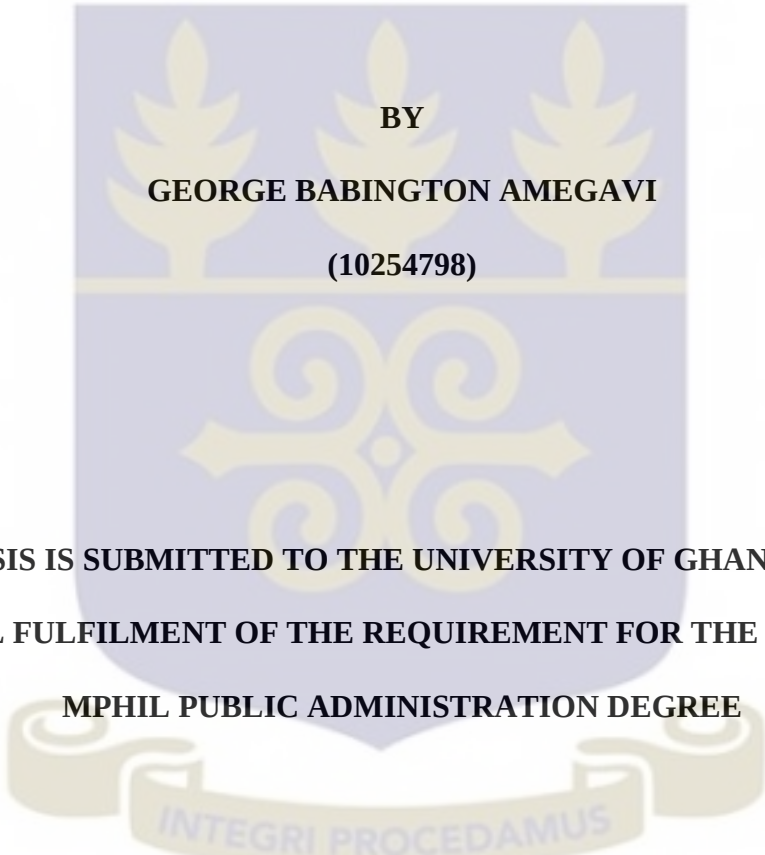


UNIVERSITY OF GHANA

**IMPLEMENTATION OF ELECTRONIC-GOVERNMENT IN GHANA: A CASE
STUDY OF DRIVER AND VEHICLE LICENSING AUTHORITY (DVLA)**

The background of the central text area features a large, faint watermark of the University of Ghana crest. The crest is a shield divided into two sections. The upper section is light blue and contains three golden palm trees. The lower section is light yellow and contains a golden stylized emblem. Below the shield is a golden ribbon banner with the Latin motto 'INTEGRI PROCEDAMUS' in blue capital letters.

**BY
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(10254798)**

**THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON IN
PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF
MPHIL PUBLIC ADMINISTRATION DEGREE**

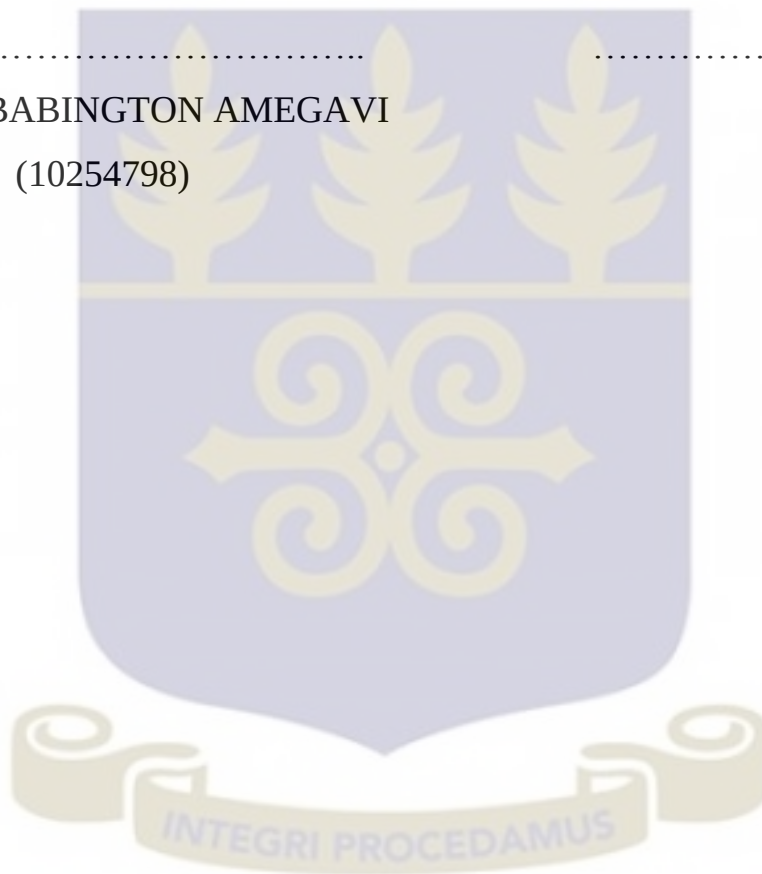
JUNE, 2015

DECLARATION

I hereby declare that this work is the result of my own research and has not been presented by anyone for any academic award in this or any other University. All references used in the work have been fully acknowledged. I bear sole responsibility for any shortcomings.

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.....
DATE



CERTIFICATION

I hereby certify that this thesis was supervised in accordance with the procedures laid down by the University.

.....
DR. THOMAS BUABENG
(SUPERVISOR)

.....
DATE



DEDICATION

This work is dedicated to my mum, Mrs. Theresa Nakor Amegavi of blessed memory.



ACKNOWLEDGEMENT

All that starts well in the Lord ends well in the Lord. First and foremost, I would like to thank God almighty for how far He has brought me. To continue with, I would also want to thank my supervisor, Dr. Thomas Buabeng for his guidance, support and constructive criticism of my work. This dissertation would not have been possible without him.

I also extend my gratitude to Dr. Kwame Asamoah, Dr. Gordon Abekah-Nkrumah, Nana Nimo Agyekum and Dr. Justice Bawole for their intellectually stimulating dialogues on the study. My sincere appreciation also goes to the Department of Public Administration and Health Services Management and faculty members for their diverse contributions to my work, not forgetting the coordinators of the MPhil seminar series which occurred in the last two semesters.

I would also like to thank the Driver and Vehicle Licensing Authority for their cooperation and support during the data gathering process. Again, I am appreciative of the role played by my family and friends who kept faith in me through the difficult times, especially Miss Joscelyne Ahiable. Lastly, I would like to thank all the 2015 MPhil students in the Department of Public Administration and Health Services Management. The peer review and questions raised during the seminar presentations really helped in refining the study. God bless you all.

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LIST OF ABBREVIATIONS

AD	Administration Department
BEC	Basic Education Certificate
CBT	Computer Based Technology
DVLA	Driver and Vehicle Licensing Authority
DPAHSM	Department of Public Administration and Health Services Management
ECG	Electricity Company of Ghana
EGDI	Electronic-Government Development Index
FD	Finance Department
G2B	Government to Business
G2C	Government to Citizen
G2E	Government to Employees
G2G	Government to Government
GCNet	Ghana Community Network
HRD	Human Resource Department
IT	Information Technology
IEC	Independent Electoral Commission
ICT	Information Communication Technology
ICT4AD	Information Communication Technology for Accelerated Development
ITU	International Telecommunication Union
KII	Key Informant Interviews
MIS	Management Information Systems
NTP	National Telecommunication Policy
PVTS	Private Vehicle Testing Stations
PD	Procurement Department
PSDS	Private Sector Development Strategy
UN	United Nations
VELD	Vehicle Examination and Licensing Division

ABSTRACT

The aim of this study is to examine e-government implementation at the DVLA and to generate a comprehension from the perspective of the implementers. A case study method within the qualitative approach of social research was employed. In all twelve (12) participants were purposively selected and interviewed using the one-on-one in-depth interview method. An interpretive analyses as well as secondary data from the literature review were used to analyze the results of the study. It was found that resources were a challenge for the DVLA. In other words, financial resources, human resources and logistics and equipment were all inadequate for the effective implementation of the project. It was also evident that, erratic power supply, low levels of ICT literacy amongst clients, lack of trust for e-government programmes, and poor internet connectivity were challenges militating against the successful implementation of the project. The study concludes that inadequate resources and the ineffective use of mechanisms and channels to facilitate information sharing and inter-departmental collaborations impede workflow and the effective implementation of public policies. It is therefore recommended that to achieve effective e-government implementation, there should be reliable and constant power supply, the channels of communication and collaboration must be utilized effectively and all the needed resources must be available.



CHAPTER ONE

GENERAL INTRODUCTION

1.0 Introduction

The study aimed at ascertaining the challenges to e-government implementation in Ghana. This chapter has been organized under eight sub-sections. The introduction to the chapter, background to the study and the significance of the research constitute the first three sub-sections. The subsequent sections constituted the research problem, research objectives and the research questions which provided a general guide to the study. Sections seven and eight discussed the scope and limitations of the study as well as the organization of the study.

1.1 Background to the Study

The way people live, how they work, how companies do their business and how governments serve their people is currently being defined by the explosive entry of technology into every aspect of life (Silcock, 2001). Governments all over the world are aiming to provide services and information to their citizens in a timely and efficient manner through digitized means. This has led governments worldwide to adopt technology and adapt to technological trends in their business operations. However, traditionally, the rate at which private sector organizations have embraced and adopted innovative technologies and change has been quite tremendous as compared to public sector organizations (Johnson, 2012). The adoption of ICT has caught up with most developed countries and they are using their technological abilities to create e-government structures to the benefit of their citizens which is aiding their development (Evans and Yen, 2006).

This technology adoption has caught up with most developing nations in their quest to also improve service delivery to their citizens. African countries are adopting and

implementing e-government with support from donor organizations such as the World Bank with the aim of promoting development and reducing poverty (Schuppan, 2009). Bwalya and Healy (2010) in their study of the factors affecting e-government adoption in Zambia, asserted that, for a country to implement e-government and be successful, there must be well-engineered strategies and implementation plans as well as taking into account the multi-dimensionality of e-government and the socio-cultural context of the country. Thus, for public organizations to introduce technology and innovations and be successful there must be a comprehensive understanding of the IT capacity of the organization, prevailing organizational operations, managerial competencies and the readiness of the organization to either adopt the innovation or not to adopt it (Kamal, 2006).

Ghana is experiencing rapid population growth and there is the need to improve governance and service delivery to citizens. To facilitate governance in Ghana, the process of adopting and applying e-government has been initiated under the ICT for Accelerated Development Policy (Frempong, 2010). This led to the introduction of various IT systems, for instance the Ghana Community Network (GCNet) which has the aim of eliminating bureaucratic inefficiencies and curbing corruption in the public services of Ghana, some public sector employees opposed the GCNet system because it was clear that it would increase process transparency and formalization, thus reducing possibilities for them to generate “additional income”(Schuppan, 2009). In addition, information technology has helped organizations improve the efficiency and effectiveness of their staff – employees can communicate easily, share information, access information and execute their assigned responsibilities more expediently which leads to cost reduction (Iddris, 2012). The benefits of e-government can only be realized if the appropriate measures are put in place.

Information Communication Technology has revolutionized the relationship and interactions between citizens and governments and this modification has brought a new form of government called e-government (Rehman et al., 2011). “Electronic government (e-government) can be broadly defined as the use of online channels for enhancing access to and delivery of any facet of government services and operations to the benefit of citizens, businesses, and other stakeholders” (Srivastava and Teo, 2010: 268). Thus in its broader context, e-government entails all the factors of governance, that is, better delivery of government services to citizens, citizen empowerment through access to information, improved interaction with business and industry and more effective and efficient management practices (Gupta et al., 2008).

Against this background, this research examined the implementation challenges of e-government at the Driver and Vehicle Licensing Authority (DVLA) through an empirical and theoretical research and drew conclusions on the issues that came up thereafter.

1.2 Research Problem

The role of computers and the internet to developed and developing nations cannot be overemphasized. Computers and the internet have revolutionized how business transactions are carried out worldwide in today’s business environment. This revolution has caught up with most governments across the world and has led to the birth of e-government. The role of technology to both developed and developing countries in improving service delivery has been tremendous even though the latter has been slow in adopting e-government due to certain challenges.

Previous research has shown that e-government has the potential to improve the performance of public sector organizations (Lau et al., 2008; Mossberger et al., 2008).

Apart from creating value for public corporations and government agencies, the adoption and use of e-government can also impact the performance of national government by improving the efficiency and effectiveness of service delivery (Xu, 2012; Reddick and Norris, 2012). Utilization of e-government to its maximum will help bridge the gap between the ordinary citizen and the government.

E-government has been defined differently by numerous researchers but with the same meaning and focus to substantiate that there is not one set acceptable definition for e-government. “E-government refers to the use of technology to enhance the access to and delivery of government services to citizens, business partners and employees” (Silcock, 2001: 88). From another definition, “e-government is the use of online channels for enhancing the access and delivery of any facet of government services and operations to the benefit of citizens, businesses, and other stakeholders” (Srivastava and Teo, 2010: 268). From these definitions, the focus has been on how to make goods and services more accessible to citizens of a country and also to improve the delivery of such goods and services by government through the adoption and use of technology. More importantly, e-government from the following definitions aims to strengthen and drive governments toward a more effective and transparent management of a country’s resources for development (Basu, 2004).

Various researchers have also argued that for e-government to succeed certain conditions must be adhered to. These conditions include training and support, demonstration of its benefits before adoption, management commitment and technology-context factors which include user friendliness, integration, efficiency, accessibility and support from vendors (Gupta et al., 2008; Hill et al., 2011; Eze et al., 2013). However, the quest of various

governments to meet these conditions has been very challenging. Some of these challenges include inadequacy in communication infrastructure, high cost associated with building a network structure and organizational culture (Evans and Yen, 2006; Qiang et al., 2003; Ebrahim and Irani, 2005).

African countries have been plagued with lots of corruption issues and this is greatly affecting their development agenda. Schuppan (2009) in studying e-government in developing countries articulated that, e-government can help governments control the spending power of various agencies, consequently aiding in strengthening state institutions and helping check corruption. Until the issue of corruption is addressed, sustainable development will continue to be elusive for most African countries. Therefore, there is the need for African states to develop and initiate plans that will aid them to realize the full benefits of e-government. This can be achieved through a total collaboration in decision and policy making of all stakeholders (Bwalya, 2009). Most African countries lack or in some instances do not have enough resources to adopt and implement e-government. However, e-government development as a process requires lots of time, money and efforts and until these necessary conditions are put in place before its adoption, the chances of it succeeding are very minimal (Lau et al., 2008). This lack or inadequacy of resources is accounting for the slow adoption of e-government in most African states.

In general, the discussion about the effectiveness of and prerequisites for e-government in developing countries is still in its early stages (Schuppan, 2009). More needs to be done in the adoption and implementation process by African countries before they can realize the full benefits of e-government. Various studies in e-government have examined a number of themes including e-government adoption barriers, factors influencing e-government

adoption, conditions for successful e-government adoption, as well as e-government definitions and conceptual models (Johnson, 2012; Eze et al., 2013; Asogwa, 2013; Torgby and Asabere, 2014; Almarabeh and AbuAli, 2010; Reddick and Norris, 2012; Bwalya and Healy, 2010; Rehman et al., 2011).

The few studies done in this area seem to focus more on the developed rather than developing country context (Evans and Yen, 2006; Fedorowicz et al., 2010; Mossberger et al., 2008; Reddick and Norris, 2012). The importance of technology has been clearly stated in previous literature. However, what needs to be discussed is no longer the impact of technology but how to develop a proper model to mine the potential power of developing nations (Awodele et al., 2013). Also, further research is also required to examine how public sector organizations are deploying innovative technologies and the influence, if any, of such contextual factors on technology adoption and implementation within this environment of economic, political, demographic and societal change (Johnson, 2012). In the view of Van Meter and Van Horn (1975), in dealing with disparate policy areas and jurisdictional settings, it would be difficult to further our understanding of the policy implementation process without the necessary framework. Thus, there is a need for the development of technological implementation frameworks for developing nations by the people of the developing nations to meet their specific and unique needs.

The research explored the supply-side of e-government adoption by looking at the implementation challenges of e-government in Ghana. The study examined the strategies that have been drawn in the face of the challenges to harness e-government with tailor-made initiatives bearing strong consideration of the local Ghanaian context. This is important because Ghana is not very advanced in ICT looking at the different facets of the

country's socio-economic structures. According to the United Nations (2014), comparing Ghana's e-government development index of 0.3735 to the world average of 0.4712 indicates that Ghana falls in the bottom 10 per cent of the world ranking. It is the case that a one-fit-all-size e-government implementation strategy may not be realistic or desirable for every country due to the difference in contextual issues. Though, there have been studies on public policy implementations, much attention has not been placed on the challenges faced by implementing agencies in implementing ICT projects. Therefore, there is the need to explore the challenges with reference to the Ghanaian context in implementing e-government. Hence, there is room for arguably a contribution to literature in both theory and practice. This study responds to this call for research.

The study identified the challenges that have been met in e-government implementation programs elsewhere in the literature. The underpinning research question is: what are the implementation challenges of e-government at the Driver and Vehicle Licensing Authority in Ghana? The conceptual implementation framework advocated, attempted to resolve some of the challenges and issues that are evident with the nature of e-government and its implementation in Ghana.

1.3 Research Objectives

The study sought to examine the implementation challenges of e-government at Driver and Vehicle Licensing Authority in Ghana. Specifically, the study aimed at achieving three objectives as stated below:

1. To examine the effects of resources on the implementation of e-government at DVLA.
2. To investigate the operational challenges in implementing e-government at DVLA.

3. To examine the Inter and Intra Agency Collaborations in the implementation of e-government at DVLA.

1.4 Research Questions

To achieve the stated objectives, the research activities were organized around the question; “what are the implementation challenges of e-government at the DVLA?”

Specifically, the study sought to answer three questions:

1. What are the effects of resources on the implementation of e-government at DVLA?
2. What are the operational challenges in implementing e-government at DVLA?
3. What is the level of Inter and Intra Agency Collaboration in the implementation of e-government at DVLA?

1.5 Significance of the Study

The findings from the study have both theoretical and practical significance. There have been many studies on e-government in Africa (Awodele et al., 2013; Eze et al., 2013; Torgby and Asabere, 2014), however, further research is also required to examine how public sector organizations are deploying innovative technologies and the influence, if any, of such contextual factors on technology adoption and implementation within this environment of economic, political, demographic and societal change (Johnson, 2012). This study seeks to fill the gap in the existing literature.

By conducting this research, the findings of the study shall extend the understanding of public policy implementation in Ghana as well as highlight some of the factors facilitating or inhibiting public policy implementation at the institutional level in general with emphasis on the country’s quest to improve technology.

Even though as a case study research, the findings may not be generalized across the country, it can however provide some comprehension into the implementation challenges of e-government particularly in institutions which share similar characteristics as those of the understudied institution.

More importantly, the findings shall serve as a reference material for academic and other purposes as well as draw attention of stakeholders of technology development in the country and researchers to areas that require attention and further research.

1.6 Scope and Limitations of the study

The study was carried out at Driver and Vehicle Licensing Authority in the Greater Accra region of Ghana, (hence all data collected and analyzed will pertain to no other organization but DVLA). The rationale for using DVLA emanated from the fact that, the adoption and use of technology in the provision of quick and reliable services in public organizations have been slow and ineffective; the researcher decided to use DVLA since it is one of the public institutions of Ghana. This will limit the ability of the study's findings to be generalized across other organizations. That notwithstanding, the objectives were achieved and other public organizations with similar organizational structure and dynamics can also benefit from the findings of this research.

1.7 Chapter Organization

The research was organized into five chapters. Chapter one was the introduction comprising the background information, statement of the problem, the aims and objectives, research questions, the significance of the research and scope and limitations of the study. Chapter two entailed the literature review in which the relevant theories and empirical literature on the phenomenon under study were reviewed and discussed. Chapter

three comprised the research methodology, which dealt with the procedures and data collection instruments that were used in the research.

The final part consisted of chapters four and five. Chapter four focused on data presentation, analyses and discussion of the data collected from the field whereas chapter five also consisted of the summary of the findings, conclusions as well as recommendations that were drawn from the analysis of the research data and the study as a whole. The chapter, apart from summarizing and highlighting the major issues identified, also establishes their likely implications.



CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents a generic overview of e-government and Ghana's e-government environment. It further reviews literature on some of the challenges to e-government implementation and reviews some literature on public policy implementation research. From the review, a conceptual framework was developed to analyze the implementation challenges of e-government.

2.1 Information Communication Technology (ICT) Environment of Ghana

Ghana is located in West Africa and bordered at the west by Ivory Coast, at the east by Togo, Burkina Faso at the North and the Atlantic Ocean at the south. Ghana gained independence from British colonial rule in March, 1957 and was the first African country south of the Sahara to gain independence.

Due to the role ICT plays in the development of every country's economy, the government of Ghana is taking various initiatives to develop ICT in the country. The country's medium-term development plan captured in the Ghana Poverty Reduction Strategy Paper (GPRS I & II) aims to improve ICT development in the country. Ghana's ICT development is anchored within the country's Information and Communication Technology for Accelerated Development policy framework. Within the broader ICT4AD policy framework, the government of Ghana has also adopted a National Telecommunication Policy, Trade policy and Private Sector Development Strategy (PSDS), all with the sole aim of supporting the ICT development agenda.

Government of Ghana has established a project called the eGhana project with the aim of implementing the ICT accelerated policy. The eGhana project aims to address a wide range of issues from infrastructure, institutions, human resource, legal and regulatory frameworks to funding and public-private-partnerships (PPP). Ghana's ICT4AD policy was passed into law by parliament in 2004. To support this agenda various laws have been passed and they include:

- National Communication Authority Act, 2008, Act 769
- Electronic Transactions Act, 2008, Act 772
- National Information Technology Agency Act, 2008, Act 771
- Electronic Communications Act, 2008, Act 775

In the development of the ICT4AD policy, various socio-economic development framework documents were taken into account and these includes: the vision 2020 Socio-Economic Development framework; the Ghana Poverty Reduction Strategy and Co-ordinated Programme for Economic and Social Development of Ghana. Under the Ministry of Communication The Ghana Information, Communication and Technology Directorate has been established as the national implementation and coordination body of ICT projects which are linked to the ICT4AD policy. The ICT4AD policy has fourteen priority areas and its overall objective is to facilitate an ICT led socio-economic development process with the potential to transform Ghana into a middle income, information rich , knowledge base and technology driven economy and society. To achieve the broad objective the following specific objectives were set.

- To create the necessary enabling environment to facilitate the deployment, utilization and exploitation of ICTs within the economy and society.

- To support the development of viable knowledge-based ICT industry to facilitate the production, manufacturing, development, delivering and distribution of ICT products and services.
- To support the development of a competitive high value added service sector to serve as an engine for accelerated development and economic growth with the potential to develop into a regional business-service and ICT hub.
- To facilitate the development, expansion and rehabilitation and the continuous modernization of the national information and communication infrastructure.
- To guide the development and implementation of electronic government and governance, as well as electronic commerce and business strategies and action plans.

The ICT4AD policy implementation aims to help the country address some of the development challenges it is facing. Some of these challenges include:

- Limited human resource capacity characterized by the low professional, technical and managerial manpower base.
- Weak scientific research base and under-developed research and development capacity.
- Under-developed physical infrastructure
- Poor and limited communication and telecommunication infrastructure

Apart from these initiatives, the Government of China through China EXIM Bank is helping the Government of Ghana through a concessionary loan facility to aid the extension of the current fibre-optic network to the entire country. The eastern corridor fibre-optic backbone infrastructure has been commissioned. The project covers 800

kilometers and will connect 120 communities from Ho to Bawku. The project aims at bridging the digital divide between the urban and rural communities in the country. The fibre optic connections will help support the country's e-government project by connecting all Metropolitan, Municipal and District Assemblies to the internet. Other ICT developments include the establishment of the Kofi Annan ICT Center and the expansion of broadband services beyond Accra and Tema to other regions and metropolis in Ghana. In sub-Saharan Africa, Ghana became the first country in 1995 to have "full internet connectivity" (Saffu et al. 2008).

The telecom industry continues to grow in Ghana. According to the National Communication Authority (NCA) Ghana's mobile voice subscriber base as at March, 2015 stood at 31,154,420. There are currently six (6) cellular network operators in Ghana. They are: Vodafone Ghana Limited, Millicom Ghana Limited (Tigo), Airtel Communications, Scancom Ghana Limited (MTN), Globacom Ghana Limited (Glo) and Expresso. As at the first quarter of 2014 the NCA has authorized 376 FM radio stations in Ghana out of which 291 are operational. The 376 authorized stations include 36 public radio stations, 63 community radio stations, 16 campus radio stations and 261 commercial radio stations. Also, the total number of television operators authorized by the NCA are 29, 21 are free-on-air stations, 7 are pay-per-view and 1 is for research purposes. According to the NCA as at August 2013 the overall internet penetration rate in Ghana increased from 40% to 40.7%.

2.1.1 Electronic-Government Environment of Ghana

The development and progress of technological trends in Africa remains relatively slow and uneven across the continent (United Nations, 2014). Ghana like many other African

countries has been implementing various policies and projects with the aim of promoting e-government. With the commitments of past governments to improve and develop ICT and telecommunication infrastructure in Ghana, there has been considerable improvements in the sector over the past few years. The United Nations (2014) groups countries into four categories: Very High e-government development (index > 0.75), High e-government development (index of 0.5–0.75), Middle e-government development (index of 0.25–0.5) and Low e-government development (index < 0.25). Ghana is categorized as having middle e-government development with an index of 0.3735 below Tunisia, Mauritius, Egypt, Seychelles, Morocco, South Africa, Botswana, Namibia, Kenya and Libya who are the best ranked in Africa from first to tenth respectively (United Nations, 2014). The 2014 UN e-government ranking shows Ghana occupying 123rd position out of 193 countries surveyed.

Table 2.1: E-Government Development Index (2014)

Rank	Country	EGDI	Online Service Component	Telecomm. Infrastructure Component	Human Capital Component
123	Ghana	0.3735	0.3150	0.2444	0.5613
1	Rep. of Korea	0.9462	0.9764	0.9350	0.9273
75	Tunisia	0.5390	0.6378	0.3074	0.6717
141	Nigeria	0.2929	0.3071	0.1905	0.3811
171	Côte d'Ivoire	0.2039	0.1732	0.1392	0.2992
	Africa	0.2661	0.2011	0.1478	0.4492
	World	0.4712	0.3919	0.3650	0.6566

[United Nations, 2014]

The table alludes to the fact that, Ghana is doing well on the African continent comparing the country's EGDI with the EGDI average for Africa. However, a lot needs to be done when compared to the EDGI world average. The Online Service component, Telecommunication Infrastructure component and Human Capacity component of Ghana are comparatively high with reference to the African average. However, Ghana still has some way to go with the world average. The country has improved over the years, however, a lot needs to be done if the country is going to catch up with most of the developed countries and get the optimum benefit of e-government.

2.2 Empirical Review

2.2.1 E-government: An overview

Various scholars have defined e-government differently, although with the same meaning and focus. E-government refers to “the use of technology to enhance the access to and delivery of government services to citizens, business partners and employees” (Silcock, 2001: 88). According to United Nations (2014) e-government refers to the expansion of communication channels for engagement and empowerment of people through the use of information technologies in public administration to streamline and integrate workflows, to effectively manage data and information and enhance service delivery. E-government also refers to “the use of online channels for enhancing the access and delivery of any facet of government services and operations to the benefit of citizens, businesses, and other stakeholders” (Srivastava and Teo, 2010: 268)). For the purposes of this research, Srivastava and Teo's (2010) definition was employed. That is because this study examined the online channels the DVLA was using to enhance access and delivery of services to its clients.

Various delivery models have been identified through which e-government services are delivered. According to Fang (2002) the delivery models include:

- **Government to Business (G2B)**

Government-to-Business e-government employs strategies which will facilitate government interactions with the private sector to reduce cost and gather better information to enhance and speed up transactions between the private sector and government. It helps government and the private sector to gather reliable data to make decisions in dealing with each other.

- **Government-to-Government (G2G)**

Government-to-Government e-government focuses on the interactions within the government. It aims at improving the relationship and interactions between and amongst government units, agencies, ministries, etc. It includes activities to coordinate and integrate the functions of government units from the national to the local level.

- **Government-to-Employee (G2E)**

Government-to-Employee e-government focuses on the relationships between government and employees to coordinate internal operations and improve the internal efficiency of business processes. The focus of (G2E) is on how to integrate the individual functions of employees into a process to streamline the whole business of government. This will help expedite the service delivery of government. However, the focus will be on how to improve the interactions between government and its employees to help improve service delivery.

- **Government to Citizen (G2C)**

This delivery model focuses on the ability of the government and citizen to communicate and share information with each other. The aim is to make information accessible to citizens online. The citizens benefit from these government communications. One of the most popular benefits of G2C is the simple posting of information on government web pages and making available forms and registrations on government web pages. This research aims to look at Government to citizen delivery of e-government services. Therefore, the research adopted the G2C delivery model.

2.3 Opportunities and Challenges for E-government Implementation

E-government implementation has been bedeviled with many challenges even with its enormous benefits. According to the United Nations (2014) e-government has shown a lot of maturity in the Republic of Korea which currently is considered the most developed country in as far as e-government is concerned. Using a uniform benchmark and other constructs, the United Nations (2014), surveyed the e-government of member states. The report showed that:

- Technologically advanced countries were leading in e-government development;
- Africa was at the bottom of the global ranking and was therefore classified as the least developed continent in terms of e-government.

Public sector institutions have come under lots of criticisms about the manner and ways they deliver services to their clients. Can information technology really improve the public sector since it has really transformed the private sector? (Xu, 2012). Various scholars have enumerated several benefits of e-government. According to Silcock (2001) e-government has the potential to revolutionize not just service delivery from public sector organizations

but the government itself. E-government has the ability to improve government service delivery and also improve information sharing amongst government ministries and departments (Asogwa, 2013). For instance, according to Schuppan (2009), until the introduction of the Ghana Community Network (GCNet) e-government initiative, bureaucratic procedures delayed imports and exports in Ghana for about up to four weeks because bureaucratic inefficiencies in exporting a shipment required making thirteen (13) copies of shipping documents which the exporter distributes personally to authorities usually in different offices for authorization. This system was very ineffective and impeded service delivery to clients. However, the GCNet initiative apart from expediting service delivery has also reduced the cost of transactions.

The introduction and use of e-government in the operations of government and its institutions have tremendously helped in the reduction and management of corruption. Schuppan (2009) in studying e-government in developing countries argued that, e-government initiatives have the ability to reduce corruption since direct contact of citizens with numerous officials is reduced because of the creation of a one-stop platform created as part of e-government initiatives. For instance, in the computerization of 20 million records of land ownership pertaining to 6.7 million farmers in India, the e-government initiative made it easier for the people to obtain Record of Right, Tenancy and Crop documents which enabled them to sell and inherit land and take advantage of agricultural credit. After its implementation it was revealed that savings in bribe previously paid to accountants was estimated at over \$18.3m US dollars, while government investment in the project was \$4.2m US dollars (Lobo and Balakrishnan, 2002: as cited in Asogwa, 2013).

E-government projects have been used all over the world to improve citizens' access to information and their participation in decision making. According to Mutula, and Mostert (2010) the governments of Australia, USA and Canada have all made progress through e-governments projects by enhancing access to information for citizens through their respective government websites and other ICT gadgets. It has also led to the enhancement of the transparency in government decision and stakeholder consultations before decisions are made by government. The Independent Electoral Commission (IEC) in South Africa in partnership with cell phone providers enabled voters to check their identity numbers through a short message service (SMS) which would help indicate their eligibility to vote without going to the office of the Commission (Mutula, and Mostert, 2010). This has also helped reduce the cost of printing documents and bureaucratic procedures for citizens and government institutions. Through the avoidance of more manual processes, the margins of error by the manual processes have been greatly reduced through the use of e-government processes.

Through e-government many governments have been able to cut-down tax fraud and improve their tax collection mechanisms. E-government initiatives have the potential to enhance tax administration and finance systems especially in sub-Saharan Africa where there is often a lack of well-functioning tax administration systems (Schuppan, 2009). Various scholars have asserted that, e-government has the potential to improve the tax revenue for governments (Torgby and Asabere, 2014; Schuppan, 2009). For example, the Tanzanian Revenue Authority introduced an integrated tax management system called the ITAX and as a result, transparency and tax revenue has increased whereas the possibilities of tax fraud and processing time have all greatly reduced (Schuppan, 2009). However, without leadership support, all these benefits cannot be realized. This emphasizes the

relevance of leadership commitment to e-government, if governments and their institutions are going to benefit from e-government projects. Various scholars have cited the importance of leadership to any e-government implementation project (Asogwa, 2013; Schuppan, 2009). But due to the high cost involved in e-government implementation, leadership support and commitment to e-government initiatives have been a challenge.

E-government has enormous benefits when implemented, but has some challenges. There are many who are still skeptical about the whole concept of e-government. People have raised concerns about turning over too much information to government even though government may seem like a benevolent organization; it is possible that parties could use this information to harm the citizens of the country (Evans and Yen, 2006). According to Iddris (2012) due to the rampant internet security and fraud issues in Ghana, citizens see the internet to be insecure and would prefer an offline medium to avoid the risk of falling victim to internet fraud. Until people build trust and feel more secured giving out their details and transacting business through the internet, the quest for governments to bring service delivery to the door step of citizens would never be realized. In view of these arguments, Asogwa (2013) in studying e-government as a paradigm shift for efficient public services for the Nigerian government articulated that, the greatest of all the challenges to e-government in Nigeria is privacy and security of the citizens.

E-government rides on the back of reliable and accessible IT infrastructure (Silcock, 2001). Iddris (2012) in studying the adoption of E-Commerce Solutions in Ghana postulated that, network infrastructure, security infrastructure, application server environment, hardware and operating systems, and systems management platform are what make up the IT infrastructure. However, most of these infrastructures necessary to

deploy technological services are lacking in most African countries. For instance, according to the United Nations (2014) Africa has a telecommunication infrastructure index of 0.1478 as compared to that of Europe and America which have 0.6678 and 0.3805 respectively with a world telecommunication infrastructure average of 0.3650. Also, the number of available personal computers and internet users in Ghana per 100 inhabitants equals 0.52 and 1.72 respectively (Schuppan, 2009). These figures depict the disparity in telecommunication infrastructure deficit which has bedevilled Africa as a continent. Without a solid IT infrastructure, e-government implementation initiatives in most countries will not materialize and may lead to the non-realization of its full benefits.

Various authors have argued that, the acceptance of e-government services have a strong link with the demographic and socio-cultural factors of a country- the percentage of the population living in rural areas, gender, age, education and income distribution are critical factors in the behaviour and the acceptance of people to patronize e-government services (Schuppan, 2009; Reddick and Norris, 2012). Mossberger et al. (2008) also asserted that, the level of education in a country has a strong correlation with the level of success of e-government implementation. The higher the literacy rate of a country the higher the rate of success of e-government and the lower the literacy rate of a country the lower the probability of success of e-government initiatives. For instance, Reddick (2005) in studying citizen interaction with e-government in the United States illustrated in his findings that, whites and the wealthy are more likely to engage in e-government services. To also emphasize, despite the population of Africa being over a billion which makes up 15percent of the world's population, only 7percent of the households have access to internet and comparing that to Europe with 12percent of the world's population has more than 75percent of its households having access to internet (United Nations, 2014). The

disparities in income distribution have a major link with the usage and accessibility of internet.

Cognizance must be given to the country specific context within which e-government initiatives are implemented. It should not be assumed that the concept of e-government is automatically appropriate for developing countries even though e-government and its related organizational concepts were developed in industrialized countries (Schuppan, 2009). Andoh-Baidoo et al. (2012) laid emphasis on the prevailing country context by arguing that, the prevailing country specific context of developing countries must be considered for the successful implementation of e-government that is, the strengths, weaknesses, opportunities and threats in reference to the political, social, economic and technological conditions of the country. It would be inappropriate to simply transfer ICT solutions and related organizational concepts from developed to developing countries, even though e-government as a global phenomenon has the potential to reduce administrative and development problems (Schuppan, 2009). Until the necessary country specific conditions are adhered to before implementation, the chances of e-government succeeding are very minimal (Lau et al., 2008).

Apart from the challenges identified above known to militate against the adoption and implementation of e-government others include- facilitating conditions such as training and support, a demonstration of its benefits before adoption , institutional readiness and availability of funds (Eze et al., 2013; Saffu et al., 2008; Gupta et al., 2008)

2.4 Theoretical Review of Perspectives on Public Policy Implementation

Governments in their quest to solve societal problems develop and implement various policies. Various authors have defined policy implementation differently but with the same focus and meaning. Van Meter and Van Horn (1975: 445) define policy implementation as “encompassing those actions by public and private individuals (or groups) that are directed at the achievement of objectives set forth in prior policy decisions. This includes both one-time efforts to transform decisions into operational terms, as well as continuing efforts to achieve the large and small changes mandated by policy decisions”. Sabatier and Mazmanian (1980: 540) on the other hand articulated that policy Implementation “is the carrying out of a basic policy decision, usually made in a statute (although also possible through important executive orders or court decisions). Ideally, that decision identifies the problem(s) to be addressed, stipulates the objective(s) to be pursued, and, in a variety of ways, "structures" the implementation process”. Throughout the implementation analysis process it is crucial to identify the issues which affect the achievement of statutory goals (Sabatier and Mazmanian, 1980).

This research employed the models by Paul Sabatier and Daniel Mazmanian (1980) and Gordon Chase (1979). The choice of the model for the study was influenced by the model which best explains the variations in the research in relation to the study of public policy implementation process.

2.4.1 The Policy Implementation Model by Gordon Chase (1979)

The policy implementation model developed by Gordon Chase examines the obstacles to the implementation of human services delivery programmes. The model can also be used as a comparative instrument in allocating scarce political, managerial and financial resources among human services programme and also as an aid to decision making within

particular programmes and to identifying obstacles that can cut across programmes. According to Chase (1979) there are three variables in the implementation of human services delivery programmes that can determine the success or failure of the programme individually or in combination. These are the difficulties arising from operational demands implied by a particular program concept; the nature and availability of resources to run the programme; and the need to share authority with, or retain support of other bureaucratic and political actors in the implementation process. Within these three variables there are fifteen sub-variables. All of these or a combination of them may be responsible for the failure in the implementation process (Chase, 1979). Under the first variable, that is the difficulties arising from operational demand implied by a particular programme concept, Chase (1979) identified sub-variables namely- the people to be served; the nature of services to be delivered; the likelihood and costliness of distortions and irregularities that may be implicit in the program concept; and the programme's controllability.

The second variable is difficulties arising from the nature and availability of resources to run the programme. The sub-variables he used to explain this variable is- money, personnel, space and supplies and technical support. Chase (1979) argues that, even assuming funds have been allocated for a programme, there will still be some outstanding issue that needs to be addressed. For instance, is the programme manager likely to get additional funding if the need arises? What is the impact and extent of any special limitation on the use of the appropriated fund? In reference to personnel, Chase (1979) argues that, if an already existing programme and the existing members of staff have the competence to implement it then there will be no need to introduce new personnel to augment the existing ones. On how easy it would be for the agency to get people with the requisite skills as well as whether the programme can attract the people with the requisite

capacity to implement the programme, Chase (1979) opines that, this will largely depend on the level of pay, the nature of work, and the working environment. In expatiating on the space, supplies and technical support, he mentions that, the quality of already existing facility, tools and equipment are very crucial for the success of programmes as well as their numbers in the right quantity. In explaining what he meant by the need to share authority with, or retain support of other bureaucratic and political actors in the implementation process, Chase (1979) used seven sub-variables to explain this variable, namely- the overhead agencies, other line managers, elected officials in the same government, higher levels of government, private sector providers, special interest and community groups and the media. The above are largely beyond the programme manager's control but each will affect the programme and the programme manager in one way or the other.

2.4.2 The Policy Implementation Model by Paul Sabatier and Daniel Mazmania (1980)

The model by Sabatier and Mazmania (1980) specifically and comprehensively identifies variables in reference to how statutory characteristics affect subsequent programmes. The primary focus of their model is on traditional regulatory policies where it aims at altering the behaviour of private target groups by governmental agencies. However, Sabatier and Mazmania (1980) asserted that, with slight modifications, their framework can be applicable to other types of policies. This is what this research aims to do. The research aims at applying the model to fit the context in which the research is being undertaken. The model distinguishes three categories of variables from the stages of implementation, which makes-up the dependent variables. The three broad categories are: (1) the tractability of the problem(s) being addressed by the statute; (2) the ability of the statute to

favorably structure the implementation process; and (3) the net effect of a variety of "political" variables on the balance of support for statutory objectives. These three categories have 16 independent variables which are related to it.

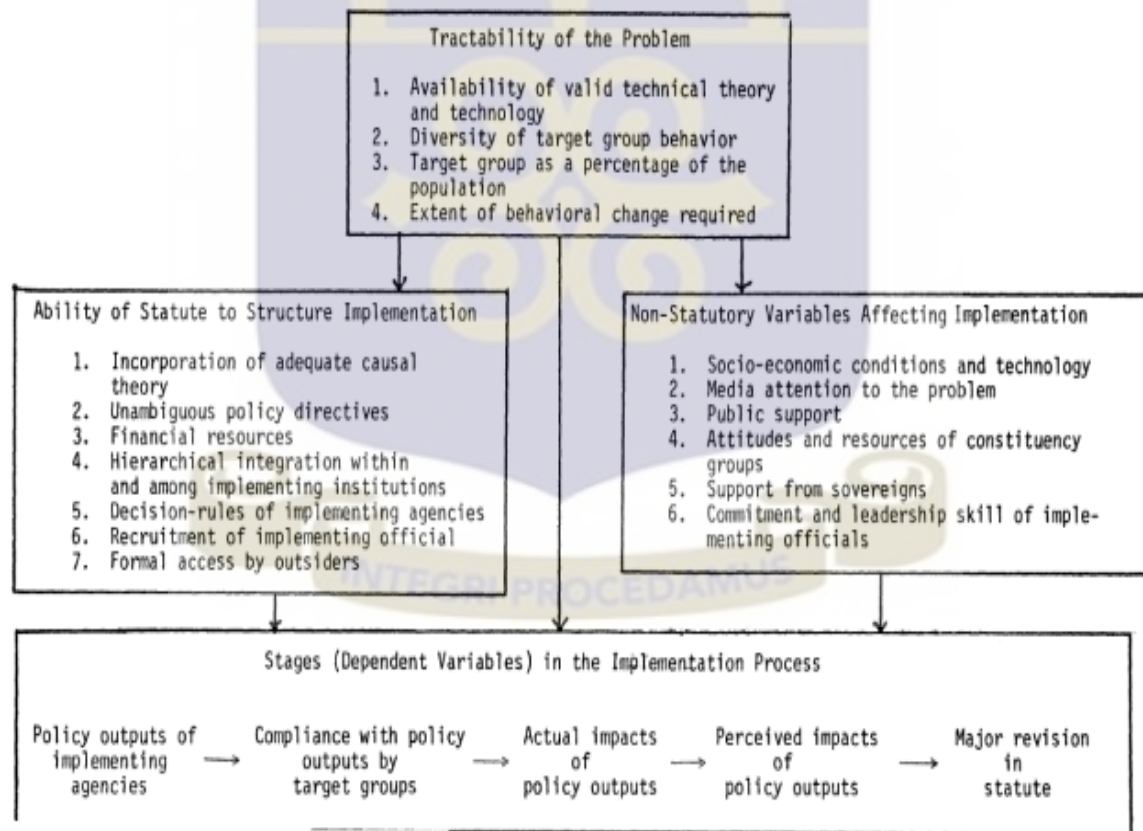
The tractability of the problem has to do with whether the social problem is easy to comprehend and deal with or not. Their hypothesis is that, "the greater the amount of behavioral change, the more problematic successful implementation" (Sabatier and Mazmanian, 1980: 544). Four (4) variables in this model are related to the tractability of the problem: diversity of target group behavior; target group as a percentage of population; technical difficulties; and the extent of behavioral change.

The ability of the statute to favorably structure the implementation process has to do with the way the implementation is structured in the statutes. From their view, "a statute constitutes the fundamental policy decision being implemented in that it indicates the problem(s) being addressed and stipulates the objective(s) to be pursued" (Sabatier and Mazmanian, 1980: 544). Seven (7) variables are related to these according to Sabatier and Mazmanian (1980)- clear, consistent objectives; adequate causal theory; financial resources; hierarchical integration within and among implementing institutions; decision rules of implementing agencies; recruitment of implementing officials; and formal access by outsiders.

The last category in the model is non-statutory variables affecting implementation. They argued that, implementation is driven by two processes: (1) the need for any program which seeks to change behavior to receive constant and/or periodic infusions of political support; and (2) the effect of continuous changes in socio-economic and technological conditions on the reservoir of support for those objectives among the general public, interest groups, and sovereigns. Also the non-statutory variables affecting implementation includes five (5) contextual and environmental factors which are: Socio-economic

conditions and technology; Public support; attitudes and resources of constituency groups; Support from sovereigns' and commitment of leadership skill of implementing officials.

Having discussed the independent generic variables in the implementation process, the discussion will now focus on the dependent variables. However, according to Sabatier and Mazmanian (1980), it must be viewed in terms of its several stages: (1) the policy outputs (decisions) of the implementing agencies; (2) the compliance of target groups with those decisions; (3) the actual impacts of agency decisions; (4) the perceived impacts of those decisions; and finally, (5) the political system's evaluation of a statute in terms of major revisions (or attempted revisions) in its content. The model lumped together all these under the heading of "feedback loop".



Figure, 2.1. The model by Sabatier and Mazmanian, (1980).

2.5 Conceptual Framework for the Study

Two models in policy implementation research- Sabatier and Mazmanian (1980) and Chase (1979) were used as reference points in an attempt to develop a context specific framework to guide the analysis of the research. These models are very relevant however, they do not have the ability to provide context specific resources for the analysis of the research data. Due to this gap, the models were used as a guide in the development of a more context specific framework to mirror the context of the research.

From the conceptual framework developed for the research, the dependent variable is e-government implementation performance whereas the independent variables are: resource challenges; operational challenges; and intra and inter agency collaborations. These independent variables will determine the effectiveness of e-government implementation at the DVLA.

2.6 Resources

Extant research has enumerated many challenges and issues that need to be addressed for the successful implementation of e-government (Bwalya and Healy, 2010; Iddris, 2012). According to Sabatier and Mazmanian (1980) until programmes are accompanied by adequate resources; however the commitment to the programme objectives, commitments will contribute little to their attainment. This echoes the importance of resources to the realization of programme objectives irrespective of the commitment levels to the programme. The resources include human, financial and logistics and equipment.

2.6.1 Human resources

Most developing countries have been bedeviled with the challenge of inadequate ICT skills over the past years in their quest to develop e-government programmes. According

to the United Nations (2014) limitations in human capacity has been one of the greatest challenges particularly to countries in the low e-government development index region. The availability of appropriate ICT skills is crucial for the successful implementation of e-government. E-government implementation requires people with the necessary-technological, installation, maintenance, designing and management skills.

Many e-government projects have failed in most African countries because technologies were adopted without accompanying human skills and capacities to manage and sustain them (Asogwa, 2013). It will remain a great challenge for African states in their quest to implement e-government if the necessary people with the requisite skills are not identified in their right numbers to manage and drive the whole implementation process. According to Chase (1979) the people mandated to carry out a task are as important as the task to be implemented. This emphasizes the importance of the kind of people who are given the mandate to implement a policy. If the people do not have the requisite knowledge and skills to carry out the task they have been assigned to, the task is bound to fail and this explains the importance of human resource to the whole e-government agenda of African states.

Organizations in Africa are not willing and ready to adopt technology due to the inadequacy of people with the requisite and necessary technological skills to manage IT infrastructures (Eze et al., 2013). This skills shortage is exacerbated by the brain drain caused by the few skilled ICT personnel and professionals leaving to work in developed countries or moving from the public to the private sector (Mutula and Mostert, 2010). Knowledge management programmes such as staff training, workshops and seminars are required in order to create the basic skills for e-government development on the continent to address the human resource development challenges. Asogwa (2013) postulated that

lots of African governments rush into e-government implementation without adequately preparing themselves to make funds available to train their staff to keep up with the rapid technological changes, thereby leading to their eventual failure. E-government implementation requires funds to train the personnel who will be implementing and managing the system. Without regular and routine training for such people, the implementation process will not be effective.

2.6.2 Financial Resources

Financial resources have been one of the ultimate hurdles for e-government implementation. Various scholars have argued that funding has been the number one barrier to e-government initiatives and a net add-on to already cash strapped government organizations in most developing countries. (Iddris, 2012; Eze et al., 2013). According to Iddris (2012) the initial cost of developing websites, hiring of technicians and website managers, paying of internet services and the acquisition of computer and its accessories are militating against the adoption of technology in most developing countries. The funding challenge to implementation was also echoed by the United Nations (2014) where it observed that a country's level of income is a general indicator of economic growth, which accordingly influences its e-government development of which Ghana is no exception. It can be comprehended that funding is very important in any e-government implementation process, however if these funds are not made available for implementing agencies, then it will be difficult for the e-government process to achieve its goals.

2.6.3 Logistics and Equipment

The inadequacy in communication infrastructure and the high cost associated with building a network structure inevitably has limited the use, expansion and diffusion of ICT

in developing countries (Asare et al., 2012). E-government rides on the back of reliable and accessible IT infrastructure (Silcock, 2001). Network infrastructure, security infrastructure, application server environment, hardware and operating systems, and systems management platform are what make up the e-government infrastructure, however, most of these infrastructures necessary to deploy e-government services are lacking in many African countries. Internet diffusion and internet charges in sub-Saharan Africa are beyond the reach of the average citizen (Asogwa, 2013). For instance, according to the United Nations (2014) Africa has a telecommunication infrastructure index of 0.1478 as compared to that of Europe and Americas, 0.6678 and 0.3805 respectively with the world average at 0.3650. These figures clearly depict the disparity in telecommunication infrastructure deficit which has bedeviled Africa as a continent.

In spite of Ghana's significant investment in ICT infrastructure, policy and regulatory framework to effectively roll out e-government services, the country faces a number of challenges with its IT infrastructure as well as its energy supply to power its IT infrastructure. Consistent supply of power is a prerequisite for an effective e-government implementation. The incessant power outage is one of the greatest challenges to e-government implementation and its development in West African States (Asare et al., 2012; Asogwa, 2013). Power as a resource is very critical for the success of e-government projects. If the necessary IT infrastructures are in place and there is no power, the whole implementation process will fail.

2.7 Operational Challenges

2.7.1 The client

The aim of e-government is to improve and bring better service delivery to people, however another issue that needs to be addressed is how to deliver the services to the intended people. Chase (1979) asserted that the ability to reach the client population easily with the service will depend on how accessible the service is to the client and how receptive the client population is to the service. There are so many people in Africa who do not have access to any internet facility even though e-government depends on the internet. The acceptance and success of e-government services have a strong link with the demographic, technological and social factors of a country- the percentage of the population living in rural areas, gender, age, access to the internet, education and income distribution are critical factors in the behavior and the acceptance of people to patronize e-government services (Schuppan, 2009; Reddick and Norris, 2012). Comparing the population of Africa to Europe, Africa has 15percent of the world population while Europe has 12percent, however, only 7percent of households in Africa has access to internet whereas in Europe more than 75percent of households have access to the internet (United Nations, 2014). This acute digital divide is really hampering the adoption and implementation agenda for most Africa countries.

Apart from the issue of access, the level of education is also another hurdle for the implementation process. Mossberger et al. (2008) argued that, the level of education in a country has a strong correlation with the level of success of e-government implementation. The higher the literacy rate of a country the higher the rate of success of e-government and the lower the literacy rate of a country the lower the probability of success of e-government agenda. Torgby and Asabere (2014) in their study to ascertain the challenges

of implementing and developing e-government asserted that, irrespective of the ICT infrastructure in place if the ICT literacy of the citizens is low, it would be difficult to achieve the full benefits of e-government. These arguments allude to the fact that as governments are taking measures to improve the ICT infrastructure of the country, they must also put measures in place to educate and ensure their citizens are ICT literates so as to ensure they derive the full benefits of e-government.

A client's level of experience with a service being introduced as well as the level of education will influence how that client receives the service. The levels of user experience and ease of use of e-government in countries with substantially lower levels of education will have users with different receptive approach and this will prevent these countries from making substantial advancement in e-government (Evans and Yen, 2006; United Nations, 2014). For instance, the world adult literacy is 84.29percent where as that of Africa is 64.65percent (United Nations, 2014). This disparity accounts for the poor e-government initiatives on the continent as compared to other continents with higher literacy rates.

Ghana's e-government implementation process has not been different from the general trends on the African continent. Awareness and trust are significant factors influencing the citizens' intention to either use e-government services to transact business with government or to access information to conduct a transaction. Various authors have argued that in accessing information on government websites the quality of information is also very significant in influencing citizens' intention to use e-government services (Rehman et al., 2011; Eze et al., 2013). There is a perception that e-government is risky, considering its immature nature as well as prior disappointing experiences (Johnson, 2012). For instance, according to Iddris (2012), issues of internet security is gaining prominence with

the emergence of “Sakawa” cyber fraud activities perpetrated by some Ghanaian youth which is creating a perception of doom amongst people in relation to the internet. Hence, it is of the utmost pertinence that people understand the need for e-government and its associated benefits before implementation.

Comprehensive education and awareness must be created for people to understand and appreciate the benefits ICT will offer should they employ it in their business operations before implementation (Evans and Yen, 2006; Eze et al., 2013; Reddick, 2005). The diversity of behavior of clients to be served can be very difficult for implementation thus making the success of the whole process difficult to achieve. Some of this diversity may arise from differences in educational level, trust, awareness and others (Sabatier and Mazmanian, 1980).

2.7.2 Nature of Services

Also due to the complexity and the great diversity of technology, public organizations face great levels of uncertainty in developing and implementing e-government services (ITU, 2008). Services rendered in one country with a high margin of success does not necessarily guarantee success when the same service is rendered in another country without considering the complexities associated with the service and the prevailing socio-cultural, economic and technological conditions in that country. According to Schuppan (2009) it should not be assumed that the concept of e-government is automatically appropriate for developing countries even though e-government and its related organizational concepts were developed in industrialized countries.

Andoh-Baidoo et al. (2012) laid emphasis on the prevailing country context and the nature of service to be rendered, by arguing that, the prevailing country specific context of

developing countries must be considered for successful implementation of e-government. These peculiar country-specific issues include the strengths, weaknesses, opportunities and threats in reference to the political, social, economic and technological conditions of the country which ought to be well thought through to make a particular service and its complexities fit into the country context (Andoh-Baidoo et al., 2012). Due to direct transfer of services from one country to another country without first looking at the nature of the service in reference to the country specific conditions, many intelligent programs and projects are failing. It would be inappropriate to simply transfer ICT solutions and related organizational concepts from developed to developing countries, even though e-government as a global phenomenon has the potential to reduce administrative and development problems (Schuppan, 2009). Therefore, implementers of e-government programs must understand how to customize e-government initiatives that tie-together complex technology based initiatives with organizational and country structures (ITU, 2008).

2.8 Inter and Intra Agency Collaborations

The level of coordination and integration existing amongst the departments of an agency can either make or unmake the achievements of the goals of the agency. Touted to be the antidote for the problems of fragmentation and duplication, inter-agency collaboration is imperative in the areas of human services, policy making and service delivering if organizations are going to address structural challenges and promote better coordination of services (Sowa, 2008). According to Sabatier and Mazmanian, (1980), one principal obstacle to programme implementation is the difficulty in obtaining collaboration and coordination within an agency and among the various semi-autonomous agencies involved in the implementation process. However, collaboration and coordination within and

amongst agencies in the implementation process does not guarantee the instant success of a policy or programme (Van Meter and Van Horn, 1975).

Collaboration refers to “any joint activity by two or more agencies working together that is intended to increase public value by their working together rather than separately” (Bardach, 1998: 8). From the definition, before the services which are intended to increase public value can be realized, agencies must work together with some level of understanding. This understanding and collaboration can only be achieved through leadership support for programmes. This goes on to highlight the importance of leadership and their commitment to the whole process of e-government as alluded to by Asogwa (2013) in his study in Nigeria. However, leadership support was identified to be a major challenge for e-government initiatives in Nigeria (Asogwa, 2013). For instance, countries like Egypt and Mauritius whose financial bases are not better than Nigeria’s can be rated higher in the UN e-government global rankings, then the problem of Nigeria is a lack of dynamic and patriotic leaders to effectively implement e-government initiatives (Asogwa, 2013).

The degree of looseness of integration and coordination of a programme and its agencies has a strong correlation with the success of the programme and behavioral compliance among implementing units, officials and target groups (Sabatier and Mazmanian, 1980). One of the most important attributes of any programme is the extent to which it hierarchically integrates and coordinates the implementing units and their functions. Fedorowicz et al. (2010) asserted that various challenges impede inter and intra organizational collaboration and information sharing in reference to e-government

implementation and these include incompatible software and data formats, antiquated systems, limited resources, security and privacy concerns.

Sowa (2008) argued that, inter and intra agency collaborations also involves the sharing of tangible and intangible resources amongst agencies and departments such as; staff, funding and professional knowledge which moves the cooperation into a formalized and institutionalized structure. Apart from some of the challenges attributed to Fedorowicz et al. (2010), Yang and Maxwell (2011) also postulated that organizational structure and bureaucracy; organizational culture, values, and norms; self-interest and cost-benefit analysis; incentive and reward; trust; power games; and IT capability of the organization are some of the factors that can also influence intra and inter-organizational collaboration.

No organization is an island, it is the same with various government agencies. They depend on each other for information and resources in the implementation of their programmes. The sharing of information and resources can only be facilitated through effective communication. Sakyi (2010) in studying the communication challenges in implementing health sector decentralization in Ghana asserted that, the role of communication is unique in the entire policy cycle starting from setting the agenda of a policy to its implementation. He further argues that effective communication provides a clear understanding of the problem that the policy seeks to solve for any policy and implementation to occur. However, a vicious cycle of communication gaps are created between managers and subordinates when the basic channels of communication are not used effectively (Sakyi, 2010).

Inter and intra-agency collaborations have become imperative for the efficient and effective delivery of services to customers and the organization at large. For this to be realized, the following must be operationalized; a culture of information stewardship as

opposed to ownership must be promoted within the organization; legislative and regulatory mandates must be initiated; efforts to share information and collaborate must be strongly supported by leadership and an environment of trust must be developed based on a mutual understanding of needs and shared responsibility (Yang and Maxwell, 2011; Smith and Mogro-Wilson, 2008).

When different government agencies and organizations are involved, the factors that influence inter-organizational collaborations become more complex and diversified (Yang and Maxwell, 2011). For instance, Citizens have less choice when it comes to obtaining a professional license or registering a car. These processes involve different departments and other organizations. They must provide their personal data. However, as e-government expands and government functions become integrated and inter-agency collaboration gradually increase, it is important for officials to weigh the legal and ethical implications of data collected and how they are shared with other organizational units and agencies in the execution of functions especially in countries where privacy laws do not provide guidance (Fedorowicz et al., 2010). These legal and security issues can influence how data is shared which can also affect the success of a programme especially when collaborating agencies are not forthcoming with data to help in the implementation process.

Various issues have been raised about the influence of data sharing to aid the implementation of e-government. However, Fedorowicz et al. (2010) argued that even though public officials are required to provide information especially when that particular activity is legal, once the information is disclosed, the data subjects lose control over how it is subsequently used and this raises privacy problems. Therefore it is important that

necessary measures be taken in sharing information to smoothen inter and intra agency relationships and collaborations.

There is a relationship among all three independent variables of the study and the degree of goodness or otherwise is very critical to the effectiveness of implementation. As much as the adequacy of resources can enhance the effectiveness of the implementation process, operational challenges and weak inter and intra organizational collaboration if not managed effectively can derail the whole implementation process. Based on the various models and concepts reviewed, the conceptual framework below was developed for the study.

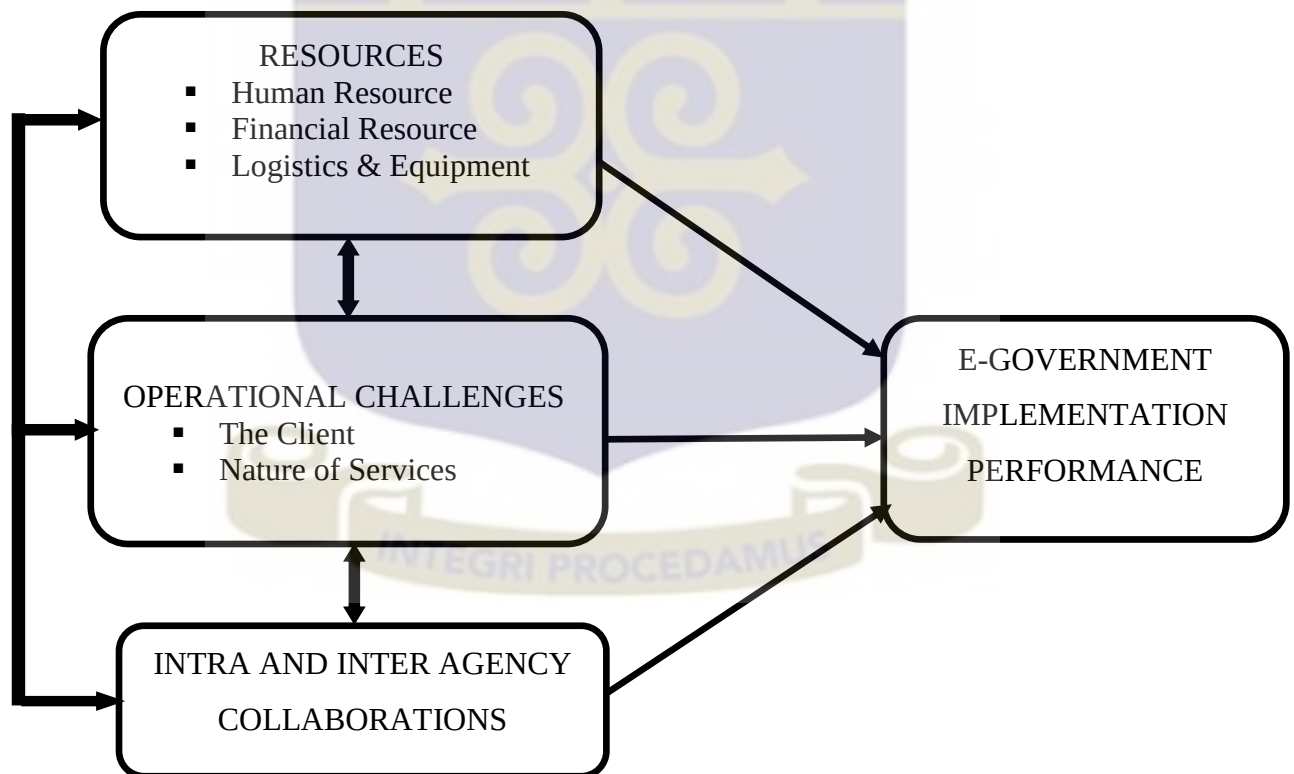


Figure 2. 2. Conceptual framework for the study

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This section discusses the methodological approach that was employed in undertaking this research. It presents an explanation of the various activities that was done during the research. It covers the research paradigm, research design, sources of data, study area, sampling technique, target population and sample size. It also discusses the data collection and the instruments that were used, the framework for data analysis, data management and ethical consideration. The final part presents the experiences the researcher gathered, the limitations and problems that were associated with the conduct of the study.

3.1 Research paradigm

The paradigm for the study was the social constructivist or interpretivism paradigm. The interpretivist paradigm was chosen for this research because it provided the researcher an opportunity to seek multiple and varied meanings to the phenomenon under study and also look for complexity of views, participants view of the phenomenon under study rather than narrowing the meanings into some few ideas (Creswell, 2003). Secondly, the paradigm assisted in an exploratory approach to a phenomenon like e-government implementation challenge which is context dependent due to the differences in the socio-cultural, economic, political and technological settings of the participants which will facilitate an inordinate comprehension of issues (Creswell, 2003). This represented the researcher's personal views of exploring and interpreting meaning beyond what is considered a complete truth.

3.2 Research Design

The study employed the qualitative approach of social research. This approach was used because it provided a comprehensive understanding of the context within which the social phenomenon is occurring and the challenges that pertain to that specific context. Moreover, it provided a clear representation of the understanding and meanings the people who were experiencing the social phenomenon ascribe to the issues. It also gives contextual interpretations and outcomes of the social phenomena from the perspectives of the subjects involved (Bhattacharjee, 2012).

In lieu of the above, the case study approach within the qualitative design was adopted. Once more, the case study was deemed the most appropriate method to realize the research objective. According to Bhattacharjee (2012), in using a case study, a phenomenon can be studied from multiple participants' perspective using multiple levels of analysis, for instance individual and organizational. As an empirical enquiry to explore a modern social phenomenon in a real life situation, the case study provided the study with a more purposive and general approach to comprehending the phenomenon of e-government implementation in Ghana. It becomes more relevant and appropriate to adopt the case study approach for a social research especially when the phenomenon is contemporary and context specific to real life situations and the researcher has minimal control over proceedings (Yin, 2003). Another reason for the use of the case study is that it provides multiple methods for data collection, which includes interviews, observations, pre-recorded documents, secondary data and inferences about the phenomenon under study and tends to be detailed and contextualized (Bhattacharjee, 2012). These reasons provided the flexibility to collect the necessary field data from varied sources including interviews

and secondary sources such as documents, articles, archival records and the internet among others.

3.3 Unit of Analysis

3.3.1 The Study Organization

To achieve the research objective, the DVLA was used as the case study. The DVLA offers the relevant and appropriate context for the study. Moreover, it is one sector where interaction between the government and citizens occur very often. Over the years, the DVLA has been under severe criticism from the people of Ghana for poor service delivery and poor management of client data. In the Authority's quest to address these challenges it adopted and implemented its e-government initiative.

The Driver and Vehicle Licensing Authority (DVLA) is a semi-autonomous public sector organization under the Ministry of Transportation. It was established by Act 569 of 1999 to be responsible for ensuring road safety. Before the enactment of the DVLA Act, the Department was called Vehicle Examination & Licensing Division (VELD). The Authority is mandated as provided in the DVLA Act, Act 569 of 1999 to promote good driving standards in the country, ensure the use of roadworthy vehicles, as well as provide for other related matters. Its vision is to be a reputable institution with internationally accepted standards for driver and vehicle licensing. The DVLA is also responsible for setting guidelines for vehicle construction and use for the public. To achieve its objectives, the DVLA has the following functions:

- Establish standards and methods for the training and testing of driving instructors and drivers of motor vehicles and riders of motor cycles

- Establish standards and methods for the training and testing of vehicle examiners
- Provide syllabi for driver training and the training of instructors
- Issue driving licenses
- Register and license driving schools
- License driving instructors
- Inspect, test and register motor vehicles
- Issue vehicle registration certificates
- Issue vehicle examination certificates
- License and regulate private garages to undertake vehicle testing
- Maintain registers containing particulars of licensed motor vehicles, driving instructors, driving schools and drivers of motor vehicles

In its quest to improve service delivery to its clients, in April 2008, the DVLA announced the Computer Based Technology (CBT) system which has the following reforms;

1. Automation of foreign license conversion
2. Automation of International drivers permit
3. Automation of learner's license
4. Automation of license upgrade and proficiency test
5. Automation of vehicle registration
6. Automation of license renewal

The CBT was introduced to replace the manual driving test system and licensing processes that has been in operation over the years since the Authority was established.

The manual system was plagued with problems including fraud, human interference and influence in the testing process, impersonation and leakage of the driving test questions. The project, a collaboration between the DVLA and Fleet Technologies Limited, an on-line information provider is the first in West Africa. The CBT system is expected to address the short falls of the manual system as well as promote accountability and transparency in the administration of driving test and the issuance of licenses. The new system allows clients to log on to the web site of the Authority to register and access its services before coming to the Authority for the online driving test.

The principal objective of the CBT system is to re-engineer the procedures and processes of the Authority leading to a workflow that promotes efficiency and accountability. Since the introduction of the CBT system in 2008, it had been running concurrently with the manual system until 2014 when the latter was finally abolished.

3.3.2 Sources of Data

Taking into cognizance data triangulation, multiple data collection procedure was employed. The sources of data included both secondary and primary data. The data collected from primary sources consisted mainly of data from the study participants which were done using one-on-one in-depth interviews. In view of the objectives and nature of the study, the open ended interview gave participants the freedom to express their sentiments and experiences about the phenomenon under study without any limitations. The primary data was gathered from five (5) departments within the DVLA and one Private Vehicle Testing Station (PVTS) namely, Management Information Systems (MIS) Department, Finance Department, Human Resource Department, Procurement Department and Administration Department.

The data from secondary sources comprised of the review of existing literature consisting of published and unpublished reports on e-government. Other sources included books, peer reviewed journals and the internet. These various sources were reviewed, providing valuable introductory knowledge for the study which also informed the interview guide and the probing questions asked in the field. It also provided guidance during the analysis of field data.

3.3.3 Target Population

The target population for the study was the staff of the DVLA. The MIS department is the main department in-charge of implementing the online registration and computer-based theory driving test which is one of their core functions. The MIS department has five officials working in the department. For the purposes of data validation respondents from other departments such as the Finance Department, Administration, Human Resource Department, Procurement Department and Private Vehicle Testing Stations were chosen because they collaborate with the MIS department to perform their functions as well as aid in the implementation of the online registration and computer-based theory driving test.

3.3.4 Sample Size

Sample size for the study was made up of twelve (12) respondents. The departments for the study included Finance Department, Administration, Human Resource Department, Procurement Department and Private Vehicle Testing Stations. The respondents included the Deputy Director of MIS, Senior Systems Administrator, Director of Finance and Administration, Deputy Director of Administration in charge of Human Resource, Director of Procurement, Revenue Manager and Assistant Manager in Charge of Client Service, Two Data Entry Officers and the Officer in Charge of License Verification.

Lastly, at the PVTs the Executive Officer and the Senior Technician in charge of Engineering were interviewed. It is worth mentioning that the Directors heading the various departments and unit were interviewed. The twelve (12) respondents were used because the online registration and computer-based theory driving test is mainly implemented by the MIS department which has five (5) staff of which two were interviewed. To validate the findings from these two respondents in the MIS department other departmental heads and PVTs officials were interviewed which accounted for the twelve (12) respondents. According to Barnes and Vidgen (2006), to validate and crosscheck the findings of qualitative research, the data must be triangulated. The Twelve (12) respondents were deemed appropriate since they captured all the necessary respondents who were relevant for the implementation of the online registration and computer-based theory driving test.

3.3.5 Sampling Technique

As an exploratory study, the non-probability sampling technique was employed. There are different types of non-probability sampling techniques available and these include; quota sampling, purposive sampling, Sequential sampling, snowball sampling, Deviant case sampling, Haphazard sampling and convenient sampling (Neuman, 2007). The type of non-probability technique used for the study was the purposive sampling technique. The use of this technique offered the researcher opportunity to select predetermined people with the requisite technical knowledge and experience which aided in-depth investigation about the phenomenon under study. According to Creswell (2003), in purposive sampling, the units or individuals are selected based on their experience and knowledge and this is central to a phenomenon like e-government.

3.4 Instrumentation and Data Collection Procedure

The study used Key Informant Interviews (KIIs) as its main research technique for data collection. However, observations and pictures were also used when necessary to gather data as well. A one-on-one in-depth interview method was used and this gave participants the freedom to express their sentiments and experiences about the phenomenon under study without any limitations. This provided the opportunity to discuss with the various respondents, the phenomenon, its challenges and how it has affected the operations of the Authority and contributed to the enhancement of service delivery to clients. All interview respondents were fluent in the English language so all interviews were conducted in English.

To minimize possible human errors and biases, different members of staff from the same organization were interviewed; this helped during the cross-examination of responses to ensure accurate and reliable data. The respondents included the Deputy Director of MIS, Senior Systems Administrator, Director of Finance and Administration, Deputy Director of Administration in charge of Human Resource, Director of Procurement, Revenue Manager, Two Data entry Officers, the Officer in Charge of License Verification and the Assistant Manager in Charge of Client Service. Lastly, at the PVTs the Executive Officer and the Senior Technician in charge of Engineering were interviewed.

All these were done with the aim of ascertaining the extent to which the Authority has exploited e-government and the challenges it is facing. In all, twelve (12) respondents were interviewed. The selection of the twelve (12) key respondents from the DVLA was based on their professional expertise and roles they play in the implementation process. Also twelve (12) respondents were used due to data saturation as the interview progressed

new issues ceased to emerge and identical issues were repeated by subsequent respondents, thus informing the decision to end the interviews. According to Marshall (1996) research data collection can end when new categories or explanations stop emerging from the data due to data saturation.

Only one interview guide was used for the research, however it was divided into three sections. It was designed in such a way that there were general questions for all respondents but there were specific questions aimed at specific respondents based on their knowledge about specific issues. For instance, questions relating to challenges to funding the online registration and computer-based theory driving test were aimed at officers at the finance and procurement departments.

3.5 Data Management and Analysis

This section of the thesis dealt mainly with how the entire research data was managed, which involved all the activities that transpired on the field through the analysis stage to the presentation of the final conclusions of the study. Qualitative analysis refers to “three concurrent flows of activity: data reduction, data display and conclusion drawing and verification” (Miles and Huberman, 1994: 10). The study employed this approach in analyzing the entire data collected from the field. The recorded interviews and the notes were all transcribed and documented and later sorted into categories that fell under the three main objectives of the research. The findings from the field were constantly compared to the literature review findings to ascertain contrasting conclusions and similar views and conclusions in the literature.

3.6 Ethical Considerations

It is very essential for every social research to adhere to standard ethical principles in the conduct of social research. This promotes and protects the interest of the research respondents. Neuman (2007) asserted that, the ability of a researcher to act ethically involves the researcher balancing the value of non-interference in the lives of the respondents and the value of advancing knowledge. He further argued that, researchers have an obligation to secure prior voluntary consent when possible, avoid causing unnecessary or irreversible harm to respondents or make public harmful information collected about an individual for research purposes.

Prior to each interview, the potential risk and benefits as well as the objectives of the research were duly communicated and clarified to respondents. Respondents were given the opportunity to ask questions at any stage of the interview. Respondents were assured of their anonymity and confidentiality in the research before and after the interview session and any information they gave out was treated as such. This led to respondents reposing some confidence in the researcher. The researcher also sent back the transcript of the data to respondents to confirm responses generated to ensure that the researcher did not alter and falsify any information provided by the respondents.

3.7 Research Validity and Reliability

Issues of research validity and reliability are critical to the authenticity of every qualitative research findings. Research reliability refers to “dependability or consistency” whereas research validity refers to “truthfulness and as the match between a construct, or the way a researcher conceptualizes an idea in a conceptual definition, and a measure” (Neuman, 2007: 115). He further opined that validity is all about actual reality that is how an idea fits

reality. For qualitative researchers in their quest to get the actual reality, they create a tight fit between the social world and what is actually occurring in it and their understanding, ideas and statements about the social world (Neuman, 2007). The comprehension of validation and reliability served as a guide in the strategy to adopt in the collection of research data and its analysis. During the conduct of the interviews, the researcher spent lots of time with participants with the aim of building trust. Follow-up questions were asked for clarifications on ambiguous responses in enhancing the validity of the data obtained.

Secondly, in strengthening the validity and reliability of the study, evidence from multiple sources of data were corroborated. Data sources which included field interviews, official reports, documents and secondary sources served as valuable sources of data from which the triangulations were made to ensure the validity of the study. These multiple data sources also further enhanced the reliability of the research findings.

The study also relied on research seminars which were conducted by the Department of Public Administration and Health Services Management (DPAHSM) which served as a peer review for the study. During these research seminars, colleague students and lecturers constructively critique the research methods and the interpretation of the initial findings; this review greatly helped shape and ensure robustness of the research. Also, the experiences and knowledge of the research participants really enhanced the data which were collected from the field and this also enhanced the reliability of the research. The interview protocol used for the interviews have been attached as an appendix.

3.8 Field Experience

Challenges associated with research work are nothing new to all researchers. The field work that is data collection poses challenges in every social research. There were some challenges encountered during the data collection process even though some were manageable. They included unavailability of respondents, data transcriptions, unwillingness of some respondents to be voice recorded and bureaucratic bottlenecks.

Prior to each interview session, a copy of the interview protocol was made available to respondents to glance through to acquaint themselves with the interview questions.

“Bureaucratic bottlenecks” was a major challenge. Prior to conducting the interviews, an introductory letter from the University of Ghana was submitted to the DVLA to formally inform the Authority about the objectives of the research. However, after submitting the introductory letter it took ten days to get authorization to begin the interview process. Even with the introductory letter, the respondents still insisted on another letter from the office of the Director of the Authority permitting them to grant the interview.

Another challenge encountered was the unavailability of respondents. Most respondents were either busy or had travelled. To address this issue calls were made to respondents to book appointments with them. However, it was still difficult for respondents to honor the appointment due to some emergencies leading to the rescheduling of the interviews.

Refusal of some respondents to be voice recorded was another challenge. Some respondents refused to be voice recorded citing the inundation of scandals with recorded voices. However, after assuring them of confidentiality and their anonymity in the study some agreed to be recorded but others still refused and insisted that the interview be written. Some also refused to answer some of the questions. The researcher had to explain

to the respondents that the interviews were strictly and purposely for academic work. When the problem still persists the researcher reframes and explains the question to the respondent.

During the interview sessions, one other challenge was interruptions from colleagues and subordinates of the respondents asking them to attend to some official duties. In such instances the interviews were put on hold until respondents' return. However, in some instances the respondents never return and the interview sessions had to be rescheduled and continued at a different date and time.

Transcribing the recorded interviews was another hurdle. It was very stressful and time consuming. Some of the recordings were lengthy because respondents elaborated on issues which were not relevant to the topic under discussion. The transcriptions were all done by the researcher, giving the researcher a better comprehension of the data which facilitated a comprehensive analysis and discussions of findings. Despite these challenges from the field of study, the research was able to acquire the information needed for the study made possible through persistence. In conclusion, it was hectic and quite challenging however, respondents were generally cooperative and very supportive of the whole process.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.0 Introduction

This chapter analyses and discusses the data from the field of study. The discussion and analysis was done under the following three main themes to coincide with the objectives of the study which are fundamental to the successful e-government implementation at the DVLA. Sub-themes which emerged from the data were also discussed under the three main themes

4.1 Resources

For the purposes of this research, resources refer to human, financial and logistics and equipment for the effective implementation of e-government at the DVLA. The resource challenges are discussed below together with the role they played in the implementation process. Resources are very critical to ensure an effective implementation of every public policy.

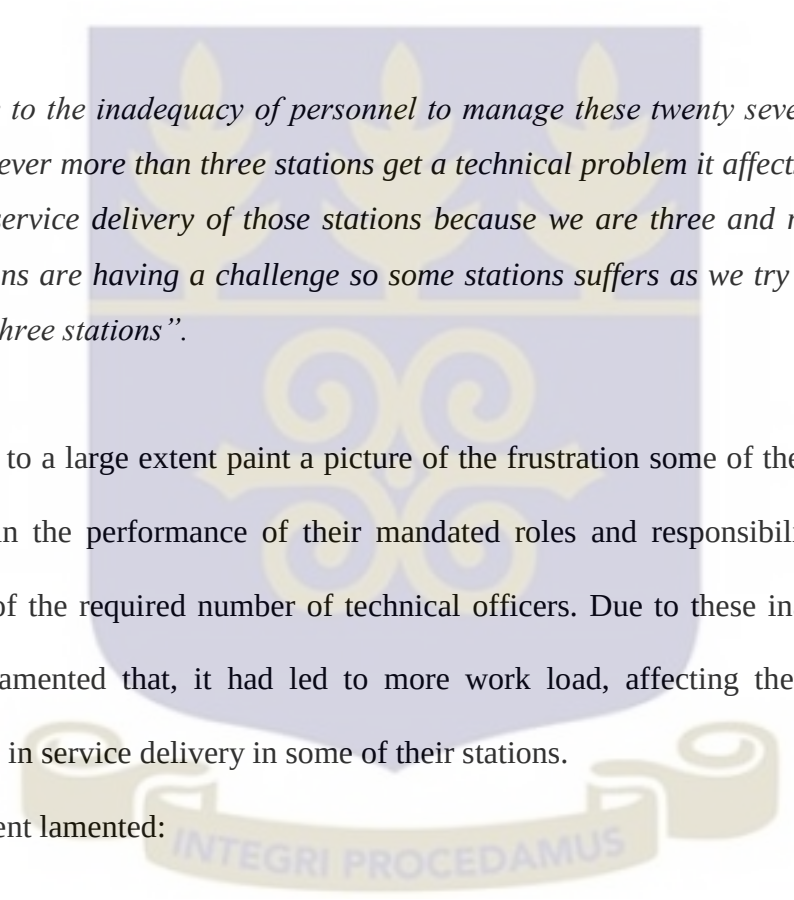
4.1.1 Human Resource

Implementation of information technology initiatives for government institutions over the years has been bedeviled with challenges of human resource shortages. Human resources deficit have been identified as one of the major hurdles for effective e-government implementation in most developing countries. The provision of adequate human resources to help public sector institutions adopt and implement ICT initiatives have been very challenging in Ghana. The situation is not different from what pertains at the DVLA in its

quest to implement e-government. The unavailability of qualified and experienced personnel had serious implications for the Authority in the implementation process.

When respondents were asked, if the DVLA had the required number of human resource capacity. They responded in the negative. The findings revealed that, the Authority has twenty seven (27) Stations nationwide however, there are only three (3) officers to manage these twenty seven stations.

One participant observed:



“Due to the inadequacy of personnel to manage these twenty seven (27) stations, whenever more than three stations get a technical problem it affects the operations and service delivery of those stations because we are three and more than three stations are having a challenge so some stations suffers as we try to attend to the first three stations”.

The findings to a large extent paint a picture of the frustration some of the officers had to go through in the performance of their mandated roles and responsibilities due to the inadequacy of the required number of technical officers. Due to these inadequacies, one respondent lamented that, it had led to more work load, affecting the efficiency and effectiveness in service delivery in some of their stations.

The respondent lamented:

“We are pushing and calling on the Authority to employ more hands since the workload is too much for us. This is also affecting our efficiency and effectiveness”.

Training is critical to the long term survival and existence of every organization. Without training for the human resource of the organization, the organization and the staff may become obsolete to the dynamic demands of the environment in which the organization

operates. Training was crucial in the e-government implementation process for the DVLA since people are in charge of the implementation.

In reference to the challenges of human resource, the respondents were asked whether the Authority has been organizing any training programmes for the staff. The study found that, the Authority has been engaging in some training for their staff using both internal and external means for its training processes. It had internal training facilities that it uses for its internal training programmes for its staff. However, the Authority also seeks other external training programmes to help enhance the ICT skills of its employees, with the type of training informing whether it will be internal or external. Commenting on the training issue a respondent asserted that:

“The Authority is very critical about training for its staff and knows how vital the training programme is to the development of staff. We know that without training for our staff, implementation of certain technical and non-routine activities will be affected”.

These findings indicate that, training is crucial for every implementation programme since it enhances the abilities, knowledge and skills of organizational staff.

On the frequency of the training and development programmes for staff, the study found that, it was not regular and routine. This was due to inadequate funding for training and development. Even though funds were provided for the e-government project implementation at the DVLA, the funds were not enough to cater for the regular and routine training needs of staff who administer the project. This had created a gap between the people implementing the programme and the skills they will require to implement the programme. According to an official:

“Funding for staff training has been a major challenge for us, even though we know the critical role of training for our staff in this project, funding has not been forthcoming regularly so we can’t organize regular and routine training for our staff”.

In order to introduce a change to an organization, people must be informed about the impending change. When respondents were asked about their knowledge of the implementation of the new automation system, most of them alluded to the fact that they were duly informed through seminars and meetings. However, two (2) respondents who had recently joined the Authority said they were informed about it a month after they joined the organization. Four (4) of the respondents were of the opinion that, the organization must still do more to prepare staff to understand and accept the change. One respondent lamented that:

“Yes the Authority took some measures to inform us but they were inadequate and some of us still don’t really understand the concept and even how to use some of the ICT gadgets. Issues of training have not been frequent to make us conversant with the new technology”.

There should be more involvement of staff from other departments to help manage their concerns about the change even though the MIS department is the main implementing department of the project. This is to ensure that when these members of staff from other departments come into contact with the new system in the execution of their responsibilities, they will not encounter challenges.

The findings correlate with United Nations (2014) findings that the greatest challenge particularly to countries in the low and middle e-government development index region

has always been inadequate human resource capacity. Ghana is categorized as having middle e-government development with an index of 0.3735 below Tunisia, Mauritius, Egypt, Seychelles, Morocco, South Africa, Botswana, Namibia, Kenya and Libya who are the best rank in Africa from first to tenth respectively (United Nations, 2014). The 2014 e-government ranking shows Ghana occupying 123rd position out of 193 countries surveyed.

It will always be a great challenge for African states in their quest to implement e-government if the necessary people with the requisite skills are not identified in their right numbers to manage and drive the whole implementation process (Asogwa, 2013). The findings of the study show that, inadequate human resources is a major challenge to e-government implementation at the DVLA. The findings correlate with the findings of Asogwa (2013) and Eze et al. (2013) that inadequate human resource is a key challenge to e-government implementation in most developing countries. A lot needs to be done to improve this human resource capacity deficit. Due to this deficit, organizations in Africa are not willing and ready to adopt technology due to the inadequacy of people with the requisite and necessary technological skills to manage ICT infrastructures (Eze et al., 2013).

ICT is dynamic and keeps evolving, there is always going to be an increase in its complexities and subsequently its management. There is therefore the need to have routine and frequent staff training. Only through these training programmes can staff acquire new abilities to be able to handle and manage these complexities associated with ICT. The findings of the research show that, training and development for staff of DVLA in ICT was irregular due to the inadequacy of funding. However, without proper training and

development for the people who are to implement and manage these e-government initiatives, its implementation will be ineffective. The point of inadequacy of routine and regular training and development corresponds with the work of Asogwa (2013).

4.1.2 Financial Resources

The main source of revenue for the DVLA is its Internally Generated Fund (IGF). There was no financial support for the implementation of the automation project from central government. The implementation of the e-government project is wholly funded by the Authority. During the interview, all five officials at the Head Office of the DVLA complained about insufficient funding for the project. There was a general view that the Authority does not have enough financial resources to implement the automation project.

One respondent asserted that:

“Financial resources I would say is a challenge. Even though we knew this was going to be a challenge, we still went ahead with the implementation and this was why we are implementing the project in phases. Moreover, the Authority receives no financial support from central government”.

When respondents were asked about the source of funding for the project, it was found that, in accordance with Section 18 of the DVLA Act, Act 569 of 1999, the funds of the Authority shall include; monies provided to the Authority by Parliament for the performance of its functions; loans granted to the Authority and grants. Section 19 (2) of the Act mandates that, monies obtained by the Authority in the performance of its functions shall be paid into the Consolidated Fund. However, the Authority retains fifteen (15) percent of all revenues that it generates for each financial year. Due to the retention of

15 percent of all internally generated fund of the Authority, it was able to solely fund the e-government program without any external assistance from central government.

A respondent said:

“In 2008, the government of Ghana gave the DVLA approval to retain fifteen (15) percent of all internally generated funds and pay the remaining amount into the consolidated fund. Because of this phenomenon we don’t source for funding from the Ministry of Finance and any other external source and that’s what we are using for the e-government project”.

The respondent went on to say that, due to this retention, the Authority has been able to lessen its financial resource challenges a little. The fifteen (15) percent retention was also a major push factor for the Authority on embarking on the project implementation.

Financial planning is very crucial for the long term survival of every e-government programme. This has become very expedient for most public sector organizations since financial resources are very limited and economic indicators such as exchange rates and inflation keep on changing. The findings of the research also revealed that Ghana’s unstable economic environment is affecting the financial plans of the Authority. A respondent asserted that:

“The economic environment has not been favorable for the Authority at all especially with its financial planning. We always have to look for extra funds we have not budgeted for to be able to meet our financial obligations in the implementation process since inflation and exchange rates keep changing. For example last month we made provisions to acquire some ICT gadgets but by the time the Authority was ready to acquire them, exchange rates have gone up so the Authority had to look for additional funds to augment the one it budgeted for since the ICT gadgets were going to be imported”.

Five (5) out of the twelve (12) respondents mention this as a challenge to financial planning which they said affects the financial resources budgeted for in the implementation process. In its financial planning processes, it was revealed that the Authority uses the projected economic figures in the national government budget to help it make room for contingencies. However, this figures in the national government budgets always end up being very high which brings more financial burden on the Authority.

Irrespective of how brilliant and feasible a policy might be, without the necessary financial resources to implement, such a policy will never succeed. One of the major challenges to e-government implementation in most public sector organizations in Ghana has been the challenge of finance. According to Sabatier and Mazmanian (1980) until programmes and policies are accompanied by adequate financial resources; however the commitment to the programme objectives, commitments will contribute little to their attainment. This echoes the importance of resources to the realization of programme objectives irrespective of the commitment levels to the programme. The findings from the research corroborates with the assertion of Sabatier and Mazmanian (1980). It can be argued that, financial resource to fund the e-government project at the DVLA was a major problem. The financial challenge that is affecting the DVLA in its quest to implement its e-government agenda corresponds with other works by Eze et al. (2013) and Iddris (2012).

4.1.3 Logistics and Technical Equipment

For every successful implementation process, the availability of logistics and equipment play a very critical role. Aside the challenge of financial resources another issue that came up was the challenge of logistics and technical equipment. Even though the DVLA was

importing most of the equipment for the implementation process, they could not meet all the logistic and technical equipment that was needed for the project. There were inadequate computers, printers, Uninterruptible Power Supply (UPS), Ethernet Cables to connect to the internet etc. All twelve (12) participants alluded to the fact that inadequate logistics and technical equipment were a challenge. One (1) respondent said;

“We don’t have enough equipment to work with and this is posing a great challenge to project implementation. Now I’m even uploading some data of some clients and the computer I’m working on doesn’t have a UPS. When the power goes off all the data will be lost and I have to start all over again. Because of this I have to save the work after every ten minutes. Also when I have to print the data I have to go to the next office to print there because I don’t have a printer in this office and the computer is not connected to the internet. So I usually use a flash drive to copy and print”.

There is a strong correlation with the assertions made by the respondents and the financial constraints cited earlier since without adequate financial resources acquisition of logistics and equipment would become problematic.

Information Communication Technology is not static but very dynamic. Implementers of e-government projects must take cognizance of technological trends and update their systems to be up to speed with current technological trends. When respondents were asked to indicate the factors that have been a challenge for them in their offices since the introduction of the e-government project, six out of the twelve (12) cited the problem of rapidly changing technological trends and storage devices. One major challenge with information technology has been the challenge of changing storage devices. In the view of a respondent:

“Taking into account the dynamic and rapidly changing storage devices, adjusting becomes very difficult since there are insufficient means for the Authority to keep updating the storage devices every time there is a change. So as you can see some of us are still using the flash drive to store data when there are better options”.

E-government implementation is very expensive; apart from implementation, it requires constant and regular updates of equipment and software. Without constant updates the equipment and software will become obsolete.

Another challenge that was raised by respondents was the issue of access to internet facilities within the DVLA. The implementation of the online registration and computer-based theory driving test relies on internet connectivity to ensure effectiveness. Without this internet connectivity, the project implementation will fail. In Ghana access to stable and reliable internet connectivity is a major challenge as identified by the findings. The diffusion of internet into the other regions of Ghana apart from Accra which is the capital city has been predominantly slow. Some of the respondents cited the poor ICT infrastructure of the country to be the major barrier to internet diffusion and the use of e-government services. An official lamented that:

“Because of the poor ICT infrastructure in the country, access to internet to allow clients to register is a major problem. If the Authority is having internet connectivity challenges in Accra which is the capital, it’s even worse in our other stations in the other regions. In some scenarios the internet is either very slow or won’t connect at all. Because of these challenges, the Authority had contracted two internet providing companies to provide it with internet services”.

Therefore, the internet connectivity of the Authority at a particular point in time, will inform how efficient and effective the operations and work flow of the Authority would

be. Until organizations get stable internet connections, effective e-government implementation will always be a challenge.

The provision of internet services as well as regular update of the IT infrastructure was identified by the study as major challenge to e-government implementation at the DVLA. Without this regular updates most of the IT infrastructure being used for the implementation process will become obsolete. The findings revealed that e-government implementation is expensive but when implemented the benefits are enormous. It improves and efficiently expedites service delivery to clients. ICT infrastructure and internet connectivity is very low in Ghana. According to the UN (2014) Africa has the lowest telecommunication infrastructure index of 0.1478 as compared to that of Europe and the Americas, 0.6678 and 0.3805 respectively. These figures clearly depict the disparity in telecommunication infrastructure deficit which has bedeviled Africa as a continent. The findings confirm the findings of Asogwa (2013). Network infrastructure, internet connectivity, security infrastructure, hardware and operating systems are what make up the e-government infrastructure however, most of these infrastructures necessary to deploy e-government services are lacking in Ghana.

4.2 Operational Challenges

The operational challenges as encountered by the Authority and its impact on implementing the programme are discussed below. The operational issues as discussed in this research included the client and the nature of services and their effect on the effective implementation of e-government at the DVLA.

4.2.1 The Client

The aim of the automation programme is to expedite and improve service delivery to clients of the DVLA. The study therefore explored the degree to which clients are accessing the programme from the view point of the service providers.

The website of the DVLA is solely developed in English therefore clients who struggle to read and comprehend the English language find it very difficult navigating the website. It was however revealed by a respondent that, some of the clients wished a section of the website was developed in a widely spoken local language since some of them are more comfortable with the local language than the English language. An official asserted:

“The English language is becoming a barrier for lots of the clients and this is also affecting the implementation process. Even some of the clients who are basic education school graduates struggle to comprehend some of the instructions on the website and also when writing the test. They tend to always call you to help explain some of the instructions when registering on the website”.

People have become very cautious about their personal security and the kind of information they give out about themselves. This is due to the frequent scandals and fraudulent activities perpetrated by people through the internet. Internet security issues are becoming a major issue in Ghana, especially with the fraudulent activities of some youth. As a result of this phenomenon, when respondents were asked about some of the challenges they were getting from clients. Respondents revealed that, most of the clients did not feel very secured using the internet, especially with regard to the Authority's ability to protect their personal information. The findings also revealed that some of the clients still prefer the manual offline transactions where papers are used. According to one interviewee, a client had this to say about the internet security issue:

“I still prefer the manual process since with that my information is more secured from computer and internet hackers. With this new system how secured are my information and personal security”.

To this end the study findings also revealed that the Authority had acquired computer software to protect the information that clients give to it. However, until people build trust and feel more secured giving out their details and transacting business through the internet, the quest for public sector organizations to bring service delivery to the door step of citizens will never be realized.

Public sector institutions must do more to build the trust of citizens in the use of ICT to access services. The study findings on clients’ fears for personal security and issues of internet fraud are in line with those of Schuppan (2009) and Iddris (2012) that one major challenge to e-government implementation in most developing countries has been the issue of trust and internet security for e-government services by users. Governments must embark on more education on ICT related issues to help bridge this gap. Also the benefits of ICT must also be well communicated to citizens for an effective implementation process.

According to Schuppan (2009), it should not be assumed that the concept of e-government is automatically appropriate for developing countries even though e-government and its related organizational concepts were developed in industrialized countries. The findings of Andoh-Baidoo et al. (2012) echo the findings of the research by arguing that, the prevailing country specific context of developing countries must be considered for successful implementation of e-government that is, the strengths, weaknesses, opportunities and threats in reference to the political, social, economic and technological conditions of the country should be well thought through to make a particular service and

its complexities fit into the country context. Most of the clients are not literates and there is the need to develop initiatives that suit them so they can appreciate and get the full benefits of the e-government.

What use would it be to the clients if they cannot access the website due to their inability to comprehend what is there or cannot have access due to their inability to access an internet facility? Therefore, there is a need for implementers of e-government programs to understand how to customize e-government initiatives that tie-together complex technology based initiatives with organizational and country structures (ITU, 2008). Before organizations embark on some of these reforms there is the need to know and understand the nature of clients they would be dealing with so the needs of their clients would be met. If this is not properly done it may create a gap between the client and the new service introduced due to the nature of the services been rendered.

4.2.2 Nature of Services

Power is very essential in any e-government project. Without the constant supply of power to bring life into e-government projects, there will be no e-government. Erratic power supply has become a bane to the effective implementation of e-government. Power supply to many parts of the country has been very irregular and in some instances non-existent. It is now very difficult in Ghana to have the Electricity Company of Ghana (ECG) supply consistent power for a whole day without any interruption. The findings of the study revealed that, erratic power supply is making the e-government project very difficult to achieve. It is also leading to loss of data and breakdown of ICT gadgets. On the issue of power supply, a respondent lamented that:

“Apart from it affecting our operations and leading to a loss of data in some instances. The Authority is also incurring additional cost to fuel plants and generators. This power crisis is really draining the Authority financially and also operationally”.

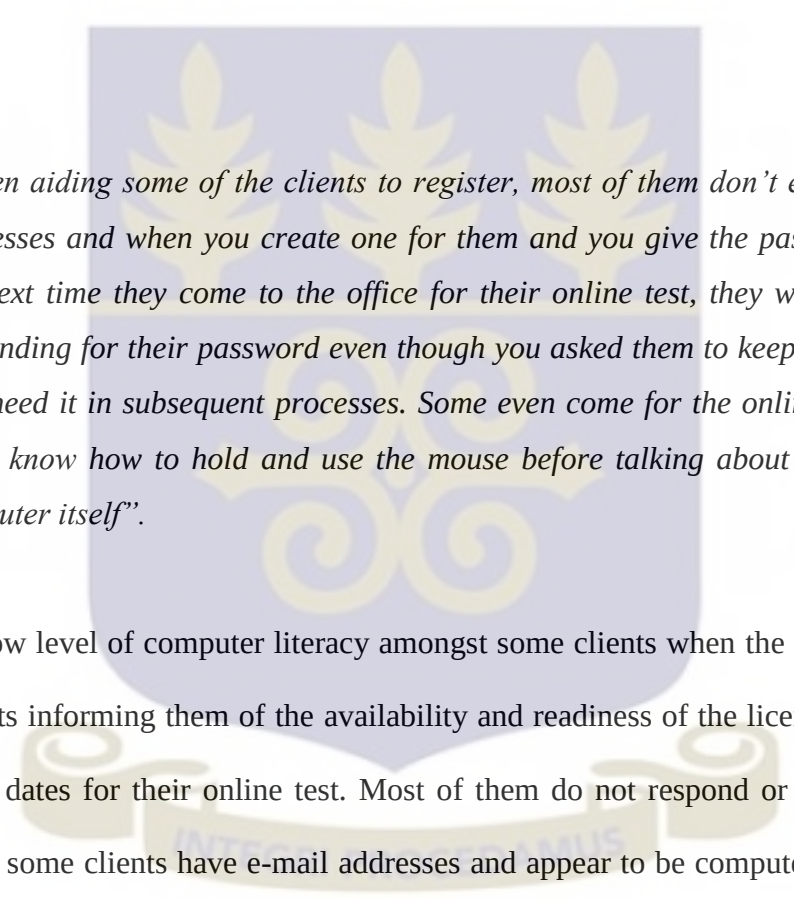
To be able to withstand and manage the erratic power supply challenge the Authority has acquired stand-by generators to take over the provision of power when the supply from the national grid goes off. However, the stand-by generators are not set to automatically take over the generation of power when the power goes off.

Operationally, e-government services rely on power. Power is a very important infrastructure for e-government implementation. However, without power what use will e-government bring to the citizens if the citizens cannot access the services because of unstable and unreliable power supply? Apart from the issue of erratic power supply, the study also revealed that, there are instances where the current flow from the ECG is very low. With the power supply challenges all twelve (12) respondents alluded to it. When asked about the impact of the power supply challenges, one respondent said:

“These days when working you always have to keep saving the work almost every ten minutes to avoid data loss since the power can go off any time”.

From the findings of the study, it was also revealed that ICT literacy amongst clients was very low. The whole programme implementation hinges on ICT and without ICT knowledge accessibility becomes a challenge. Most clients of the DVLA prefer to register at the premises of the Authority instead of registering at their work place or home. The reason for this was because most of those clients were not ICT literates and would usually require assistance from the DVLA officials. Also, poor internet connectivity at their place of work and homes pushed them to come and register at the DVLA premises. On the issue

of online registration, some of the clients do not even have email addresses- a prerequisite for registering and taking the test. It was revealed again that, even with a minimum requirement of Basic Education Certificate (BEC) to acquire a license most clients struggle to operate the computer. Because of these challenges some of the clients are not ready and willing to accept the Automation programme and still prefer the old manual processes. This is affecting the success of the programme implementation because without the clients the whole Automation programme would be rendered obsolete. In the words of an officer:



“When aiding some of the clients to register, most of them don’t even have email addresses and when you create one for them and you give the password to them, the next time they come to the office for their online test, they will come to you demanding for their password even though you asked them to keep it because they will need it in subsequent processes. Some even come for the online test and they don’t know how to hold and use the mouse before talking about how to use the computer itself”.

Due to the low level of computer literacy amongst some clients when the Authority sends mail to clients informing them of the availability and readiness of the licenses as well the appointment dates for their online test. Most of them do not respond or show up at all. Even though some clients have e-mail addresses and appear to be computer literates, they often do not respond to correspondence from the Authority. As a result, they do not get appointments. On this issue, an officer asserted that:

“One client was asked why he didn’t show up for the test on the appointed date and his response was, because I didn’t know I have been sent a mail. How can I know when I can’t operate the computer and don’t know how to use the internet. I will prefer the DVLA calls to inform me”.

When asked about how clients are receiving the new system, findings revealed that some of the clients are happy with the introduction of the automation programme especially clients who have stayed in environments where most services are delivered through the information technology platform. To those who are unable to access the service, a respondent explained:

“The services can also be accessed on smart phones and tablets, however most of the clients do not know how to access the webpage and when you write it for them to access they struggle to navigate the page but with time they would appreciate it”.

One objective of e-government initiative is to allow citizens to sit in the comfort of their homes and offices and be able to access government information and services. This can only be realized if clients have the requisite knowledge and expertise to access those services. The findings illustrate that the low levels of education and information technology literacy of most clients is an impediment to the implementation of the automation programme. This study posits that, effective e-government implementation can only be realized when clients have the necessary ICT literacy to be able to access the services. Without this, effective e-government initiatives will be like a mirage for implementers. This challenge of low levels of ICT literacy amongst clients corresponds with the findings of Torgby and Asabere (2014).

There is a strong correlation between how citizens accept e-government services and their levels of education. Without the acceptance of e-government service from clients, its effective implementation would always be a major challenge. Due to the non-acceptance of clients with low ICT and low educational levels the project implementation is facing

challenges. This issue of low ICT literacy was also identified by other scholars who opined that, the level of education in a country or state has a strong correlation with the level of success of e-government implementation (Mossberger et al., 2008; Schuppan, 2009). Therefore, the study argues that, the higher the literacy rate as well as the level of education of citizens the higher the rate of success of e-government and the lower the literacy rate of a state or country the lower the probability of success of e-government programmes.

The erratic and unreliable power supply in Ghana is leading to additional cost for e-government implementation at the DVLA. Without a constant and reliable power supply, effective e-government implementation will be difficult to achieve. The findings of the study correlates with other work by Asare et al. (2012) which revealed that frequent power supply disruptions have been a major hindrance to the adoption of ICT in most African countries. This challenge of incessant power outages was also identified by Asogwa (2013) in assessing e-government as a paradigm shift for efficient public services in Nigeria. Until organizations are able to manage this erratic power supply, effective e-government implementation will be difficult to achieve.

Chase (1979) asserted that the ability to reach the client population easily with the service will depend on how accessible the service is to the client and how receptive the client population is to the service. From the discussions, due to the poor internet services and poor information infrastructure most clients are reluctant to accept the project. The challenge of poor internet access and connectivity corresponds with the findings of the United Nations (2014). This acute digital divide is hampering the adoption and

development of e-government initiatives in most Africa countries and Ghana is no exception to this challenge.

This study therefore, argues that, implementers of e-government initiatives should develop sections of their websites using some of the local languages of the targeted population and not only the English language.

4.3 Inter and Intra Agency Collaborations

One major hurdle to most public policy implementation in Ghana has been weak collaboration and coordination of institutional processes. The DVLA has twenty seven stations nationwide as well as other relevant bodies it works with, in the execution of its mandate.

The study revealed a number of challenges concerning the effectiveness of the channels of communication and information sharing. Nine (9) out of the twelve (12) respondents mentioned official letters and circulars as the main formal means of sharing and distributing information. However, seven (7) asserted that those two channels were not very effective. They cited instances of delays in delivery of official letters and instructions especially when it is coming from the top. A respondent said:

“There have been instances where we would be waiting for authorization to carry out an assignment. Due to delays in the approval from the top, assignments that can be executed in a week, we end up using two or three days to execute it because the completion date will usually be less than a week away”.

Due to these challenges, there was dissatisfaction among staff regarding timing and speed of information dissemination. Junior staff complained and blamed senior staff for the late approvals and authorization for feedback whereas senior staff also blamed the legislature and other government ministries for the delays in feedback too. This indicated a gap in

communication both internally and externally. The findings revealed that there was effective communication and information sharing amongst directors at the DVLA. It was also noted from the interview that, there was constant feedback and follow ups from senior staff whenever they send information to other senior staffs. The channels for the follow-ups included telephone calls and the use of the internet to send mails. Therefore, the feedback and follow-up on information was effective amongst senior staff. With senior staff, when the ICT mechanisms to aid information sharing and communication cease to work, they usually send their subordinates to do the follow-ups or in some instances send the information manually.

The duplication of similar functions across departments was another challenge mentioned which was hampering the implementation process. A respondent noted that:

“In some departments the mechanisms to aid co-ordination and workflow are never used by some staff all because some complained that they were not very conversant with how to use them and this leads to the duplication of functions and roles. It also creates delays in workflow and synergy in information”.

People tend to ignore changes when they are not very conversant with the change. Some of the reasons cited for the duplication of functions included non-usage of systems for collaboration due to the low levels of know-how on the part of some staff as well as the breakdown of some of the equipment to aid collaboration and workflow. For an effective collaboration in e-government implementation, equipment plays a very important role. The study found that information and directives was usually received from the directors at the head office. However, some of the information came directly from the regional offices for distribution to the operational staff. When asked about how the information was distributed. It was revealed that, it was delivered through staff meetings, electronic mails,

circulars and official letters. Some of the information however, never reaches their destination because of the logistical and internet connectivity challenges.

Another challenge identified was that of slowness in the flow and distribution of information due to bureaucratic structures. This delays cause information to reach their destinations a little late, affecting service delivery. The nature and operations of the DVLA is such that there is so much inter dependency. When a department gets a challenge it affects other departments. Some of these bureaucratic delays arise from approvals that must come from several offices. A participant lamented that:

“Before any change can be effected on the website, information must come from the top. However, due to delays in the delivery time of information, it takes a longer time to make those changes. There were instances where charges for services were reviewed by the Authority but due to delays in informing us the technicians to make those changes on the website. It leads to the creation of a price gap between what was charged at the Authority and what was on the website”.

Legislative approval is very important to establishing the legitimacy of institutional existence and functions. These approvals presented another challenge to e-government implementation at the DVLA. Aside the internal challenges with approval and information delivery, the findings also revealed challenges with external approval for the Authority's budget from the parliament of Ghana. There have been instances where approvals from parliament have delayed and this really affects the operations and procurement processes of the Authority. Seven (5) out of the twelve (12) respondents cited this as a challenge. A respondent had this to say:

“Due to the delays in approving our budgets from parliament, there have been instances where the Authority had to postpone certain projects which were scheduled to be executed. Because without parliamentary approval this can’t be done. This challenge usually creates operational problems for the Authority in meeting some of its own deadlines”.

Unreliable data was also mentioned as a hindrance to collaboration and workflow. The poor accuracy of data also creates challenges when entering them into the main systems. It creates data conflicts especially with the vehicle chassis numbers. One participant lamented:

“When the chassis number sent to you is not accurate, it creates problems of conflict with other chassis numbers and this makes the entry of the new data very difficult”.

Another participant also had this to say about the poor data accuracy:

“Updating the website of the DVLA requires data accuracy because whatever we put on the website goes into the public domain. We have had instances where the information we put on the websites was not accurate and had to remove it later. This really created some problems for the Authority. So now on the issue of data we double cross check before uploading them on the website”.

The challenge of inadequacy of logistics and equipment was again identified in reference to monitoring and supervision of other sub-regional stations and Private Vehicle Testing Stations (PVTs). These challenges have a direct link with the financial challenges of the Authority. Without financial resources how can the DVLA be able to procure the needed logistics and equipment to enhance the collaboration of its functions? An official lamented:

‘We have had instances where one of our station`s system went down and there was no vehicle to convey the IT staff to that station since all the vehicles were out at that time’.

The Authority has some accredited banks that collect money on its behalf in all their stations nationwide. These banks have forty eight hours within which they must transfer the collected funds into the account of the Authority. However, because some of the accredited banks do not have physical presence in some of the stations as well network challenges, delays are created in information sharing as well as the transfer of collected funds. In reference to this challenge an official asserted that:

“It is very difficult coordinating the transfer of funds into the accounts of the Authority since the transfer is done by different banks and there is no common platform for all the banks to help expedite the transfer process. And also some of the banks always cite challenges with their IT systems and that accounted for the delays in the transfer of the funds”.

Some respondents recommended that the Authority in collaboration with all the accredited banks collecting money on its behalf to create a common platform where all funds collected are deposited or transferred into a single account. It was also recommended by another participant that, the Authority could organize more information technology training for its staff to enhance their skills and knowledge on in information sharing, so they can work effectively and efficiently.

The role of leadership in every e-government initiative is as crucial as the programme itself. The success or otherwise of any project is dependent on the level of support the project receives from the leadership of the implementing organization. All twelve (12) respondents said there was no challenge concerning leadership. The study revealed that

there was sustained interest of leadership in the whole implementation process. The leadership of the Authority was always at the fore front championing the whole implementation process. A respondent said:

“The idea of automating the services of the DVLA started from the top. Some of us from the initial stages did not understand why management wanted to implement this project at that time. However, with management support for us the staff and the project, together we shall overcome the challenges the project is posing”.

Effective e-government implementation requires the support and comprehension of all personnel in the implementation process. Staff may be apathetic to e-government implementation due to lack of understanding of the e-government programme. Due to the issue of comprehension of a policy by programme implementers, Van Meter and Van Horn (1975) asserted that the disposition of staff towards the rejection or acceptance of a policy will depend especially on how the policy is communicated to them and their comprehension of the policy. The findings revealed that leadership of the DVLA did explain to employees of the Authority the concept of automating processes and the benefits the institution stands to gain. Another initiative was to organize ICT training programmes for staff to manage resistance if any should arise. However, the trainings have not been adequate.

The leadership of the Authority was very committed to the project. Leadership commitment and vision is very critical for the success of e-government projects. Because e-government project implementation is expensive and without the sustain commitment of leadership it will be difficult to fully implement. Some leaders can be enthused and motivated from the initial implementation stages. However, as the project progresses and costs mount, their motivation to fund the project weans. It is therefore, key for leadership

to understand the benefits of e-government before initiating its implementation. When this happens committed leadership can ensure continuous flow of resources for e-government across all departments. The findings of this study disagrees with the findings of Asogwa (2013) that, leadership commitment and support has been a challenge for e-government projects.

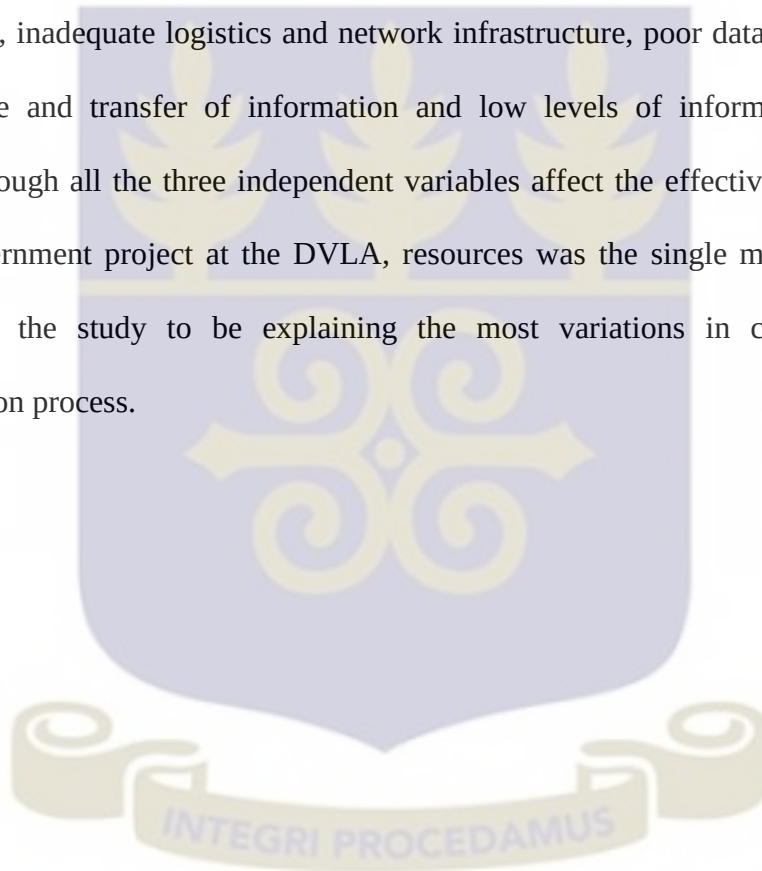
According to Sabatier and Mazmanian (1980) one principal obstacle to programme implementation is the difficulty in obtaining collaboration and coordination within an agency and among the various semi-autonomous agencies involved in the implementation process. Due to the inability of some staff in utilizing the systems in place to aid the coordination and collaboration of their functions with other departments in the Authority, operations and services slow down. This observation corresponds with Sakyi's (2010) findings that when basic channels of communication are not used effectively, gaps are created that hamper the collaboration and coordination of the functions of various units.

The internet is changing and improving how organizations do business. However, due to the poor ICT infrastructure in Ghana many organizations are yet to fully experience its benefits. The efficient transfer of funds into the accounts of the Authority has not been quiet timely due to the network challenges of the banks the DVLA works with. This tends to affect service delivery and procurement processes. Also, due to the inadequacy of logistics for monitoring and supervision of other sub-regional stations and Private Vehicle Testing Stations (PVTs), collaborating and coordinating some of their activities have become a challenge. These points correspond with other works by Yang and Maxwell (2011) and (Sowa, 2008). This study therefore argues that, before the introduction of any mechanism or channels to aid organizational collaboration in e-government, staff must be

trained and equipped with all the necessary skills to utilize those channels. Organizations must also make it compulsory for all staff to utilize those channels.

4.4 Conclusion

This section discussed and analyzed the findings of the research. This was done within the theoretical and empirical review of the study. The challenges that face the DVLA in the implementation of the automation programme include inadequate human resources, erratic power supply, inadequate logistics and network infrastructure, poor data accuracy, delays in the release and transfer of information and low levels of information technology literacy. Although all the three independent variables affect the effective implementation of the e-government project at the DVLA, resources was the single most crucial factor identified by the study to be explaining the most variations in challenges in the implementation process.



CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This final chapter presents a summary of the research. It is divided into four main parts which includes the summary of findings, implication of the study, recommendations to aid in effective implementation of e-government and ends with a brief conclusion to the entire research.

5.1 Summary

Although most developing countries have been slow in adopting e-government. Recent events have shown that governments in developing countries are taking the necessary steps to make e-government implementation their core mandate. The focus of the study was to examine the challenges facing the DVLA in the implementation of e-government. To guide the study, the models by Sabatier and Mazmanian (1980) and Chase (1979) were used. In the framework, e-government implementation performance was identified and used as the dependent variable whereas resources, operational challenges and intra and inter agency collaborations were the independent variables.

The qualitative research design approach was adopted by the study and the one-on-one in-depth interview protocol was used to seek responses from purposively selected respondents with the requisite knowledge about the phenomenon under study within the DVLA. In all twelve (12) individuals participated in the study. Other official documents were also very useful in analyzing the findings. The summary of the key findings is presented below.

5.1.1 Main Findings

This section presents a summary of the key findings of the entire study. It is divided into three sub-sections; resources, operational challenges and inter and intra Agency collaborations.

- **Resources**

The study found that, the Authority lacked the required technical staff to undertake its operations. For instance, the Authority has only three (3) technical staff to manage twenty seven (27) Stations nationwide resulting in extra work load and this is affecting the efficient and effective delivery of services in some of the DVLA stations.

The study also found that, the Authority is very concerned about training to its staff and how important training is to the development of staff. However, even though staffs have been undergoing some training, such training programmes have not been regular due to inadequate funding.

With reference to financial resources, the study found that the Automation project is wholly funded by the Authority. In other words, the Authority receives no financial support from the central government. It was revealed that, a financial resource to fund the automation project was a challenge. In accordance with Section 18 of the DVLA Act, Act 569 of 1999, the funds of the Authority shall include; monies provided to the Authority by Parliament for the performance of its functions; loans granted to the Authority and grants. Section 19(2) of the Act mandates that, monies obtained by the Authority in the performance of its functions shall be paid into the Consolidated Fund. However, the Authority is allowed to retain fifteen (15) percent of all revenues generated internally each financial year and this has been the source of funding for the project. However, it was not

adequate the fund the project implementation. Also, the findings of the research revealed that, Ghana's unstable economic environment makes it challenging for the Authority to plan financially. In other words, due to the rising inflation and exchange rates, financial plans for procurement are always affected. This necessitates extra funds for procurement of logistics and equipment which the Authority is already having challenges with.

In reference to logistics and technical equipment, the study found that, logistics and technical equipment were challenges for the implementation process. Financial resources to acquire these logistics and equipment were inadequate. Another challenge with the logistics and equipment was delays in delivery when importing them. Furthermore, because of the digital divide and lack of availability of ICT equipment in Ghana, most of the logistics and equipment are imported from Europe and America. This has led to delays in the delivery of some of the logistics and equipment, adding up to the mountain of challenges militating the implementation process.

- **Operational Challenges**

The study found that, issues of trust and security of personal information of client are challenges to the implementation process. People have become very cautious about their personal security and the kind of information they give out about themselves. This is due to the frequent scandals and fraudulent activities being perpetrated by some people through the use of the internet. It was revealed that, most of the clients were very skeptical about giving out personal information since they were also not very sure about the kind of security systems the Authority was using to protect client data.

Another challenge results from the fact that, the website for the automation programme is solely developed in English. Although the minimum requirement to register online was a basic education certificate, some clients with this certificate still struggle to read and comprehend the English language and navigate the website. The findings revealed that, some of the clients indicated their desire to have a major local language as one of the developed languages on the website.

It was revealed that the erratic power supply was a challenge to the project implementation. It is leading to loss of data and breakdown of ICT gadgets. The Authority has acquired stand-by generators to take over the provision of power when the supply from the national grid goes off. However, the stand-by generators are not set to automatically take over the generation of power when the power goes off. These stand-by generators have brought additional financial burden on the Authority since they have to be fueled.

The low levels of ICT literacy among clients is another challenge that is affecting how clients accept the Automation programme. For instance, when some of the clients come for the online driving license test, they struggle to operate the computer. Besides, some of the clients do not even have an email address which is a prerequisite for registering and taking the online test. Because of these and other related challenges some of the clients are reluctant to accept the Automation programme and still prefer the old manual processes. Even though some clients have e-mail addresses and appear to be computer literates, they often do not respond to correspondence from the Authority. As a result, they end up missing their appointment dates for the online test.

Without information technology and internet connectivity the services cannot be accessed by clients. Another major challenge most clients face has to do with the availability of information technology infrastructure and access to the internet. The acute digital divide is hampering the adoption and implementation agenda for most Africa countries and Ghana is no exception. In cases where there was internet connectivity, it was either slow or not stable.

- **Inter and Intra Agency Collaborations**

One major hurdle to most public policy implementation in Ghana has been weak collaboration and coordination of institutional processes. The study found that, duplication of similar functions across departments was another challenge which was hampering the implementation process. This was caused by the delays in the release of data and unreliable data. For every update and review of the Authority's charges it must first seek parliamentary approval. Delays in parliamentary approval sometimes cause holdups in the implementation of new plans and projects of the Authority, which affects some of its operations. The unreliable data also creates challenges with data entry since it creates data conflicts especially with the vehicle chasis numbers.

The Authority has some accredited banks that collect money on its behalf in all stations nationwide. The findings revealed that, the banks have forty eight (48) hours to transfer the collected funds into the accounts of the Authority. However, some of the accredited banks have challenges with their network which in turn creates delays in the transfer of collected funds into the account of the Authority.

The Authority has various channels for sharing and communicating information, however, these channels were ineffective. Official letters and circulars were the main formal means of sharing and distributing information. In some instances the e-mail channels were used. However, due to delays in feedback from the top hierarchy it affects workflow and service delivery to clients. This has created dissatisfaction among staff regarding timing and speed of information dissemination. Another challenge identified was the challenge of slowness in the flow and distribution of information due to bureaucratic structures. This challenge is causing fragmentation in service delivery to clients.

5.2 Conclusion

The insatiable needs and demands of citizens are pushing public sector organizations to explore innovative ways to improve and expedite service delivery to their clients. Adopting and implementing e-government initiatives have the potential to help achieve this quest. This research aimed at examining the implementation challenges of e-government at the DVLA. The study identified inadequate resources, operational challenges and poor inter and intra organizational collaborations to be the factors that affect the effective implementation of e-government at the DVLA. However, these factors are not mutually exclusive in constraining the implementation process some cascade into other factors. Although all the three independent variables affect the effective implementation of the e-government project at the DVLA, resources was the single most crucial factor identified by the study to be explaining the most variations in challenges in the implementation process. It was revealed that, there was strong leadership support for the project however, erratic electricity supply was a challenge. The study therefore argues that, with constant and reliable electricity supply commensurate with strong leadership support, e-government projects will be successful.

On the basis of the above findings, the study can conclude inadequate resources and poor level of collaborations and communications at the DVLA if enhanced could potentially improve interdepartmental communication which will facilitate an effective e-government implementation.

5.3 Recommendations

The research was formulated on the thesis that, for an effective e-government implementation at the DVLA, three core factors must be considered. The quantity, quality and nature of these factors are the main causes of variations in the implementation of e-government at the DVLA. These three factors play important roles in the implementation process. However, their capabilities in influencing the implementation process vary as confirmed by the study. The recommendations given are based on the research findings and the preceding discussions.

The findings of the study confirm the assertion that resource limitation is a major challenge to the effective implementation of e-government. Implementing organizations have to develop effective resource mobilization strategies in order to maintain a reliable and valuable resource base consisting of human, financial and logistics and equipment to support e-government projects. With the challenges associated with hiring and retaining skilled ICT personnel in government institutions, public sector organizations must design attractive remuneration packages for ICT recruits and invest more in training and development of their ICT personnel.

In order to have an effective e-government implementation the needed resources must be made available. Even with the fifteen (15) percent retention of it internally generated fund,

the DVLA is still grappling with challenges in terms of financial resources and logistics to implement the project. The Authority must explore other sources of funding such as loans from the financial market to help execute the project effectively.

To have an effective e-government implementation, obstacles such as inadequate ICT infrastructure for use by e-government clients must be improved. E-government implementation programmes would be effective if the needed ICT infrastructures are provided. Relevant institutions must conduct periodic review of the country's ICT infrastructure to determine areas where more needs to be done. Government must also invest more in developing the ICT infrastructure as well as the country's fibre-optic network. This will help make internet connectivity more accessible and reliable.

Organizations implementing e-government must plan very well in acquiring technology platforms required to implement e-government initiatives. They must ensure that these technologies acquired are state of the art and they are regularly updated to guard them from becoming obsolete with the dynamic nature of ICT.

There should also be periodic evaluation of electricity supply to determine the level of progress been made in reference to the amount of megawatts added to the national grid. This will aid meet the electricity demands of the growing population of the country and will also help grow the ICT industry.

Collaboration and information sharing is one of the key factors to an effective implementation process. Organizations must conduct regular training programmes for all staff how to use the various channels of communication and collaboration. There should

also be regular bureaucratic structure reviews, to identify areas that are not helping facilitate organizational workflow and be corrected in the organization.

There should be a broad stakeholder consultation to bring together critical institutions and ICT professionals to help in organizing workshops, seminars and durbars, for the purposes of creating awareness to inform and educate the public on the benefits of e-government and how it can help transform the society.

Also the mobile telecommunication industry can serve as an avenue to make e-government services available to citizens in areas with no internet access. Since most Ghanaians are using mobile phones the ICT infrastructure gap can be bridged by using the mobile phone to access and deliver e-government services.

5.4 Implications of the Study

This research aimed at ascertaining and analyzing the implementation challenges of e-government. The study revealed some relevant issues in the implementation of technology based policies for government institutions. The major conclusions of the study have several implications on existing literature and theories on reform implementation.

5.4.1 Implications of the Study for Existing Literature

The focus of this study was to examine the implementation challenges of e-government at DVLA. Notwithstanding the many studies that have been conducted and corresponds with this research, there have been various e-government research that focused on certain issues that this study covered (Torgby and Asabere 2014; Asogwa, 2013; Eze et al., 2013).

For instance, the research confirms the assertion that financial resources have been the number one barrier to e-government initiatives as postulated by Eze et al. (2013) and United Nations (2014). Evidence from the DVLA indicates that the e-government programme is solely funded by the Authority and there is no financial support from the central government.

The findings from the study also correspond with Asare et al. (2012) that, the inadequacy of ICT infrastructure and the high cost associated with acquiring equipment and logistics for e-government implementation initiatives have been a challenge to e-government initiatives. In instances that the Authority had been able to acquire some of the infrastructure, another challenge has been delays in delivery since most of the ICT equipment is imported because they were not available in Ghana.

The findings from the study validated the assertion by Eze et al. (2013) and Asogwa (2013) that most organizations in Africa are reluctant to adopt technology, due to the inadequacy of human resource to manage ICT infrastructures. The findings are also supported by the United Nations (2014) that limitations in human capacity has been one of the greatest challenge particularly to countries in the low e-government development index region.

Another contribution of this research to implementation studies is to emphasize the importance of regular electricity supply in policy implementation in developing countries. The study argues that there is a strong correlation between regular electricity supply and the effective implementation of e-government. Not taking cognizance of the importance of regular supply of electricity distorts our comprehension of the factors that facilitate or impede the successful implementation of e-government initiatives.

To continue with, the study confirms previous studies by Torgby and Asabere (2014) and Mossberger et al. (2008) that, irrespective of the ICT infrastructure in place if the ICT literacy of citizens is low it would be difficult to achieve the full benefits of e-government. The study revealed that because of the low level of ICT literacy amongst clients, most of them were reluctant to accept the e-government project. According to Andoh-Baidoo et al. (2012) the prevailing country specific context of developing countries must be considered for an effective implementation of e-government.

The study therefore argues that, developers of e-government websites should inculcate one widely spoken local language of the client population as one of the languages on the website for effective e-government implementation.

The findings confirm the assertion that when the basic channels of communication are not used effectively, gaps are created in collaborating and coordinating the functions of the various units as identified by Sakyi (2010). Again the findings of this study is supported by Fedorowicz et al. (2010) that some of the challenges that impede inter and intra organizational collaboration in reference to e-government implementation include incompatible software, outdated storage mechanisms, unreliable data formats and antiquated systems.

The role of organizational leadership in every e-government initiative is very important. The effectiveness or otherwise of any e-government project is dependent on the level of support and commitment the project receives from the leadership of the implementing organization. The findings of the study contradict the work by Asogwa (2013) that, leadership commitment and support has been a challenge for e-government implementation. This is because the study found that, with all the financial challenges and

other challenges facing the project, leadership commitment and support had not waned and leadership still believes the project will succeed. The study concludes here that, with sustained leadership commitment and support e-government projects can be effective.

5.4.2 Theoretical Implications of the Study

The findings of this research replicate various theoretical perspectives. The study employed three independent variables that may have implications for one or some of the theories of public policy implementation.

With reference to Chase (1979) as well as that of Sabatier and Mazmanian (1980) this study had established that effective implementation or otherwise of e-government is crucially dependent upon the availability of resources for the implementation process. Several findings from other studies correspond with the findings on the role of resources in achieving effective implementation. These findings argue that to have an effective e-government implementation access to necessary resources is very critical (Asogwa, 2013; Eze et al., 2013). The study therefore argues that, implementation of e-government initiatives are likely to be effective if these initiatives are accompanied with the needed resources.

It is also important to note as argued by Sabatier and Mazmanian (1980) that, one of the principal obstacle to the implementation of social service programmes is the difficulty in obtaining coordination within any given agency and among the numerous semi-autonomous agencies involved in most implementation efforts. The study also established that without proper and effective use of systems to coordinate functions of the various departments, it will always be difficult to achieve policy objectives. Sakyi (2010)

postulated that when basic channels of communication are not used effectively, gaps are created that hamper the collaboration and coordination of the functions of various units. The study therefore argues that, for effective implementation of e-government to occur, all channels of communication must be open and well understood by all staff, while those who are not conversant must be trained to build their capacity.

Numerous perspectives have been identified in the research findings on the digital divide and the target client and how they can impact the implementation process. It is also important to note as argued by Chase (1979) that, the success of every policy implementation is dependent on how accessible the service is as well as how receptive the client population is to the service. Various authors have also argued that, the success of e-government services have a strong correlation with the percentage of the population with access to internet, the level of ICT literacy and the understanding of e-government services by the target population (Schuppan, 2009; Reddick and Norris, 2012).

Leadership support was revealed by the study to be a strong variable for effective e-government implementation. The conceptual framework of the study did not have leadership as one of the independent variables but it came up to be a strong determinant of effective e-government implementation.

The study therefore argues that implementation of e-government initiatives are likely to achieve better results when the necessary ICT infrastructures are in place, there is strong leadership support for the project, clients have trust in ICT initiatives and understand the benefits of e-government. In other words, until the digital divide gap is addressed which will be commensurate with strong leadership support for ICT initiatives, there will always be substantial disparities in the implementation of e-government programmes?

5.5 Areas for Further Research

The study could not exhaust all the issues concerning the implementation challenges of e-government. The emergence of comparative studies can be useful in ascertaining the implementation challenges of different public sector institutions in different regions of the country and comparing their unique challenges in implementing e-government.

Also, it is recommended that, other studies can also look at the demand side of e-government implementation challenges. Such studies should be explored from the perspective of the users of e-government services and the challenges they encounter in the use of e-government services.



REFERENCES

- Almarabeh, T., & AbuAli, A. (2010). A General Framework for E-Government: Definition Maturity Challenges, Opportunities, and Success”, *European Journal of Scientific Research*, 39(1), 29-42.
- Andoh-Baidoo, F. K., Babb, J. S., & Agyepong, L. (2012). E-Government Readiness in Ghana: a SWOT and PEST Analyses”, *Electronic Government, An International Journal*, 9(4), 403-419.
- Asare, S. D., Gopolang, B., & Mogotlhwane, O. (2012). “Challenges facing SMEs in the adoption of ICT in B2B and B2C E-commerce: A comparative case study of Botswana and Ghana”, *International Journal of Commerce and Management*, 22(4), 272-285.
- Asogwa, B. E. (2013). "Electronic government as a paradigm shift for efficient public services: Opportunities and challenges for Nigerian government", *Library Hi Tech*, 31(1), 141-159.
- Awodele O., Kuyoro, S. O., Alao, O. D., & Omotunde, A. A. (2013). “ICT Solution to Small and Medium Scale Enterprises (SMEs) in Nigeria”, *International Journal of Computer and Information Technology*, 2(4), 785-789.
- Bardach, E. (1998). *Getting agencies to work together: The practice and theory of managerial craftsmanship*. Washington, DC: Brookings Institution Press.
- Barnes, S. T., & Vidgen, R. T. (2006), Data Triangulation and Web Metrics: A Case Study in E-Government. *Information and Management*, 43(6), 767-777.
- Basu, S. (2004). “E-government and developing countries: an overview”, *International Review of Law, Computers & Technology*, 18(1), 109-132.
- Bhattacharjee, A. (2012). *Social Science Research: Principles, Methods, and Practices*, 2nd ed., Global Text Project.
- Bwalya, K. J. (2009). “Factors Affecting Adoption of E-Government in Zambia” *The Electronic Journal on Information Systems in Developing Countries*, 38(4), 1-13.
- Bwalya, K. J., & Healy, M. (2010). “Harnessing e-Government Adoption in the SADC Region: A Conceptual Underpinning”, *Electronic Journal of e-Government*, 8(1), 23-32.
- Chase, G. (1979). “Implementing a Human Services Program: How Hard Will It Be?” *Public Policy*, 27(4), 385-435.

- Creswell, J. W. (2003), *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*, 2nd ed., Sage Publications, Thousand Oaks, California.
- Driver and Vehicle Licensing Authority Act, Act 569 of 1999.
- Ebrahim, Z., & Irani, Z. (2005). "E-government adoption: architecture and barriers", *Business Process Management Journal*, 11(5), 589-611.
- Eze, S. C., Awa, H. O., Okoye, J. C., Emecheta, B. C., & Anazodo, O. R. (2013). "Determinant factors of information communication technology (ICT) adoption by government-owned universities in Nigeria: A qualitative approach", *Journal of Enterprise Information Management*, 26(4), 427-443.
- Evans, D., & Yen, D. C. (2006). "E-Government: Evolving relationship of citizens and government, domestic, and international development", *Government Information Quarterly*, 23, 207-235.
- Fang, Z. (2002). E-Government in Digital Era : Concept , Practice , and Development. *International Journal of The Computer, The Internet and Management*, 10(2), 1-22.
- Fedorowicz, J., Gogan, J. L., & Culnan, M. J. (2010). "Barriers to Inter-organizational Information Sharing in e-Government: A Stakeholder Analysis", *The Information Society: An International Journal*, 26(5), 315-329.
- Frempong, G. (2010), Ghana Telecommunication Sector Performance Review, *Towards Evidence-based ICT Policy and Regulation*, 2, Policy Paper 8.
- Gupta, B., Dasgupta, S., & Gupta, A. (2008). "Adoption of ICT in a government organization in a developing country: An empirical study", *Journal of Strategic Information Systems*, 17, 140-154.
- Hill, S. R., Jerram, C., & Troshani, I. (2011). "Exploring the public sector adoption of HRIS", *Industrial Management & Data Systems*, 111(3), 470-488.
- Iddris, F. (2012). "Adoption of E-Commerce Solutions in Small and Medium-Sized Enterprises in Ghana", *European Journal of Business and Management*, 4(10), 48-57.
- International Telecommunication Union (ITU) (2008). "Electronic Government for Developing Countries" ITU, available at: http://www.itu.int/ITU-D/cyb/app/docs/e-gov_for_dev_countries-report.pdf
- Johnson, M. (2012). "A Study of E-Market Adoption Barriers in the Local Government Sector", *Journal of Enterprise Information Management*, 25(6), 509-536.

- Kamal, M. M. (2006). "IT Innovation Adoption in the Government Sector: Identifying the Critical Success Factors", *Journal of Enterprise Information Management*, 19(2), 192-222.
- Lau, T. Y., Aboulhosen, M., Lin, C., & Atkin, D. J. (2008). "Adoption of e-government in three Latin American countries: Argentina, Brazil and Mexico", *Telecommunications Policy*, 32, 88-100.
- Marshall, M. N. (1996). "Sampling for qualitative research", *Family Practice*, 13(6), 522-525.
- Miles, M. B. & Huberman, A. M. (1994). *Qualitative Data Analysis*, 2nd ed. Sage Publication.
- Mossberger, K., Tolbert, C. J., & McNeal, R. (2008). "Institutions, Policy Innovation, and E-Government in the American States", *Public Administration Review*, 594-563.
- Mutula, S. M. & Mostert, J. (2010), "Challenges and Opportunities of E-government in South Africa", *The Electronic Library*, 28(1), 38-53.
- National Communications Authority (NCA) (2015). "Industry Information". Available at: <http://www.nca.org.gh/51/116/Industry-Information.html>
- Neuman. L. W. (2007). *The Basics of Social Research. Qualitative and Quantitative Approaches*, 2nd ed., Pearson Education, Inc.
- Qiang, C. Z., Pitt, A. and Ayers, S. (2003), "Contribution of Information and Communication Technologies to Growth", World Bank Working Paper, No. 24.
- Rehman, M., Esichaikul, V. and Kamal, M. (2011), "Factors Influencing E-Government Adoption in Pakistan", *Transforming Government: People, Process and Policy*, 6, (3), 258-282.
- Reddick, C. G. (2005). "Citizen Interaction with E-Government: From the Streets to Servers?" *Government Information Quarterly*, 22, 38-57.
- Reddick, C. G. and Norris, D. F. (2012), "Local E-Government in the United States: Transformation or Incremental Change?" *Public Administration Review*, 73(1), 165-175.
- Sabatier, P. and Mazmanian, D., (1980). "The Implementation of Public Policy: A Framework of Analysis". *Policy Studies Journal*, Vol.8, No. 4, pp. 538-560.

- Sakyi, E. K. (2010). "Communication challenges in implementing health sector decentralisation at district level in Ghana", *Leadership in Health Services*, 23(2), 156 – 171.
- Smith, B. D., & Mogro-Wilson, C. M. S. W (2008). "Inter-Agency Collaboration", *Administration in Social Work*, 32(2), 5-24.
- Srivastava, C. S., & Teo, T. S. H. (2010). "E-Government, E Business, and National Economic Performance", *Communications of the Association for Information Systems*, 26(14), 267-286.
- Schuppan, T. (2009). "E-Government in developing countries: Experiences from sub-Saharan Africa", *Government Information Quarterly*, 26, 118-127.
- Silcock, R. (2001). "What is E-Government", *Parliamentary Affairs*, 54, 88-101.
- Saffu, K., Walker, J. H., & Hinson, R. (2008). "Strategic Value and Electronic Commerce Adoption among Small and Medium-Sized Enterprises in a Transitional Economy", *Journal of Business & Industrial Marketing*, 23(6), 395-404.
- Sowa, J. E. (2008). "Implementing Interagency Collaborations: Exploring Variation in Collaborative Ventures in Human Service Organizations", *Administration & Society*, 40(3), 298-323.
- Torgby, W. K., & Asabere, N. Y. (2014). "Challenges of Implementing and Developing E-Government: A Case Study of the Local Government System", *International Journal of Computer Science and Telecommunications* 5(8), 39-48.
- The Ghana ICT for Accelerated Development (ICT4AD) Policy. The Republic of Ghana, 2003. http://www.moc.gov.gh/moc/PDFs/Ghana_ICT4AD_Policy.pdf
- United Nations E-Government Survey (2014). E-Government for the Future We Want, United Nations Department of Economic and Social Affairs/Division for Public Administration and Development Management, ST/ESA/PAD/SER.E/188, New York.
- Van Meter, D. S., & Van Horn, C.E. (1975). "The Policy Implementation Process: A conceptual Framework", *Administration and Society*, 6(4), 445-488.
- Xu, H. (2012). "Information Technology, Public Administration, and Citizen Participation: The Impacts of E-Government on Political and Administrative Processes", *Public Administration Review*, 72(6), 915-920.

- Yang, T., & Maxwell, T. A. (2011). "Information-sharing in public organizations: A literature review of interpersonal, intra-organizational and inter-organizational success factors", *Government Information Quarterly*, 28, 164-175.
- Yin, R. K. (2003), *Case Study Research: Design and Methods*. 3rd Ed. Sage Publications, Thousand Oaks.
- Zulu, S. F. (1994), "Africa's Survival Plan for Meeting the Challenges of Information Technology in the 1990s and Beyond", *Libri*, 44(1), 63-76.



APPENDICES

Appendix 1: Interview Protocol

Introduction

This interview protocol is designed to solicit views on implementation challenges of e-government at DVLA. The researcher is a master of Philosophy student of the University of Ghana. This thesis is been conducted in partial fulfillment of the requirement for the award of Master of Philosophy in Public Administration.

This research is conducted for academic purposes only and your responses will be treated with the strictest of confidence and anonymity. I would be glad if you would provide me with the following information for my study. Thank you.

Researcher: George Babington Amegavi

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Email: georgeamegavi@gmail.com

RESEARCH QUESTION: *“What are the electronic government implementation challenges at DVLA?”*

RESEARCH OBJECTIVES

- ✚ To examine the nature and availability of resources (Financial, Human, and technical equipment) for the implementation of e-government at DVLA.
- ✚ To investigate the operational demands (client base, and nature of services) in implementing e-government at DVLA.
- ✚ To examine the Inter and Intra Agency Collaborations in the implementation of e-government at DVLA.

A. DEMOGRAPHIC CHARACTERISTICS

1. Formal education.....
2. Gender
3. Position
4. How long have you been working here
5. Core functions

B. OPERATIONAL DEMANDS

1. Can you please explain what the automation programme is?
2. What are the operational challenges the Authority is facing in implementing the programme?
3. What are the challenges the encountered in updating and maintaining the webpage?
4. What has been the reaction and feedback from clients to the new automation programme and processes?
5. How would you describe the low levels of ICT literacy in the country and its impact on the automation programme?
6. Please can you give some recommendations towards improving the implementation process?

C. RESOURCES CHALLENGES AND ITS EFFECT ON THE PROGRAMME

1. How would you describe the financial resources available for the implementation process?
2. How would you describe the human resources available for the implementation of the automated programme in terms of:
 - The number of personnel

- The skill and expertise of personnel
 - Performance of personnel
3. How would you describe the technical equipment available for the implementation process in terms of:
- Availability of information technology infrastructure
 - Availability and provision of constant internet connection
4. Has the acquisition of the information technology equipment been a challenge?
5. How would you describe the provision of power to the Authority?
6. What has been the effect of the power supply on the automation programme?
7. What would you suggest to improve the implementation process?

D. INTRA AND INTER AGENCY COLLABORATIONS

- 1 What are the challenge the Authority faces in collaborating the various functions within it?
2. What are the challenges the Authority faces in collaborating with other institutions both private and public?
3. What are some of the systems in place for collaborating the functions of the Authority?
4. With reference to information sharing, what are the challenges?
5. Please can you make any recommendations to improve the intra and inter Authority collaborations?

THANK YOU FOR YOUR TIME

Appendix 2: Consent Form

A Study on the implementation challenges of e-government at the DVLA

Researcher: George Babington Amegavi (MPhil Student)

Kindly read the consent form carefully and sign below if you agree to participate in the study.

Please answer the following and then sign.

YES/NO I have read this form and I am aware that I am being asked to participate in a research study.

YES/NO I agree to be audio recorded by the researcher for the purpose of the study.

YES/NO I voluntarily agree to participate in this study.

Name of Participant.....

Signature.....

Date.....

Researcher.....

Signature.....

Date.....