows which make the fingerprint unique”, (Jain & Prabhakar, 2005, p.10). According to (Moor, 2005) the advantages of finger scanner include the following; it is 100% accurate during voter registration process, it is an easy way to identify voters and can be deployed in a range of environment.

2.3 The Electronic Voting Machine

The electronic voting machine is composed of two interfaces which are connected to each other. These include the ballot box and the control unit. As seen in the picture blow, the ballot box is designed principally for the voter and its connected to the control unit which is designed for the polling officers.



Fig 4 The ballot box and control Units linked together

1) **The ballot Unit:** In a traditional voting system, voters cast their votes in paper form in a ballot box, but with the electronic voting machine, it is done electronically. The features of the electronic ballot box include a list of political candidates and their respective political parties with corresponding control buttons for voters to select their candidate during the voting exercise. Voting is done through a simple push of the button corresponding to your candidate of interest. The simple and user-friendly nature of this tool gives voters the ability just to push one button pointing to his or her desired candidate. This explains why this is an easy, reliable and safe way to conduct elections (Ashok & Sariba, 2012).

2) **The control unit:** This is the interface designed for polling officers to monitor voting activities. It displays the total number of votes cast and marks the end of the election and declaration of results (Ashok & Sariba, 2012). It requires just a push on one button to get the required information. For example, a push on the result button will automatically display the result which makes it easy to use.

2.4 E-voting adoption and its requirements

Building an e-voting system entails an in-depth understanding of a host of requirements. Technology upgrades in elections are always challenging projects that require careful deliberation and planning (International Institute for Democracy and Electorate Assistant [IDEA] ,2011). Adopting electronic voting is probably the most difficult upgrade as this technology touches the core of the entire electoral process including the casting and counting of votes. To explain some of the requirements for e-voting adoption (IDEA, 2011) made it clear that for any e-voting project to be successfully adopted the following factors need to be taken into consideration

Political consensus

Adopting an electronic voting system can succeed if there is a political consensus regarding the relative advantages of the new system as oppose to the pen and paper ballot. However, some political actors may oppose electronic voting due to technical concern or because they fear introducing a new voting system will be of advantage to their political opponents. With such opposition, building trust and confidents in the new system may be difficult or impossible. This therefor require all political parties to work on a common platform in the process of introducing a new voting system. (IDEA, 2011, p.19)

Social context

There are key social actors in any political setting. This include election experts and non-governmental organisation. This bodies usually have strong opinion and concerns about elections and voting systems. This actor should be included at the early stage when planning the introduction of a new voting system. This should be done by providing them with information regarding the new system and seeking their opinion. Information and communication technology security experts and Organisations are often strong opponents of e-voting systems, their view and opposition are quite important because they are experts in that domain and should be taking into consideration. “It is important to hear and address their concerns by clarifying any misunderstandings, correcting weaknesses or accepting certain risks as a trade-off for the benefits of introducing the new system. Non-technical concerns also need to be seriously considered” (IDEA, 2011, p.19).

Operational and technical foundations

Putting in place a supportive socio-political environment is a vital factor for the success of e-voting adoption. Poorly design e-voting strategy can be successful if the socio-political environment is supportive. But it becomes an issue when technical problems grow too big overtime, they will become more visible and further complicate the process. As issues become more and more visible, doubts about the electoral process will build up, the election administration and the e-voting system will lose credibility and at some point, e-voting may need to be scrapped altogether to restore trust in the electoral process. It is important to build an e-voting on a solid technical foundation to maintain trust and credibility. (IDEA, 2011)

Communication Channels

Communication is the key process throughout the adoption of a new technological innovation. It is generally agreed that good and reliable communication channel have a positive effect in any technological project such as e-voting. Poorly design communication channels will have a negative effect. Effective flow of information will increase the credibility, trust and transparency of a new voting system. (IDEA, 2011, p.24)

IT competency (knowledge of e-voting)

IT competency includes the technological know-how of the country in question. This is not limited to the technology, but focus is also on the available resources to the people handling the technology. The implication of this is that the organization or group of people implementing e-voting should be

technologically savvy. An organization's ability to implement an innovation greatly depends on the competence of the staff during the adoption process.

Top Management Support

To carry out any IT innovation in an organization or with a group of people, the approval from top management should be top priority. Top management must make provision for available resources to realize the project. This implies the decision to adopt e-voting must be top priority of the organization or country concerned.

Government E-readiness

This refers to the technological infrastructure put in place by the government for an e-voting project. This refers to the extent to which the government is ready in terms of technological infrastructure, to support e-voting adoption and implementation. If the government plays a vital role and creates a favorable environment, then the full potential for implementation can be realized.

Compatibility

In this study compatibility refer to the "degree of consistency of the innovation in relation to existing values, experience and need for potential adopters. An idea which does not align with the values and norms of the social system will not be adopted as fast as an innovation that is compatible" (Rogers, 2003, p.15).

For an e-voting project to be fully adopted and implemented, the affected population must be able to identify themselves with this novelty in relation to their norms and beliefs. If e-voting could easily connect with some of the social and cultural norms of the Cameroon society this will positively affect the rate of adoption.

Complexity

Complexity refers to how easy or difficult the tool is to understand or use. The usability aspects of the tool should be a top priority during implementation and adoption. "Some innovations are easy to understand by members of a social system while others are more complicated" (Rogers, 2003, p. 16) If the e-voting tool is easy to use, then it will be likely that their adoption rate will be faster.

Triability

This refers to the extent to which an innovation may be "experimented with on a limited basis (Rogers 2003, p.16). In this case, "triability will generates new ideas in the course of the installment plan which can speed up the rate of adoption" (Rogers, 2003, p. 16). If a pilot study was conducted in Cameroon to try e-voting before the implementation, the rate of diffusion will be faster.

2.5 Suggested Framework for e-voting adoption

Based on guidelines from the diffusion of innovation doctrine, A framework is developed as a guiding model which outlines some of the basic requirements that should be met for an e-voting innovation to be successfully implemented. Although there is a myriad of factors to be considered when taking such a large-scale project, I try to contextualize these guidelines within a third world democracy like Cameroon. This model will guide this study through the methodology, data interpretation and conclusion. The requirements have been discussed above as to how they positively

or negatively affect the deployment of e-voting. The various requirements of the model can greatly affect each other and cannot be used in isolation because these are critical areas that need to be addressed to increase the rate of diffusion in e-voting adoption. For clarity, this suggested framework will guide me through the research questions and each research question will be classified in connection with the requirements for e-voting adoption in the suggested framework or model.

This suggested framework is top priority in every stage of the data collection and interpretation process. To further develop this link, I will first revisit the scope of my research questions. The aim of this study is to do an investigation of the prospects and challenges of e-voting in Cameroon with research questions on the following;

- A) Knowledge of e-voting in Cameroon
- B) Decision to adopt e-voting
- C) Effectiveness of e-voting strategies
- D) Prospects of e-voting in Cameroon
- E) Challenges and solutions to e-voting in Cameroon
- F) Overall user satisfaction with the e-voting system in Cameroon

During research findings, the research questions will be linked to the basic framework for e-voting adoption as illustrated in the table below;

Areas of Inquiry	Basic framework for e-voting adoption			
A) Knowledge of e-voting	Communication channels			
B) Decision to adopt e-voting	Availability of IT tools	Government e-readiness	Organizational competence	Government and top management support
C) Effectiveness of e-voting	Ease to use	Complexity and observability	Compatibility	
D) Prospects of e-voting in Cameroon	Government e-readiness	Organizational competence		
C) Overall User satisfaction	The speed of e-voting diffusion			

Table 1 (linking adoption requirements and research area of inquiry)

3 Methodology

This chapter gives an overview of the choice of research method, research approach and credibility.

3.1 Choice of Research Method

“There is no single blue print for planning research because research design is governed by the notion of fitness for the purpose, the purpose of each research determines the methodology and design of the research” (Cohen, 2007, p.78). Research generally has two phases which influence each other. These include the research strategy and the research question. It is very normal that the research strategy is greatly influenced by the research question. To create the connection between research strategy and research question (Yin ,2004) made it clear that if the research is answering What, **How** and **Why** questions then the research strategy should be a case study. Cameroon has been chosen as the case to be studied in this research paper and the main research question in this study answers the **How** question and thus the choice of the case study.

3.2 Research approach: There are principally two research approaches namely the quantitative and qualitative approaches. While the quantitative approach takes the form of a survey, the qualitative approach is more concerned with reviewing existing literature or secondary data, Saunders (Lewis and Thornhill, 2007). This study will apply the quantitative approach through survey research method. There are basically three characteristics of survey research. Firstly, it is used to quantitatively describe specific aspects of a given population by examining the relationship amongst variables within a short time frame. Secondly, data is collected from people and is therefore subjective and lastly survey research selects a sample of a population for a study and the findings can be generalized back to the population, (Kraemer, 1991).

A survey can be defined as a “means for gathering information about the characteristics, actions or opinions of a large group of people” (Pinsonnault & Kraemer, 1993, p. 77). The implication of using survey research method for this study is that the data collection method will be quantitative. This method is based on administering questionnaires and has a very high level of standardization. Besides the above, taking into consideration the short time frame for this study, applying survey research is a fast means to collect data in a real life setting thereby providing a rich understanding of people’s perceptions concerning the research questions.

3.3 Data Source

There are two main sources of data in research; Primary and Secondary data sources. Researchers often make use of both data sources depending on the problem in question. In this research, I will make use of mainly primary data, since the investigation involves seeking people’s opinions on a technological innovation and obtaining real time original data from the sources will be top priority. Besides the above, due to time and cost constraints, the main source of data for this study will be the administering of questionnaires through a survey.

3.4 Population Sample

Because Cameroon has a population of close to 22 million, it's rather unrealistic to attempt collecting the opinions of the entire population. I decided to carve out a sample that I think will represent the entire population. Participants were chosen using both purposive and simple random probability sample. While purposeful sampling targeted chosen members of ELECAM, members of non-governmental organization advocating for democracy, government officials and representative of top political parties who had prior knowledge about e-voting, simple random sample was focus towards the public where randomization is key, and every member of the population has an equal chance of being selected. Given that the nature of the study is political, the sampling frame will provide a fair representation of the general population. Questionnaires were administered to a sample size of 50 respondents from the aforesaid sampling frame. Participants were chosen from both urban and rural areas of Cameroon.

3.5 Time Factor

Given that this research is carried out just at the beginning of a political campaign in preparation for the next general election in Cameroon in October 2018, there are a lot of time constraints. I will therefore conduct a cross sectional study which entails the study of a phenomenon at a time. Surveys will be used to do a quick analysis and obtain quick results.

3.6 Research credibility: Research credibility was one of my top priorities during data collection. Reliability, validity and generalizability were the three guiding concepts during this process.

- a) Reliability is the degree to which data collection procedures and analysis yield accurate results (Saunders et al., 2007). The implication of reliability in this study is that the same results will be obtained if another researcher applied the same method and techniques. By drafting questions that directly address the problems at stake during data collection, it is hoped that the degree of reliability will be high.
- b) Validity is the degree to which data collection methods reflect the issues the researcher believes should be addressed (Saunders et al., 2007). This study should be valid since the questionnaires targeted problematic inquiries with the e-voting technology.
- c) Generalizability is the degree to which findings and recommendations of the study can be implemented in other settings apart from the case of interest (Saunders et al., 2007). The generalizability of issues of e-voting is quite easy to establish because it is a unique technology applicable to the electoral system in most developed countries and recently adopted by third world nations. There is the possibility that the same difficulties encountered during the adoption in one nation can also be encountered by another nation. The results and recommendations of this study might not only be applicable to Cameroon but to other countries practicing e-voting.
- d) While many western nations have had long established traditions of electronic voting, many African countries are yet to fully embrace Information and Communication Technologies.

The results of this study although specific to Cameroon, will pave the way for further research into e-voting in other African countries. During data collection a limited amount of data was collected from members of the rural areas in Cameroon as opposed to the urban city dwellers who were more accessible.

3.7 Reliability Statistics

Survey research method was used to gather data for this project. A questionnaire with a battery of 25 questions was administered with a sample population of 50 respondents from both urban and rural areas of Cameroon. A pilot study was conducted prior to data collection and results from the pilot study was used to develop a code guide for actual data collection. Sample answers from administered questionnaires were uploaded into SPSS (Statistical package for Social Sciences software) and assigned codes to represent them. All variables in administered questionnaires were uploaded into the SPSS software in connection with corresponding assigned codes. The result was collapsed to frequency of occurrence and the result which was summed up as percentages (%) was used for data interpretation.

4 Literature Review

Electronic voting is quite commonplace in most western democracies. It is often seen as a means of adding value and credibility to the electoral process thereby building trust in electoral management systems. The growing effects and challenges that come with this technology have increased the overall efficiency of elections especially in western democracies. Consequently, election managers and observers, international organizations, vendors and standardization bodies are continuously upgrading their approaches and methodologies about e-voting. If an e-voting project is properly implemented electoral malpractices will be reduced, the speed of processing election results will increase, and voting will be more convenient and accessible to citizens and of course the cost of elections will be reduced in the long term (IDEA, 2011).

Besides the positive impact of e-voting, it is rather unfortunate that technology fails at times and the e-voting technology is not an exemption. The flaws and challenges that come with e-voting are strictly caused by the complexity of electronic systems and procedures. The functional modalities of e-voting solutions are fully understood by just a few experts and operators and consequently, the integrity of the entire electoral process relies on a small group of experts and operators as opposed to the thousands of election officials and citizens. This factor can undermine confidence and trust in the electoral process.

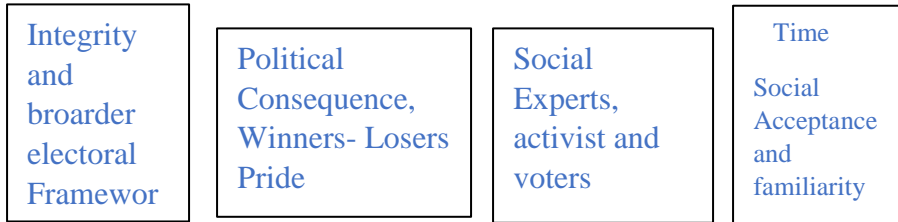
Besides the above, most nations adopt e-voting to showcase internal development and to prove to the world the practice of advanced democracy. But this should not be the main reason for adopting an electronic strategy because newly introduced e-voting systems should not only help elections administrators and operators but should be at the service of the citizens. For an e-voting solution to be successful, it should make it easier for voters to cast their vote, the adoption body must be up to date in terms of availability of resources, the public as well as the various stake- holders must trust the relative advantages of the solution as compared to the paper ballot system. Trust in an e-voting system should be built on the reliability of the system. To help understand how many different factors contribute in building trust in an electoral system, the International Institute for Democracy and Electorate Assistant developed a credible electoral process through public trust and confidence known as the pyramid of trust.

Credible electoral Process

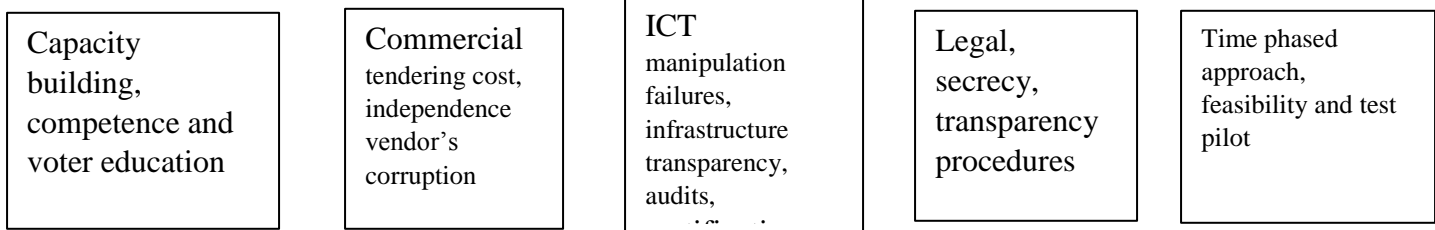
Public Perception, Trust and confidence



Socio Political Context



Operational/Technical Context



The IDEA 2011 Pyramid of Trust

However, for a political system to accept (diffuse) a new voting system (innovation) the affected population must trust the novelty especially in weak third world democratic societies but the comparative advantage of e-voting over the pen and paper ballot system is obvious. The result of a study on the level of e-governance and administration in Nigeria revealed that the adoption of robust IT policies regarding election practices is the most effective solution to the electoral system in Nigeria (Onu & Chiamogu,2012). The authors emphasized the fact that e-voting is more convenient and reduced fatigue associated with the pen and paper ballots system. They concluded that e-voting is an easy way for voters to cast their vote and making their views known which an important prerequisite for constructive democracy (Onu & Chiamogu, 2012).

Besides the above, for a nation to adopt a voting system, there is a need for a consensus among the parties involved. The new system must be accepted especially by the electorate. Generally, most systems that have massive acceptance tend to succeed and are more effective than the ones with low acceptance (Olaniyi, Adewumi, Oluwatosin, Arulogun and Bashorun, 2011).

Furthermore, the voting exercise should be made easy, flexible and interesting to voters. Assessing the difficulties that it takes to vote vis-à-vis the immediate benefits is an important factor that makes voters decide whether to vote or not. The easier the voting exercise is made especially amongst teenagers the more likely that they will participate in elections. Hence, a voting system that requires less effort such as punching buttons or clicking a computer mouse is likely to gain more acceptance. The convenience of a voting system increases the credibility and confidence in election procedures which improves voters turn out and perceived political apathy (Olaniyi et al., 2011).

In a related analysis, the findings of a study aimed at investigating the adoption and challenges of e-voting in South Africa revealed that compared to the pen and paper ballot, e-voting is a much better system. Voters believed e-voting could make the way they cast their vote easier. But putting aside the relative advantages of this new voting system, the risk and challenges are high because several factors must be carefully considered before e-voting can be adopted (Mourine & Ephias ,2012).

Electronic voting is just one of the technological innovations recently adopted by most third world democracies. The effect of globalization is real, nations are adopting e-administration and e-governance. Countries that have already adopted other technological innovations such as e-governance to carry out internal routines have the potential advantage of using advanced technology in their elections. This is because of relatively large number of technology savvy citizens compared to a society with manual administrative practices (Sabo et al. ,2015).

The quest for an advanced democracy is a push factor for most African nations to adopt e-voting. Such moves are usually associated with the lack of trust in their respective electoral systems. To combat election malpractices and promote democracy in South Africa, the government created the Independent Electoral Commission which introduced the concept of Tele-Democracy. Tele-Democracy is an application that uses ICT to manage electoral processes. This application manages the deliverance of free and fair elections in which all members of the electorate would have the ability to make informed choices and exercise their right to vote for their chosen parties (IEC, 2003)

5 Presentation and Interpretation of findings

5.2. Demographic characteristics of sample

A total of 42 males (84%) and 8 females (16%) were surveyed. This number represents chosen members of ELECAM, government officials and representative of oppositions as well as the ruling party. Individual members of the public who were willing to collaborate in giving out the necessary information needed for the validation of the study were also targeted. The enthusiasm of males is understood because the subject of this research is political. The research thus corroborates with the observation that more males are interested in discussing political affairs than females, (Burns and Verba 2001; see also Coffe and Bolzendhal, 2010; Desposato and Norrandar, 2009; Kittilson and Schwindt-Bayer, 2012).

Beside the above, since 2018 is an election year in Cameroon, more males were willing to answer the various questions listed in the instrument for data collection, the questionnaire. In addition, the data is valid since it tests respondents' adoption of e-voting, and not necessarily a comparison in the levels of adoption between males and females.

Three main categories of individuals were surveyed: the public including respondents from urban and rural areas (23, 46%), members of the opposition political parties (22, 44%) and staff of the Elections governing body in Cameroon, ELECAM (5, 10%). This categorization was done such that a more comprehensive picture of the subject of e-voting could be obtained from diverse individuals with varied opinions on the electoral system in Cameroon. The public represents the masses or ordinary citizens whose voice is necessary in the voting process. Members of the opposition represent those who belong to political parties other than the ruling Cameroon People's Democratic Movement (CPDM). The ELECAM staff are those who follow up the electoral processes. They see the challenges on the ground and can better appraise and recommend what they think is ideal for the effective implementation of e-voting in Cameroon.

Regarding the level of education, 10 respondents (20%) are Bachelor's degree holders, 8 (16%) are Master's degree holders, 6 (12%) are First School Leaving Certificate holders, 5 (10%) are Undergraduate students, 4 (8%) are Masters students, 4 (8%) are Ordinary Level holders, 3 (6%) are Ph.D holders, 1 (2%) is a Ph.D student, and 1(2%) is a holder of the Higher National Diploma (HND). 6 respondents (12%) did not indicate their level of education. Two of the six respondents who did not indicate their level of education were inhabitants of the rural areas of Cameroon which is void of electricity and computer technology. The diverse academic backgrounds of the respondents add diversity in the level of appreciating the phenomenon of e-voting in Cameroon. Such diversity is necessary most especially as it moderates on how different individuals with different levels of knowledge and exposure view e-voting in an emerging democracy like Cameroon.

The age bracket of respondents suggests that majority of them fall between 26-33years (15, 30%). This is closely followed by those aged 42 years and above (13, 26%). Then, those aged between 18-

25 years are 11 (22%) and those aged between 34-41 years are equally 11 (22%). The above trend equally shows a diversity, age-wise, for respondents selected for this study.

In terms of religious background, an overwhelming majority of respondents are Christians (46, 92%). Only 1 respondent is Muslim (2%) and 1 other respondent (2%) belongs to the African traditional religion. Just 2 respondents (4%) did not indicate their religious leanings. The high number of respondents falling under the category of Christians is not surprising, given that this aptly reflects the preferred religious affiliations for most Cameroonians.

Data on the marital status of respondents suggest that a slightly greater majority of respondents (23, 46%) are married. This is closely followed by those who are single (21, 42%). A total of 3 respondents (6%) are towards marriage and 1 respondent each (2%) either co-habits or is divorced. 1 respondent (2%) did not indicate the marital status. This data gives assurance that respondents are mature individuals with adequate capacity to assess the adoption of e-voting in Cameroon.

For occupation, 28% of the respondents are students, 14% are teachers, 12% are business persons, 8% are journalists, 8% are security guards, 4% are either administrators, civil engineers, or workers (unspecified). The, one respondent each fall under the category of farmer, barber, cashier, lawyer, builder, tailor, shoe mender, driver, and housewife. The category of respondents represented here is an embodiment of almost every walk of life, typical of the Cameroonian society. This representation is important because voting, and especially e-voting, is a universal phenomenon that requires that every member of the society, especially those of the voting age, make a decision on who they prefer as their leader. Such is the rule of good governance.

As part of the demographic data, this survey also assesses the year in which respondents first participated in the voting process in Cameroon. There is evidence therefore, that most respondents first voted during the October 9, 2011 Presidential Election in Cameroon (29, 58%). This is followed by the October 11, 1992 Presidential election (8, 16%), June 2007 and September 2007 Municipal and Parliamentary elections (4, 8%), May 1997 Parliamentary elections (3, 6%), March 1, 1992 Parliamentary elections (2, 4%), October 2004 Presidential elections (2, 4%), January 1996 Municipal elections (1, 2%), and the 2000 Municipal and Parliamentary elections (1, 2%). From evidence therefore, most of the momentum for respondents surveyed built around the Presidential elections.

Research question 1: What are the main requirements that must be met for the effective implementation of e-voting?

5.3. Knowledge of E-Voting in Cameroon

To understand the level of knowledge respondents, have on e-voting in Cameroon, a five-point Likert scale measurement is developed. The responses show that knowledge of e-voting amongst respondents of the survey is mostly average. This is shown below:

Table 2: Respondents’ knowledge of e-voting in Cameroon

Extent of knowledge on e-voting	Frequency	%
Little	16	32
Somewhat	16	32
Much	11	22
A great deal	7	14
Total	50	100

There is evidence in table 2 that most of the respondents are yet to get acquainted with e-voting in Cameroon. The statistics presented above could be an apt explanation of the situation, given that Cameroon is still at the early stage of introducing the electronic system of voting within its governance set-up. This is also an indication that ELECAM did not put enough effort to sensitise the public about e-voting. It is worth noting that 3 out of the 16 respondents had little knowledge about e-voting where rural inhabitants who had no access to electricity and computer technology live. Two of the respondents expressed verbal concern that the government still uses the paper ballot technology to conduct elections in those areas. This is an indication that the level of diffusion associated with knowledge of e-voting was quite low especially in the rural areas.

Furthermore, respondents were asked to state how they got to know about e-voting in Cameroon. The responses are presented in the following chart:

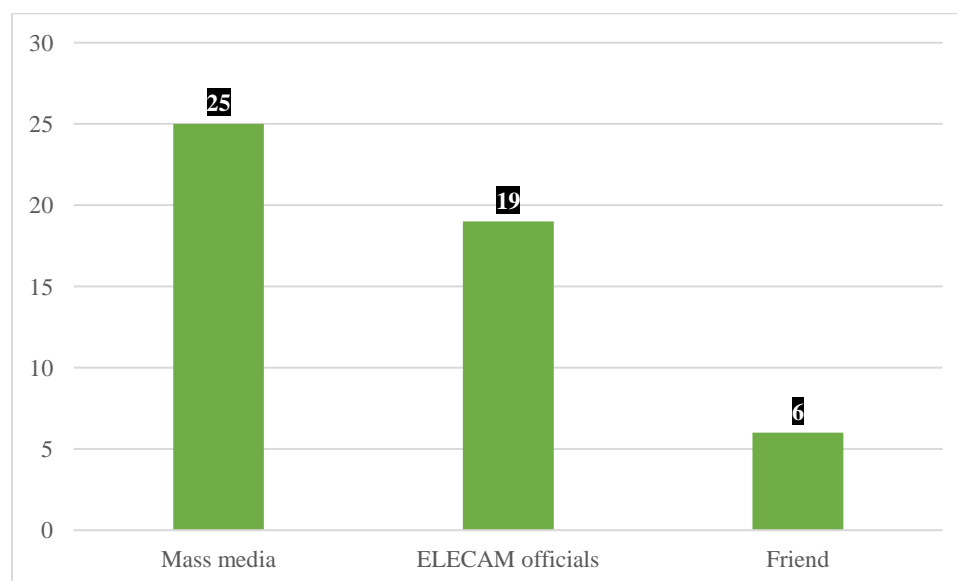


Figure 1: How respondents got knowledge of e-voting

Figure 1 above shows that 50% of respondents knew about e-voting through the mass media. The Cameroon mass media are diversified, and equally focus on key issues that have an impact on the lives of Cameroonians. As such, they would not resist any opportunity to capture any details about issues they deem can advance Cameroon's democracy. E-voting is such an innovation.

ELECAM officials (38%) also play an important role in educating the masses about innovations in the registration and voting processes. In some cases, these officials serve as knowledge points between the masses and the mass media. The officials educate ordinary citizens on voting rights, and citizens are expected to make voting decisions based on knowledge acquired on the necessity to vote.

Friends occupy the lower end of the chart (12%). When people get knowledge about an innovation, they want to share it with others, such that they get the point of view of peers. Peer influence can therefore stimulate the need to either adopt or reject an innovation; e-voting in this case. But in some cases, people might not have knowledge to share especially if there have no idea about the existence of an innovation.

Also, respondents were questioned on how often they use knowledge of e-voting to educate themselves on their rights as voters. To this end, 30% said rarely, 28% inputted sometimes, 18% said often, 14% inputted very often, and 10% said never. This shows that the level of e-voting diffusion is low amongst sampled respondents. Since the technology is still considered new, it has not been fully exploited by the respondents. Hence, results obtained from the system will be technically minimal; when compared to what one may expect in a system of governance wherein the e-voting mechanism is fully implemented. This data also correlates with previous findings on general knowledge about e-voting. In essence, it can be said that there is most likely little knowledge to share about e-voting, since the respondents in question have confirmed that they mostly know only 'little' about e-voting in Cameroon especially those in the interior rural neighborhoods. While the city dwellers have the possibility of getting the first-hand information regarding this novelty, those in the rural areas have little or no knowledge about e-voting. In this case, the level of diffusion is high in the urban areas as opposed to the rural areas.

In addition, respondents rated whether they share knowledge of e-voting with others. The responses are found in the following chart:

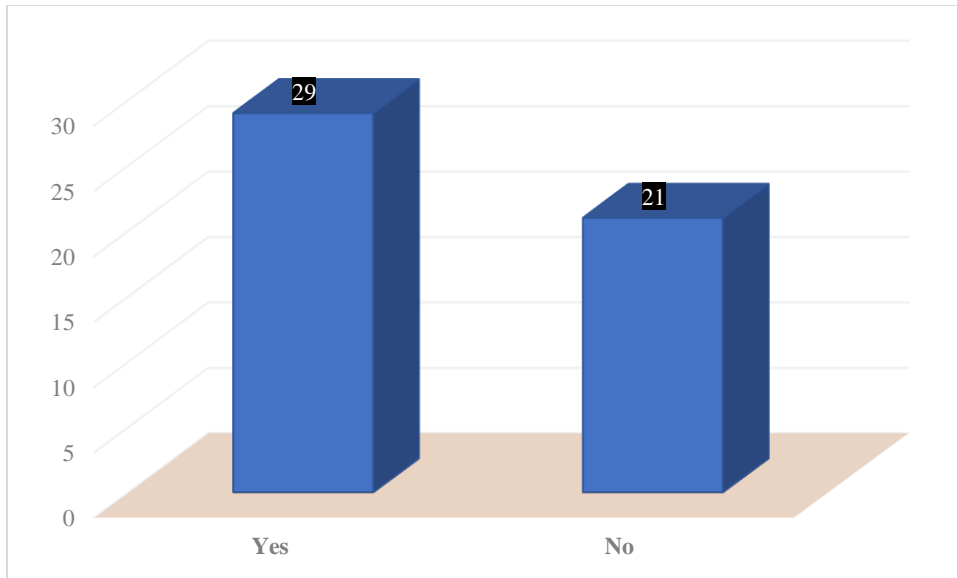


Table 2: Whether respondents share e-voting knowledge with others

There is evidence that up to 58% of respondents affirm that they share e-voting knowledge with others. Sharing e-voting knowledge could be interpreted in terms of discussing the basic innovations that accompany the voting process. Also, respondents were probed further on who they exchange e-voting knowledge with. 20 respondents (40%) prefer to share knowledge of e-voting more with friends while 5 respondents (10%) prefer to share this knowledge with colleagues. In addition, 3 respondents (6%) rather share knowledge of e-voting with relatives while 1 respondent (2%) prefers to share the knowledge with citizens. On the other hand, a majority of the respondents (42%) did not respond to this question and this can be explained by the fact that most of the respondents do not share knowledge of e-voting with others.

When asked why respondents do not share knowledge of e-voting with others, 16% of respondents noted that it was due to little knowledge of e-voting, 10% said it was due to an ineffective e-voting platform. Another 4% explained that it is as a result of the lack of companions to discuss such issues with. Other reasons for not sharing e-voting knowledge as evident in the research include: the notion that voting is individualistic (4%), respondents believe others know about the e-voting process already (4%), and that it is not relevant to share knowledge of e-voting with others because election results are always known beforehand (2%). These findings are quite revealing.

Respondents were equally asked in what ways knowledge of e-voting helps them. Their responses are presented in the table below:

Table 3: How knowledge of e-voting helps respondents

Means	Frequency	%
Awareness of modern methods of governance	26	52
To know the shortcomings of our system and educate others	4	8
Someday things will get better in our country	3	6
Does not help in any way	10	20
No response	7	14
Total	50	100

A majority (52%) of the respondents said it helps them to be aware of modern methods of governance. 8% of respondents said they use knowledge of e-voting to know the shortcomings of the country's system and to educate others; meanwhile 6% hope that someday, things will get better in the country. 20% of respondents said knowledge of e-voting does not help them in any way while 14% did not respond to this question.

Notably, e-voting is an innovation and will therefore expose citizens to modern methods of governance from which they can benefit. Some respondents have not been adequately exposed to e-voting and this could be accountable for why 20% said it does not help them and also for the 14% from the rural areas who did not respond because they had little or no knowledge about e-voting.

Research question 2: Are these requirements a reflection of what is practiced in Cameroon?

5.4. Decision to adopt E-Voting in Cameroon

In efforts to further explore the concepts of the Diffusion of Innovations theory (main theoretical framework for this research), respondents were asked to evaluate the factors that stimulate their decisions to adopt e-voting. Their results are summarized in the table below:

Table 4: Decision to adopt E-Voting in Cameroon

Decision	Strongly Agree (100%)	Agree (90%)	Somewhat Agree (70%)	Neutral (50%)	Somewhat Disagree (30%)	Disagree; (10%)	Strongly Disagree (0%)	Total
*E-voting is not complex (ease of use)	16 (32%)	17 (34%)	6 (12%)	7 (14%)	1 (2%)	0	3 (6%)	50 (100%)
*Competent ELECAM officials with expert IT knowledge guide the process	7 (14%)	14 (28%)	9 (18%)	8 (16%)	4 (8%)	5 (10%)	3 (6%)	50 (100%)
*I have observed and judged it is efficient	4 (8%)	10 (20%)	13 (26%)	5 (10%)	8 (16%)	7 (14%)	3 (6%)	50 (100%)
*It has worked in other countries, so I believe it will work in Cameroon	10 (20%)	13 (26%)	10 (20%)	5 (10%)	4 (8%)	2 (4%)	6 (12%)	50 (100%)
*It is compatible with my belief	6 (12%)	13 (26%)	11 (22%)	9 (18%)	2 (4%)	4 (8%)	5 (10%)	50 (100%)
*There is government e-readiness, so I should also be e-ready	7 (14%)	7 (14%)	15 (30%)	7 (14%)	6 (12%)	3 (6%)	5 (10%)	50 (100%)
*Government support in the implementation of the e-voting system is quite encouraging	3 (6%)	14 (28%)	13 (26%)	3 (6%)	6 (12%)	6 (12%)	5 (10%)	50 (100%)
*Limited IT resources at ELECAM is discouraging	11 (22%)	12 (24%)	8 (16%)	5 (10%)	4 (8%)	8 (16%)	2 (4%)	50 (100%)

In concrete terms, respondents have varied levels of agreement/disagreement on the factors that encourage them to adopt e-voting in Cameroon. Majority of them say the system is easy to use. They are also assured that competent ELECAM officials with expert IT knowledge guide the process. They averagely rely on the efficiency of the e-voting mechanism. Most respondents also believe that e-voting has worked in other countries, and so, will likely work in Cameroon as well. Also, majority of respondents believe the e-voting system is compatible with their system of belief, and equally appreciate government's modest efforts in e-readiness. Notwithstanding, majority of respondents believe that if ELECAM could possess more powerful and influential IT resources for e-voting, then voters' interest in the e-voting process will most likely increase.

5.5. Effectiveness of E-Voting Strategies in Cameroon

The researcher also sought to know from respondents how effective e-voting strategies are. The responses are listed in the following table.

Table 5: Effectiveness of E-Voting Strategies in Cameroon

E-Voting Strategy	Very effective (100%)	Effective (75%)	Somewhat effective (50%)	Not effective (25%)	Not at all effective (0%)	Total
*Collection and storage of finger prints	16 (32%)	18 (36%)	7 (14%)	6 (12%)	3 (6%)	50 (100%)
*Collection and storage of photos	12 (24%)	17 (34%)	13 (26%)	6 (12%)	2 (4%)	50 (100%)
*Collection and storage of relevant biographic data of potential voters	12 (24%)	11 (22%)	17 (34%)	8 (16%)	2 (4%)	50 (100%)
*Matching both biometric and biographic data of potential voters	10 (20%)	13 (26%)	10 (20%)	13 (26%)	4 (8%)	50 (100%)
*Printing of registration receipt to be issued potential voters	12 (24%)	15 (30%)	16 (32%)	2 (4%)	5 (10%)	50 (100%)
*Preparation of summary in list form of all registration conducted by the kit each day	11 (22%)	13 (26%)	14 (28%)	10 (20%)	2 (4%)	50 (100%)
*Encryption and transfer of files to a USB drive for onward forwarding to the regional hub	12 (24%)	12 (24%)	14 (28%)	6 (12%)	6 (12%)	50 (100%)

Most respondents think the collection and storage of fingerprints is effective. This basic activity is performed as to match respondents' data and to prevent duplication. The same applies for the storage and collection of photos, collection and storage of relevant biographic data of potential voters. The matching of the both biometric and biographic data of potential voters is also considered effective at this stage. All the other elements of the scale are acclaimed as being effective to some extent.

5.6. Prospects of E-Voting in Cameroon

The prospects of e-voting in Cameroon are measured on a seven-point Likert scale as shown in the following table:

Table 6: Prospects of E-Voting in Cameroon

Issue	Strongly Agree (100%)	Agree (90%)	Somewhat Agree (70%)	Neutral (50%)	Somewhat Disagree (30%)	Disagree; (10%)	Strongly Disagree (0%)	Total
*E-voting will ensure for free elections in Cameroon	8 (16%)	11 (22%)	8 (16%)	10 (20%)	3 (6%)	5 (10%)	5 (10%)	50 (100%)
*E-voting will ensure for fair elections in Cameroon	7 (14%)	7 (14%)	13 (26%)	7 (14%)	5 (10%)	6 (12%)	5 (10%)	50 (100%)
*E-voting will ensure for transparent elections in Cameroon	6 (12%)	6 (12%)	11 (22%)	8 (16%)	5 (10%)	7 (14%)	7 (14%)	50 (100%)
*E-voting will ensure for a calm political atmosphere in Cameroon	5 (10%)	4 (8%)	13 (26%)	10 (20%)	4 (8%)	9 (18%)	5 (10%)	50 (100%)
*E-voting builds trust in the electoral system in Cameroon	5 (10%)	8 (16%)	13 (26%)	8 (16%)	4 (8%)	5 (10%)	7 (14%)	50 (100%)
*E-voting is likely to reduce electoral violence in Cameroon	7 (14%)	11 (22%)	13 (26%)	4 (8%)	3 (6%)	10 (20%)	2 (4%)	50 (100%)
*E-voting will cut down irregularities like duplication in the voting process	10 (20%)	16 (32%)	10 (20%)	0 (0%)	4 (8%)	4 (8%)	6 (12%)	50 (100%)

The table above shows heavy reliance on the e-voting system in terms of yielding credible election results in Cameroon. Most respondents believe that with the e-voting system, free, fair and transparent elections will be guaranteed in Cameroon. This is a great hallmark of veritable democracy and good governance.

Also, a slight majority of respondents believe that e-voting will ensure a calm political atmosphere in Cameroon; though those who think contrary to this are quite close to those who wholly trust in the idea. The number of neutral respondents (20%) also shows an element of doubt. An overwhelming 72% of respondents think e-voting will greatly cut down irregularities like duplication in the voting process.

Research question 3: What are some of the challenges of e-voting?

5.7. Challenges and Solutions of E-Voting in Cameroon

Respondents were asked to state top potential challenges of e-voting in Cameroon. 18% of the respondents said the biggest challenge is the possible manipulation of results, followed by poor IT experts (16%), ineffective registration instruments, lack of awareness by potential voters (16%), poor and unstable internet connections (10%).

Other challenges of e-voting raised are long and crowded lines wherein voters may have to wait for long (6%), poor distribution of information (4%), lack of electricity in some areas (4%) and power failure. Lack of electricity and power failure in some rural areas in Cameroon indicate the fact that e-voting as an innovation is not fully effective in those areas.

Since most respondents do not have adequate knowledge of e-voting, they believe that results can easily be manipulated, probably, by just a simple touch of the computer figures. Also, since e-voting is an innovation lately introduced in Cameroon, it is feared that IT experts working with ELECAM may not be very skilled in this domain.

Evidently, the point of sensitization of potential voters on the system of e-voting is recurrent. Seemingly therefore, if people are not aware of the possible benefits of this system, they will continuously be naïve to engage in its processes. The mass media and ELECAM officials all have key stakes in ensuring that people get adequate and regular information about e-voting. Such information, at its best, should be convincing enough to the potential voters. Even if the information is convincing to draw a crowd to the registration and voting booths, there are also fears that e-voting will entertain long and crowded lines.

Again, Cameroon cannot boast of fully implementing e-voting if the system is not extended to all nooks and crannies of the political set up of Cameroon. In areas where there are challenges with electricity, the system will most likely be ineffective. Also, in situations where frequent power cuts become the order of the day, it will be extremely challenging to have a powerful e-voting scheme in place.

Research question 4: What are the possible solutions to overcome these challenges?

Referring to the above challenges, respondents were asked to propose solutions. A majority (30%) said more experts should be trained and employed while 24% agreed that more sensitization/ voter education should be in full force. 12% said more equipment should be acquired, 10% called for more transparency in the voting process, 8% called for the extension of fiber cables across Cameroon. Other reasons advanced include; creation of more voter registration and voting points to avoid overcrowding (4%), equal opportunities for all political parties (4%), provision of standby generators (4%), and instant declaration of results (2%). Hence, ELECAM must train and recruit more IT experts if it has a genuine mission to push for a successful implementation of e-voting in Cameroon. Also, ELECAM must carry out more sensitization campaigns using several media of mass communication. Sophisticated and standard equipment must be purchased as well. Measures equally must be put in place to ensure more transparency to clear voters' doubts on the possible manipulation of results.

Research question 5: What are some of the irregularities when elections are conducted?

The potential challenges of e-voting were also contextualized within the framework of general problem areas regarding the organization of elections in Cameroon as shown below:

Table 7: Irregularities observed during elections in Cameroon

Irregularities	Frequency	%
Double voting	20	40
Rigging	12	22
Buying of votes	6	12
Tension	4	8
Delay in publishing results	2	4
Absence of names on electoral list	2	4
ELECAM not independent	1	2
Inadequate personnel	1	2
No response	2	4
Total	50	100.0

Research question 6: Has e-voting been a solution for these irregularities?

Respondents were further asked if they think the effective implementation of e-voting in Cameroon will mitigate the recurrent irregularities mentioned in the table above. The responses are presented in the chart that follows:

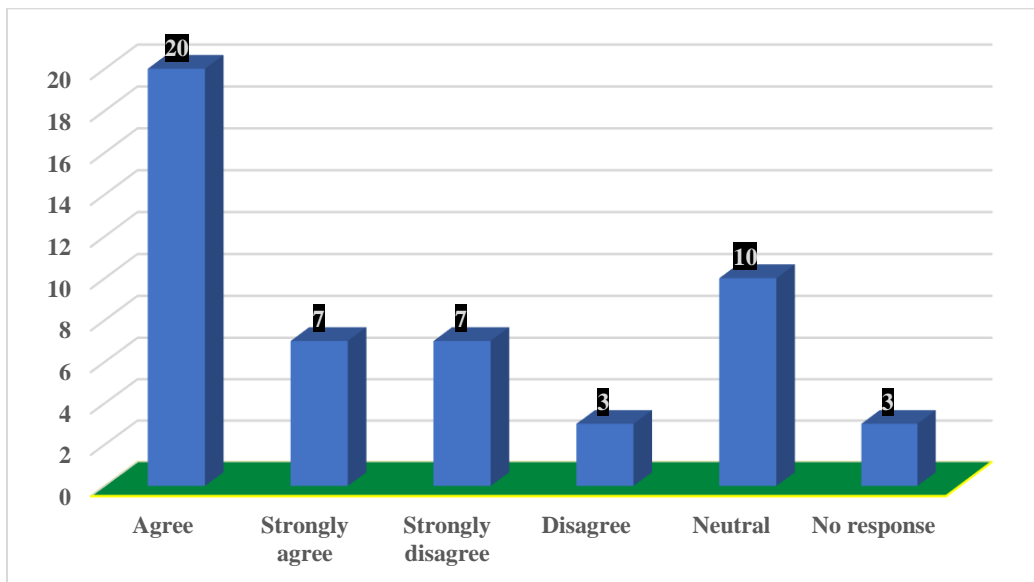


Figure 3: Whether e-voting will solve election irregularities in Cameroon.

More than half of the respondents (54%) say e-voting will solve the irregularities observed each time elections are observed in Cameroon as opposed to 20% who disagree with this view and 20% who are neutral. The implication is that the e-voting system breeds some degree of hope.

5.8. Overall user satisfaction with the E-Voting System in Cameroon

The user satisfaction with the e-voting system in Cameroon is presented as follows:

Table 8: Overall user satisfaction with the E-Voting System in Cameroon

User satisfaction	Frequency	%
Neutral	16	32
Less satisfied	13	26
Satisfied	13	26
Not at all satisfied	4	8
Very satisfied	3	6
No response	1	2
Total	50	100

The fact that most potential voters are neutral to the satisfaction they derive from e-voting is not strange. The system is just being implemented, and it has not been exploited to full capacity. Many potential voters are yet to get acquainted with the innovation. This is also confirmed with the ‘less satisfied’ and ‘satisfied’ categories, each having 26%. Those who are not satisfied with the e-voting system tally to 8% while those who imputed that they are very satisfied make up 6% of the total respondents. Only one respondent did not attempt this question.

The above responses did not however prevent potential voters from choosing e-voting, when compared to traditional voting, as the ideal. Basically, up to 90% of voters prefer e-voting when compared to an insignificant 4% who prefer traditional voting

When asked why they prefer e-voting to traditional voting, the cross-tabulation analysis shows that 86% of respondents absolutely agree that e-voting is more efficient as one person cannot vote twice. Then, 4% said e-voting reduces cumbersome paper work. To the contrary, those who prefer traditional voting say they are contented with it, as both traditional voting and e-voting are not void of problems.

In a nutshell, respondents mostly agree that when the challenges of e-voting mentioned in this analysis are adequately addressed, it will give room for a sustainable and reliable e-voting system in Cameroon. Consequently, this will improve the electoral / governance system in Cameroon.

5.9 Implication of findings to other Central African Nations: Are the results applicable to these Nations?

Cameroon is having a rich cultural diversity. It is difficult to speak of a Cameroon culture or civilization due to the great ethnic variety of the country. This cultural diversity has urge social anthropologist to identify Cameroon as Africa in miniature (Bahoken & Atangana, 1976). The implication is that the norms and beliefs of the Cameroon population reflects to some extent the norms and beliefs of Africa and Central Africa in particular. One of the areas of inquiry of this study was to identify if e-voting is compatible with the norms and beliefs of the target population.

Decision to adopt E-Voting in Cameroon

Decision	Strongly Agree (100%)	Agree (90%)	Somewhat Agree (70%)	Neutral (50%)	Somewhat Disagree (30%)	Disagree; (10%)	Strongly Disagree (0%)	Total
*It is compatible with my belief	6 (12%)	13 (26%)	11 (22%)	9 (18%)	2 (4%)	4 (8%)	5 (10%)	50 (100%)

(Excerpt from table 4)

As seen in the table above most of the respondents think that e-voting is compatible with their norms and beliefs and taking into consideration the fact that the norms and belief of the Cameroonian population to some extent reflects the norms and beliefs of Africa as a whole (Bahoken & Atangana, 1976). The results of this study from a cultural perspective can be applicable to other African nations and central Africa in particular. Furthermore, simple random probability sample was one of the sample techniques used for this study. The main goal for using this technique is to choose randomly and sample the opinion of a few respondents that will represent the general population. This corroborate with (Saunders et al., 2007) “generalizability” which is the degree to which findings and recommendations of the study can be implemented in other settings apart from the case of interest. The generalization of issues of e-voting is quite easy to establish because it is a unique technology applicable to the electoral system in most developed countries and recently adopted by third world nations.

6 Conclusion and Recommendations

This study was dedicated to investigating the prospects and challenges of e-voting in the Cameroon electoral system. Using the Diffusion of Innovation doctrine as the theoretical framework, this was done by exploring the extent to which e-voting as an innovation has been diffused in this Central African nation. The study also explored the possible factors that could influence the speed of adoption and the public perceptions of these factors. During data interpretation, the study revealed that some factors exerted an important influence on why e-voting is the best solution in Cameroon. The factors that emerged from the findings included the following; usefulness of the technology, ease of use, trust in the technology, government and organizational support, resources and infrastructure and environmental factors. These factors are based on the themes that emerged from the data gathered from the administered questionnaires.

Usefulness of e-voting: The findings revealed that participants favored electronic voting technology because they think it is more convenient and could easily be accessible, its time saving and requires less effort to cast a vote. They also think that this system might reduce human error to some extent which will thereby increase transparency in elections. The fact that e-voting could be easily accessible and time saving corroborate (Onu & Chiamogu, 2012) e-voting is more convenient and reduced fatigue associated with the pen and paper ballots system.

Ease of use: According to this study, ease of use is defined as the complexity of the e-voting system. This is when an innovation is perceived by adopters as being relatively easy or difficult to understand. The findings of the study revealed that the e-voting is easy to use this confirms (Onu & Chiamogu, 2012) e-voting is an easy way for voters to cast their vote and making their views known which an important prerequisite for constructive democracy. But it will be problematic especially among elderly citizens who have no knowledge of the technology. The literacy level is also a negative factor regarding the ease of use factor because there is also a concern within citizens in informal settlements who have not had prior use or experience of such technology. During the data collection, ease of use was measured in both rural and urban areas of Cameroon. While the urban city dwellers who had knowledge about the technology provided satisfactory responses about ease of use, the rural inhabitants had little to offer since they had no prior knowledge about e-voting. This is an indication that e-voting is mainly used in the urban areas during elections as opposed to the rural areas. In this case, while the level of diffusion regarding e-voting was positive in the urban areas, the rate was quite low in the rural areas. One of the guiding principles of the diffusion of innovation doctrine is the effective communication of an innovation with the aim of knowledge sharing and sensitisation among members of a social system, (Roger, 2003). Communication channels aim at sensitising the population about e-voting should not be limited to the urban areas for the rural population also have a voice during elections.

Trust factor: The findings reveal that a slight majority of respondents believe that e-voting will ensure a calm political atmosphere in Cameroon; though those who think contrary to this are quite close to those who wholly trust in the idea. This portrays some element of doubt regarding the efficacy of ELECAM in handling the technology. According to (IDEA, 2011), trust in the e-voting system should be built on a well-understood and reliably implemented solution rather than on the ignorance of key stakeholders. The findings revealed that there was evidence of lack of trust in e-voting by some respondents. The apparent lack of trust in the efficacy of ELECAM in handling the e-voting technology corroborates (Ishaq et al., 2013) who observe that in neighboring Nigeria, the slothfulness towards adopting e-voting technology has nothing to do with the willingness of the electorates. The report blamed the unwillingness to adopt the technology on the body responsible for conducting elections in Nigeria (the Independent National Electoral Commission).

Table 6: Prospects of E-Voting in Cameroon

Issue	Strongly Agree (100%)	Agree (90%)	Somewhat Agree (70%)	Neutral (50%)	Somewhat Disagree (30%)	Disagree; (10%)	Strongly Disagree (0%)	Total
*E-voting build trust in the electoral system in Cameroon	5 (10%)	8 (16%)	13 (26%)	8 (16%)	4 (8%)	5 (10%)	7 (14%)	50 (100%)

Trust ratings (excerpt from table 6, p.30)

From the table above, a minimum of 10% respondents strongly agree that e-voting will build trust in the Cameroon electoral system, a majority of 13% somewhat agree on this issue while 8% decide to stay neutral as oppose to 5% who disagreed. In this case one can easily conclude that the level of diffusion is moderate.

Organisation and government support: They are also assured that competent ELECAM officials with expert IT knowledge guide the process. They averagely rely on the efficiency of the e-voting mechanism. Most respondents also believe that e-voting has worked in other countries, and so, will likely work in Cameroon as well. Also, majority of respondents believe the e-voting system is compatible with their system of belief, and equally appreciate government’s modest efforts in e-readiness. Notwithstanding, majority of respondents believe that if ELECAM could possess more powerful and influential IT resources for e-voting, then voters’ interest in the e-voting process will most likely increase.

Resource and infrastructure: The findings reveal that there was the provision of the right infrastructure and tools to support e-voting in Cameroon. the provision of resources and infrastructure to facilitate the implementation of any innovation is of importance and could influence the adoption of a technology in this case electronic voting. Increased resources would be needed to either provide additional staff training or funding to administer the new voting channel.

Most of the findings portrayed positively the reliance on the e-voting system in terms of yielding credible election results in Cameroon. Most respondents believe that with this system, free, fair and transparent elections will be guaranteed. This is a great hallmark of veritable democracy and good governance.

Despite the adoption and implementation, most respondents do not have adequate knowledge of e-voting, they believe that election results can easily be manipulated, probably, by just a simple touch of the computer figures. Also, since e-voting is an innovation lately introduced in Cameroon, it is feared that IT experts working with ELECAM may not be very skilled in this domain. The e-voting strategy are fully understood by just a few experts and operators which put the integrity of the entire electoral process in the hands of just a few experts and operators as oppose to the thousand election officials and citizens. This factor can undermine confidence and trust in the electoral process (IDEA, 2011).

It can be assumed that there is most likely little knowledge to share about e-voting, since the respondents in question have confirmed that they know only 'little' about e-voting in Cameroon. Evidently, the point of sensitization of potential voters on the system of e-voting is recurrent. Seemingly therefore, if people are not aware of the possible benefits of this system, they will continuously be naïve towards engaging in its processes.

The mass media and ELECAM officials all have key stakes in ensuring that people get adequate and regular information about e-voting. Such information, at its best, should be convincing enough to the potential voters. Even if the information is convincing to draw a crowd to the registration and voting booths, there are also fears that e-voting will entertain long and crowded lines. Hence, ELECAM must train and recruit more IT experts if it has a genuine mission to push for a successful implementation of e-voting in Cameroon. Also, ELECAM must carry out more sensitization campaigns using several media of mass communication. Sophisticated and standard equipment must be purchased as well. Measures equally must be put in place to ensure more transparency to clear voters' doubts on the possible manipulation of results. In this case the level of diffusion is moderate.

Furthermore, Cameroon cannot boast of a full system of implementation of e-voting if the system is not extended to all nooks and crannies of the political set up of Cameroon. In areas where there are challenges with electricity (rural areas), the system will most likely be ineffective. According to results from data collection inhabitants from the rural areas of Cameroon have little or no knowledge of e-voting as opposed to inhabitants of the rural areas. Also, in situations where frequent power cuts become the order of the day, it will be extremely challenging to have a powerful e-voting scheme in place. The government and election governing body have the responsibility to widen the scope of e-voting as a practice in all the rural areas through sensitization campaign and making use of the various available communication channels coupled with adequate power supplies and IT man power. Generally, while the rate of diffusion was high in the main cities (urban areas), the rural areas where completely cut off from this innovation.

To connect the rate of diffusion to the research findings, a three-point Likert scale measurement was developed including (**high, moderate and low**). The table below shows the level of diffusion of e-voting as an innovation in both rural and urban settings in Cameroon.

Areas of Inquiry	Basic Framework for e-voting adoption and rate of diffusion			
A) Knowledge of e-voting	Communication channels (low) in both urban and rural areas			
B) Decision to adopt e-voting	Availability of IT tools (Moderate) urban areas but low in rural areas	Government e-readiness (Moderate)	Organizational competence (Moderate)	Government and top management support (High) mostly in urban areas
C) Effectiveness of e-voting	Ease to use (High) amongst city dwellers (Urban inhabitants)	Complexity and observability (Moderate)	Compatibility (Moderate)	
D) Prospects of e-voting in Cameroon	Government e-readiness (moderate)	Organizational competence (Moderate)		
C) Overall User satisfaction	The speed of e-voting diffusion (Low)			

Table 2 (linking adoption requirements and research findings)

E-voting is just one of the technological innovations recently adopted by most third world nations. There are other innovations such as e-governance and e-banking that will soon be adopted by these nations. For future adoption of any technological innovation in Cameroon, the following guidelines should be taken into consideration;

Define goals clearly: The main goals for introducing a technological innovation especially in a third world country should be clearly defined. Well defined goals make it possible to evaluate possible advantages of a new system from the existing system.

Government should be aware of the challenges of a technological innovation: Adopting a new technology doesn't end at the implementation phase. Newly adopted technologies should be considered as work in progress. It is the responsibility of the parties involved to record successes and failures to give room for future improvement.

Seeking assistance **from countries using e-voting system**: Before the adoption of any technological innovation, it is the responsibility of opinion leaders to study the kinds of systems which are used in other countries and how and why the systems are succeeding. Expatriate advice could be imported during the implementation phase for guidance.

Key stake holders should be in full support of the project: Introducing a new technology needs the full support of key stake holders. It is tricky to arrive at a consensus to adopt an e-voting system in a democracy since political parties might hold opposing views regarding the technology. It is very important for parties involved to arrive at a consensus before the adoption phase.

There should be enough time for project implementation: Usually the technical implementation of a new technology takes at least one year after awarding the tender. Quality, reliability and transparency will be affected by lack of time for project implementation.

Innovation for the future: The requirements for the introduction of innovation change with time and needs continuous upgrades, review, adjustment and if possible replacement.

Build and maintain trust within the affected population: Trust is a very sensitive concept especially when its concerns elections and voting. It takes years to build trust but requires just a few moments to lose it. If there is a series of technical hitches in the e-voting system or the inability of the IT officials to handle the technology correctly, the people affected will lose trust in the technology.

The above-mentioned recommendations set the context by pointing to a number of problems that inhibit the widespread, effective use of information and Communication technologies (ICT) to support elections in Cameroon by highlighting the theoretical bases. This of course reflects the main goal of the International Masters programme in Information Technology and Learning in addressing the opportunities and challenges that emerging technologies raise across contexts from the work place and beyond. Electronic voting as an innovation is not new in most western democracies but this is considered a novelty in most third world societies. This could raise the argument that the notion of technological affordance can make a significant contribution to this endeavor. From the basis of my theoretical standpoint two important **affordances** need to be a point of focus for a technological innovation such as electronic voting to be easily diffused in a third world democracy like Cameroon. These include “**accessibility**” (**the innovation itself**) and the “**speed of change**” (**the rate of diffusion**), (Tom & John, 2004). The lack of access to electricity supply, IT infrastructure and personnel in some remote areas in Cameroon to provide electricity and man power to the electronic voting tools in some rural areas in Cameroon is a clear indication that e-voting as an innovation does not provide a fair representation of the peoples of the entire nation. The pen and paper ballot are still used in those areas which in effect slows down the speed of change. This is an indication that the problem encountered by e-voting in Cameroon is not tilted towards the technology but towards the body handling the technology (ELECAM).

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Appendix 1: Questionnaire guide

Date of Data Collection: _____

Name of Interviewer: _____

Dear respondent,

I am a master's student in Information Technology and learning Goteborg University. This study investigates the issues surrounding e-voting in Cameroon. The objective is to get your views on this subject, so that solutions can be provided on ways to improve the electoral system in Cameroon. Your honest responses will be truly appreciated. The study is for academic exploits.

SECTION A: KNOWLEDGE OF E-VOTING IN CAMEROON

This section tests the depth of your knowledge on electronic voting (e-voting) in Cameroon

1. By how much do you know of the e-voting system in Cameroon? *(Circle one option)*
5. A great deal (100%) 4. Much (75%) 3. Somewhat (50%) 2. Little (25%) 1. Nothing at all (0%)

2. How did you know about the e-voting system in Cameroon? *(Tick as many as applicable)*
1. ELECAM Officials 2. Mass media 3. Friend 4. Family member 5. Others
(Specify) _____

3. How often do you use this knowledge to educate yourself on your rights as a voter?
5. Very often (100%) 4. Often (75%) 3. Sometimes (50%) 2. Rarely (25%) 1. Never (0%)

4. Do you share knowledge of e-voting with others? 1. Yes 2. No
5. If _____ yes, _____ with _____ whom?

6. If No, why not?-----

7. In what ways does knowledge of e-voting help you?-----

SECTION B: DECISION TO ADOPT E-VOTING

Here, the researcher wishes to understand what motivates you to adopt the e-voting system

8. How do you agree/disagree to the following pertaining to **e-voting**? (Tick where apt).

Decision	Strongly Agree (100%)	Agree (90%)	Somewhat Agree (70%)	Neutral (50%)	Somewhat Disagree (30%)	Disagree; (10%)	Strongly Disagree (0%)
E-voting is not complex (ease of use)							
Competent ELECAM officials with expert IT knowledge guide the process							
I have observed and judged it is efficient							
It has worked in other countries, so I believe it will work in Cameroon							
It is compatible with my belief							
There is government e-readiness, so I should also be e-ready							
Government support in the implementation of the e-voting system is quite encouraging							
Limited IT resources at ELECAM is discouraging							

SECTION C: EFFECTIVENESS OF E-VOTING STRATEGIES

9. How effective do you think the following e-voting strategies are? (Tick where apt).

E-Voting Strategy	Very effective (100%)	Effective (75%)	Somewhat effective (50%)	Not effective (25%)	Not at all effective (0%)
Collection and storage of finger prints					
Collection and storage of photos					

Collection and storage of relevant biographic data of potential voters					
Matching both biometric and biographic data of potential voters					
Printing of registration receipt to be issued potential voters					
Preparation of summary in list form of all registration conducted by the kit each day					
Encryption and transfer of files to a USB drive for onward forwarding to the regional hub					

SECTION D: PROSPECTS OF E-VOTING IN CAMEROON

This session investigates potential prospects of e-voting in Cameroon

10. How do you agree/disagree to the following? (Tick where apt).

Issue	Strongly Agree (100%)	Agree (90%)	Somewhat Agree (70%)	Neutral (50%)	Somewhat Disagree (30%)	Disagree; (10%)	Strongly Disagree (0%)
E-voting will ensure for free elections in Cameroon							
E-voting will ensure for fair elections in Cameroon							
E-voting will ensure for transparent elections in Cameroon							
E-voting will ensure for a calm political atmosphere in Cameroon							
E-voting build trust in the electoral system in Cameroon							
E-voting is likely to reduce electoral violence in Cameroon							
E-voting will cut down irregularities like duplication in the voting process							

SECTION E: CHALLENGES AND SOLUTIONS TO E-VOTING IN CAMEROON

This session investigates potential challenges and solutions to e-voting in Cameroon

11. List, in order of importance, three potential challenges of e-voting diffusion in Cameroon

1 _____

2 _____

3 _____

12. Making reference to the above problems, what solutions do you propose?

1 _____

2 _____

3 _____

13. What are some irregularities observed when elections are conducted in Cameroon?

1 _____

2 _____

3 _____

14. Do you think e-voting is a solution to these irregularities? (*circle one option*)

5. Strongly Agree (100%) 4. Agree (75%) 3. Neutral (50%) 2. Disagree (25%) 1. Strongly disagree (0%)

SECTION F: OVERALL USER SATISFACTION WITH THE E-VOTING SYSTEM IN CAMEROON

15. How satisfied are you with the e-voting system in Cameroon? (*Circle one option*)

5. Very satisfied (100%) 4. Satisfied (75%) 3. Neutral (50%) 2. Less satisfied (25%) 1. Not at all satisfied (0%)

16. What suggestions will you give for a sustainable and reliable e-voting system in Cameroon?

1 _____

2 _____

3 _____

17. Between the traditional and e-voting system, which do you prefer? (*Circle one option*)

1. *Traditional* 2. *E-voting*

18. Why? _____

SECTION G: DEMOGRAPHICS

19. Gender I. Male ii. Female

20. Level of education _____

21. Age in. 18-25yrs ii. 26-33yrs iii. 34yrs-41yr iv. 42yrs-

22. Religion 1. Christianity ii. Islam iii. African Traditional Religion iv.

Others

(Specify) _____

23. Marital status a. Married ii. Single iii. Towards marriage (fiancé) Co-habitation

v. Divorced vi. Widowed

24. Year you first

voted _____

25. Which election?

Thank You!

