INFLUENCE OF E-GOVERNMENT STRATEGIES ON PUBLIC SERVICE DELIVERY OF STATE AGENCIES IN KENYA: THE MODERATING EFFECT OF STRATEGY EXECUTION

KENNETH GOGA RIANY

DOCTOR OF PHILOSOPHY

(Business Administration)

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Influence of E-Government Strategies on Public Service Delivery of State Agencies in Kenya: The Moderating Effect of Strategy Execution

Kenneth Goga Riany

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DECLARATION

This thesis is my original work and has not been presented for a degree in any other University.

Signature: …………………...….………..…… Date: …………………..……...

Kenneth Goga Riany

This thesis has been submitted for examination with our approval as University Supervisors:

Signature: …………………...….………..…… Date: …………………..……...

Dr. Susan Were, PhD

JKUAT, Kenya

Signature: …………………...….………..…… Date: …………………..……...

Dr. Allan Kihara, PhD

JKUAT, Kenya

DEDICATION

It is with genuine gratefulness and warmest regard that I dedicate this work to my family who taught me that the best kind of knowledge to have is that which is learned for its own sake.

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LIST OF ABBREVIATIONS AND ACRONYMNS

ANOVA	Analysis of Variance
ANT	Actor Network Theory
E-Administration	Electronic Administration
E-Banking	Electronic Banking
E-Billing	Electronic Billing
E-Citizen	Electronic Citizen Portal
E-Commerce	Electronic Commerce
E-Customs	E-Custom Clearance Systems
E-Democracy	Electronic Democracy
E-Filing	Electronic Tax Filing
EFT	Electronic funds transfer
E-Government	Electronic Government
E-Mail	Electronic Mail
E-Marketing	Electronic Marketing
E-Participation	Electronic Participation
E-Procurement	Electronic Procurement
ESD	Electronic Service Delivery
E-Services	Electronic Services
GHRIS	Government Human Resource Information System
ICT	Information & Communication Technology
IFMIS	Integrated Financial Management Information System

IPPD	Integrated Payroll and Personnel Data
ITAX	Integrated Taxation Management Systems (ITMS)
KRA	Kenya Revenue Authority
LAIFOMS	Local Authorities Integrated Financial Operations Management Systems
MDAs	Ministries Departments and Agencies
MoDP	Ministry of Devolution and Planning
MoICT	Ministry of Information Communication and Technology
NPM	New Public Management
PESTLEG	Political, Economic, Social, Technological, Legal, Environmental and Governance
PSC	Public Service Commission
PSD	Public Service Delivery
ROK	Republic of Kenya
SDGs	Sustainable Development Goals
SMEs	Small and Medium Enterprises
SPSS	Statistical Package for Social Sciences
SWOT	Strength Weaknesses Opportunities and Threats
UN	United Nations
UTAUT	Unified Theory of Acceptance and Use of Technology

OPERATIONAL DEFINITION OF TERMS

E-Administration   Is the use of ICT to improve administrative processes and the internal working of departments within an organization (Batta, Sethi & Kaur 2012).

E-Commerce   Refers to conducting commercial activities via electronic media, and most commonly, the internet (Kinuthia & Akinnusi, 2014; Litondo & Ntale, 2013; Wanjau, Macharia & Ayodo, 2012; Nath, 2013).

E-Government   Refers to the use by government agencies of information technologies that have the ability to transform relations with citizens, businesses, and other arms of government (World Bank, 2015)

E-Government Strategy   Is a plan for e-government systems and their supporting infrastructure which maximizes the ability of management to achieve organizational objectives (Heeks, 2006).

E-Participation   It is the use of ICT to increase and enhance citizens' engagement in democratic processes and involvement in decision-making process such as e-initiatives, e-voting, e-petitions, e-consultations (Milakovich, 2010; Shirazi *et al*., 2010; Yigit & Colak, 2010).

E-Services   Denis-Re´mis *et al*. (2011) defines E-Services as the use of the ICT to facilitate, perform, and process each step of the services including awareness, transaction, interaction, and distribution to improved delivery of public services to citizens.

Public Service   Is defined as all activities delivered by the government to fulfill the needs that society requires to go through life (Deloitte, 2012).

Service Delivery   Refers to the provision of social or public goods that will promote socio-economic wellbeing of the citizens (Angahar, 2013).

Service   It is an intangible product which involves a performance, a deed or an effort which cannot be physically possessed (Wirtz & Lovelock, 2016).

Situational Analysis   Is described as is a process that assesses an organization's internal capabilities and external environment that contributes significantly to strategy development (Kotler & Keller, 2009).

Strategy Execution   It is the process of putting organizational strategies into action by bringing on board the required drivers such as resources, communication and structuring (De Flander, 2016).

Strategy Formulation   Refers to the process of choosing the most appropriate course of action for an organization to achieve their vision and the realization of organizational goals and objectives (Madu, 2010).

Strategy Implementation Refers to the way an organization structures itself in order to execute its strategic plan efficiently and achieve its objectives effectively (Alkhafaji, 2013; Hernandez, 2015).

Strategy: Is the coordinated set of actions that fulfill a firm's objectives, purposes and goals (White, 2011; Thobani, 2011).

ABSTRACT

Although studies have shown that E-Government has the potential to accelerate reforms in the public sector and improve public service delivery, it is not clear to what extent the Kenyan E-Government Strategy that was launched in 2003 has had an impact on public service delivery if at all as the success of this initiative is more verbalized than quantified. The purpose of this study was to examine the influence of E-Government strategy on the public service delivery of state agencies in Kenya. The study reviewed E-Commerce, E-Services, E-Administration and E-Participation as independent variables, strategy execution as a moderating variable and public service delivery as the dependent variable. The study performed a theoretical review of New Public Management (NPM), Technology Diffusion Theory, Unified Theory of Acceptance and Use of Technology (UTAUT), Actor Network Theory (ANT), Dynamic Capability Theory as well as Contingency Theory. This was followed by an empirical review in tandem with the subject influence of E-Government strategy in relation to the public service delivery of state agencies. It provided a review of scholarly works done in the past identifying the studies, authors, areas of investigation and the findings reported. The study adopted a descriptive research design to collect data from the target population comprising of 4230 employees within the management cadre at 132 specific government state agencies incorporated entities outside the mainstream civil service established for purposes of public service delivery in Kenya; 62 Executive Agencies, 25 Independent Regulatory Bodies as well as 45 Research Institutions, Public Universities and Tertiary Education Institutions. Documentary review was also used to compliment the data collected. Convenient sampling technique was used by the study to sample the respondents within the 132 specific government state agencies. Taro Yamani formula was applied to calculate the sample size of 365 employees and self-developed questionnaires were used to collect data from the sample. Data was analyzed using descriptive and inferential statistics. The study findings revealed that implementation of E-Commerce, E-Services, E-Administration and E-Participation leads to a significant improvement in the public service delivery of state agencies in Kenya. The study further concluded that implementation of E-Commerce practices such as having a high level of understanding of internal strengths, weaknesses, external opportunities and threats can lead to a significant improvement in the performance of public service delivery in Kenya. In addition, implementation of e-government strategy formulation, implementation and evaluation and audit practices can lead to a significant improvement in the performance of public service delivery in Kenya. Further, it can be concluded that strategy execution moderates the role played by E-Government strategies on public service delivery. Through proper analysis of the situation, execution and implementation of the strategy as well as strategy audits, the process of executing E-Government strategies is enhanced. The study recommends that the state agencies through the management ought to uphold E-Government strategies (E-Commerce, E-services, E-Administration and E-Participation) so as to enhance effective achievement of their mandate which is public service delivery.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

This chapter provides a background on definition and essence of the Influence of E-Government Strategies on the Public Service Delivery in the global, regional and national contexts and perspectives. In addition, statement of the problem, the general objective, specific objectives, research hypothesis, justification, significance, scope, limitations of the study are discussed. E-Government has been defined in many ways (Srivastava 2011). Allen *et al* (2010) defines it as the use of ICT to re-invent public sector by transforming internal and external ways of working and interrelationships with the stakeholders whereas according to UN (2014) it is the use of ICT and its application by governments for the provision of information and public services to citizens. According to Khasawneh and Abu-Shanab (2013), it is used for E-Commerce, E-Services, E-Administration, E-Democracy and participation, performance, social development and inclusivity.

E-Government is a key priority area of most governments worldwide (Garimellaa & Kolluru, 2011). As a result, governments have started allocating a sizable share of their budgets for the development and implementation of E-Government and are adopting E-Government as an innovative strategy in their service deliver reforms as it adds value to the economic efficiency and transparency to the government and the public (AL-azar, 2012). Cherry (2014) states that the benefits of E-Government are assessed by its capacity to enhance transparency and accessibility of government programs and it is argued that E-Government initiatives such as E-Commerce, E-Service, E-Administration, And E-Procurement eradicates corruption and improves public sector service delivery (Bwalya, 2012). The interaction between stakeholders and government, which traditionally occurred in offices, has been facilitated by ICT improving efficiency, effectiveness, transparency and accountability of government WB (2011).

E-Commerce refers to conducting commercial activities via electronic media, and most commonly, the internet (Kinuthia & Akinnusi, 2014). From the variety of definitions offered the key attributes of E-commerce relate technology mediated exchanges between organizations and third parties, different forms of electronic media are engaged to facilitate such exchanges (Kinuthia & Akinnusi, 2014; Litondo & Ntale, 2013; Wanjau, Macharia, & Ayodo, , 2012).

E-commerce, has rapidly emerged into a modern global strategy with the advent of the Internet and its post-1994 commercialization, (Vaithianathan, 2010). It is used to enhance transaction between stakeholders such as the public, customers, suppliers, businesses, employees, financial institutions and government regulators. E-Commerce has changed and is still changing the way organizations conduct business globally (Mazzarol, 2015). Although it is believed that E-Commerce could provide answers to technological, organizational, environmental and managerial inadequacies public agencies lag behind when it comes to its uptake and usage (Al-Qirim, 2012).

E-Service is a widely used concept across disciplines and academic fields (Lindgren & Jansson 2013). Denis-Re´mis *et al*. (2011) defines it as the use of ICT to facilitate, perform, and process each step of service delivery including awareness, interaction, and distribution to improve public services delivery. Some examples of E-Services are public documents requests, requests for legal documents, issuing permits, certificates and licenses. Axelsson *et al*. (2011) states that public sector E-Services in developing countries have expanded rapidly but remain largely unattainable.

E-Services can be classified into two, private and public. Private E-Services deal with private sector, where clients are considered customers and profit is the main goal however public E-service is domicile in public sector whereby clients are treated as citizens and services regulated by organizational and bureaucratic rules (Lindgren & Jansson 2013). Notably, profit is not the main mandate but giving apt access to public services. Subsequently, designing E-Services for public sector requires a focus on specific features and contexts of public sector. The public E-service processes and complexity differs from

private E-Services as public sector is guided by regulations, statutes, and processes; processes take longer and are more complicated. (Brooks & Alam 2014).

E-Administration is the use of ICT to improve administrative processes and the internal working of an organization's departments (Batta, Sethi & Kaur 2012). E-Services focus on so called "front–office" relations while E-Administration refers to the so called "back-office" organizational systems that deal with improving management from streamlining internal processes to cross-departmental information flow. It is based on various types of management work, internal routines, computerizing administrative jobs and realizing strategic connections among departments (Khan, 2013). Globally E-Administration is changing the service delivery by reducing knowledge, increasing information access and control makes administration more informed, in a better position to understand and exercise its rights and E-Administration (World Bank, 2012).

E-Participation refers to the use of ICTs to increase and enhance citizens' engagement in democratic processes, improved citizen participation and involvement enabled by ICTs in the decision-making process such as an E-Parliament, E-Initiatives, E-Voting, E-Petitions, E-Consultations (Milakovich, 2010; Shirazi *et al*., 2010; Yigit & Colak, 2010). Although it is the most difficult to generate and sustain feature of E-government E-democracy is regarded as a panacea capable of curing democratic fatigue and revitalizing or modernizing democratic processes (Kneuer, 2013). Advocates for alternative forms of democracy, such as deliberative or direct democracy, see it as facilitating new prospects for citizen deliberation and direct decision-making (Dahlgren, 2013).

1.1.1 Global Perspective of E-Government Strategies

In the past few decades, there has been a significant acceleration of many government agencies trying to use different lCTs like wide area networks, Internet, and mobile computing to adopt E-Government (World Bank Group, 2012). Globally E-Government strategies have rapidly moved from simple information provision and websites interactions to more complex transactional exchanges. The E-Government focuses on

developing cohesion services that provide cross government, nationwide, data integration and seamless transaction (Gatra, 2011).A United Nations, E-Government survey of 2012 focusing on governance solutions that enhance service delivery and streamline public sector efficiency, found that 190 out of 193 governments have put in place E-Government strategies and e-applications for the people to further enhance public sector efficiencies and streamline governance systems to support sustainable development compared to 2008 when they were 179 countries (UN, 2012).

The rankings reflected an assessment of which countries are undertaking their E-Government development with a view to integrated, user-centric public service delivery. The assessment focused on the concept of integrated services that exploit inter-linkages among different public services on a functionally and/or thematically similar one-stop-shop portal, thereby improving and facilitating citizen experience, allowing for back office integration across governmental departments and strengthening institutional arrangements (Sharma, 2012; UN, 2012).

E-Government survey rankings index shows that the Republic of Korea leads globally with an index of (0.9283) followed by Netherlands (0.9125), United Kingdom (0.8960) and Denmark (0.8889), the United States, Canada, France, Norway, Singapore and Sweden close behind. The steady improvement in all the E-Government development index indicators has led to a world average of 0.4877 as compared to 0.4406 in 2010 showing that countries have improved their online service delivery to cater to citizens' needs. Globally, Europe leads with an average of 0.7188 while Africa comes last with an average of 0.2780.

1.1.2 Regional Perspective of E-Government Strategies

Regionally many governments have taken progressive steps towards exploiting the potential and adopting E-Government with the objective of enhancing free flow of information, citizens' participation in the public policy processes, promoting productivity among the public servants, and improving the public service delivery (Njuru, 2011).

According to the UN (2012) E-Government survey Seychelles (0.5192) moved a few points to number one in the region in 2012 followed, by Mauritius (0.5066) and South Africa (0.4869). It is notable that all the African leaders increased their E-Government development index value in 2012 but lost in comparative index worldwide, but for Kenya and Morocco, which gained in world rankings from 124 to 119 and from 126 to 120 respectively. Tunisia (0.4833) and Egypt (0.4611) declined in rank substantially as did Cape Verde (0.4297) as their advances did not keep pace with other countries worldwide.

1.1.3 Local Perspective of E-Government Strategies

Decades ago, E-Government was not as prominent in Kenya as it is today and has evolved with many expectations, including improving the way public services are rendered. The E-Government strategy was approved in 2004, with a mandate of providing institutional framework that will spearhead E-Government initiatives in transforming the Kenyan public sector (E-Government Website, 2014). The government recognized E-Government as key driver to the provision of effective and accessible services to citizens, business organizations and public agencies. The Kenya Vision 2030 recognizes ICT as a key development and success pillar. E-Government spares citizens travel time to state agencies and allows round-the-clock access to services.

Commendable efforts have been made on E-Government, capacity building and infrastructural growth (Waema, 2012). The national ICT policy was approved under the Ministry of Information and Communications in 2006 (Syamsuddin, 2011; Wamoto, 2015). The government has since initiated several E-Government systems with the aim of enhancing efficiency, transparency and democracy within public administration (Wamoto, 2015). Key among them is the Kenya Revenue Authority I-Tax initiative, The National treasury IFMIS initiative, Ministry of Devolution and Planning for the Huduma Centers programme and the GHRIS initiative, Ministry of Finance e-citizen gateway portal to government services supported by ICT Authority (RoK, 2014).

1.1.4 Public Service Delivery

Public service delivery is key in ensuring that governments meet commitment to citizens as well as realization of development. The public service delivery in terms of quality, ease of access, speed of provision and cost is key in poverty alleviation and achievement of developmental goals such as Sustainable Development Goals (SDGs) (Okello, 2014). This can be directly and indirectly by enhancing the availability and affordability of education, health, energy, ICT services, poverty alleviation and empowering women through entrepreneurial and employment creation opportunities in services enterprises respectively (Isango, 2012).

Government performance is measured through service delivery and is therefore an essential function in the relationship between government and citizens (Abe & Monisola, 2014). In the 21st century, the growing demand for accountability and efficient governance and provision of services have put under pressure on governments and public sector to deliver not only quality, but efficient and effective services (Maranga, 2012).

Africa in particular, governments are trying to tackle the demand for efficient governance by re-engineering the processes of how government services are delivered to people. In this regard, E-Government has played, and is still playing a major role in developing and delivering services to citizens using online platforms that are faster and efficient. According to a 2014 Kenyan Public Service Commission evaluation report on the Public Service Compliance with Values and Principles in Articles 10 and 232 of the Constitution evaluation findings show that the public service, is making much effort at increasing the uptake of E-Government in service delivery. This has led to prompt and impartial service delivery.

1.1.5 Strategy Execution

Strategic management consists of the analysis, decisions, and actions an organization undertakes in order to create and sustain competitive advantage (Migale, Brent, & Stimie,

2019). It involves decision-making about an organization's objectives (Shamila, Muhammad & Sohail 2016). According to Sull, Homkes, and Sull (2015), creating a brilliant strategy is nothing compared to executing it successfully. Execution is critical to success, without a carefully and well planned approach to execution, strategic goals cannot be attained. Therefore, in striving to achieve intended results, good strategies should be properly implemented. Strategy implementation entails converting the strategic plan into action and then into results. This strategic process is geared towards improving a firm's performance.

The strategy execution relates to the use of managerial and organizational tools to direct resources towards the achievement of strategic results. The strategy execution has also been defined as the administration and execution of strategy plan. The strategy execution has also been defined as the building of capable organization through resources allocation to critical action plans, establishment on an enabling environment, embracing best practices as well as best practices. Strategy execution has also been depicted as when the strategy gets relayed to the organization, so that the staff involved knows the "what", "why" and "how" of the strategy (Levenson, 2018). It is where the people, departments, budgets and resources involved are allocated and coordinated in a cooperating symbiosis. Strategy execution is also considered to be the moderation through which the actual implementation processes is scrutinized, managed and adjusted to the experiences and consequences that the organization encounter, as a result of implementing the strategy (de Oliveira, Carneiro, & Esteves, 2019).

Mutisya (2016) indicates that strategy implementation involves the resources allocation in the pursuing of the chosen strategies within an organization. According to Rintaru and Moronge (2012), strategy has been defined as the direction and scope the organization wishes to go in the long-term. "Strategy has also been defined as a set of decisions that guides organizations" operations. Strategy execution is the practice of translating, communicating, coordinating, adapting and allocating resources to a chosen strategy; while managing the process of strategy implementation" (Nnamani, Ejim & Ozobu, 2015). Strategy execution is a critical influencer of performance in any organization. There are

diverse factors that influence strategy implementation and its success including top management commitment, employee engagement, communication of strategies, cascading accountabilities, selecting the best people to drive key initiatives, and the ability to monitor and tract progress. Other aspects include adequacy of feedback system, sufficiency of resources, resources deployment, leadership skills, staff motivation, and a supportive company culture.

1.1.6 State Agencies in Kenya

State agencies are government entities incorporated outside the mainstream civil service established for purposes of public service delivery and according to RoK (2015) Kenya has 132 state agencies made up of 62 executive agencies, 25 independent regulatory bodies and 45 Research Institutions, Public Universities and Tertiary Education Institutions.

The agencies are established for specified purposes such as policy and regulation, undertake specific strategic government objectives in delivering public service (RoK, 2014). Whilst enabling states achieve the said goals, they play a huge role in enabling social and economic transformation, improve public service delivery, and create good and widespread opportunities in various jurisdictions (RoK, 2013).

1.2 Statement of the Problem

An ACAL (2014) citizens satisfaction survey commissioned by the Republic of Kenya's Ministry of Devolution and Planning to assess the citizens satisfaction with government's service delivery estimated that the overall Citizen Satisfaction Index (CSI) calculated through Principal Component Analysis (CPA) revealed a satisfaction level of 59.4%. A TI (2013) survey reported that 41% of Kenyans were dissatisfied with government's service delivery. An exploratory survey by Crandal and Mutuku (2011) on Kenyan public service delivery and government interaction indicated 45 % of the respondents had negative comments, citing complaints about service delivery. The need for improved

service delivery has increased and according to Obudo and Wario (2015), state agencies, are under immense pressure to increase efficiency and improve service delivery.

The Kenyan Government enacted and approved the Kenya E-Government Strategy in 2004 (Mungai, 2017). It was introduced to tackle public service delivery challenges, has since gained growth which is vital in facilitating economic development and henceforth, the government continues to give utmost consideration thereto (Kane, 2010). Despite its efforts, Kenya is currently ranked number 119 globally, retaining same ranking since 2012. However, focusing on the African countries ranking, Kenya declined from position 7 in 2012 (UN, 2012) to number 9 in 2014 (UN, 2014). According to E-Government Development Index Kenya was ranked at position 2 in East Africa after Rwanda (UN, 2014). Reports indicate that most government entities with E-Government strategies are not utilizing E-Government for an expansive extent of their transactions (Mungai, 2017). Not to mention E-Government in developing countries fail to meet many of their expected objectives and outcomes and, in some instances, fail to get off the ground entirely (Alshehri & Drew, 2010; Mahmood, 2013; Nkwe, 2012).

Several studies have been conducted on E-Government in Kenya and include analysis of factors hindering or promoting successful implementation of E-Government (Mungai, 2012; Wamoto, 2015); a review of the implementation of the bouquet of E-Government services in e-Citizen (Ondego & Moturi, 2016); impact of E-Government on public policy on technology adoption (Njuru, 2011; Gathungu & Mungai, 2014); implementation and integration frameworks (Maweu & Karani, 2014); E-Participation in E-Governance (Omariba & Okebiro, 2015).

Ahmad *et al.* (2012) concluded that E-Governments in the African countries face many difficulties and there is need for more home-grown studies to bridge the existing knowledge gaps. The purpose of this study therefore to fill this gap from a service delivery perspective as it is not clear how E-Government strategy has been implemented in state agencies and how it may have enhanced their service delivery targets. There is less focus

on the extent, insights and patterns of the impact of E-Government strategy on the public service delivery in Kenya.

Additionally, although research indicates E-Government impacts public service delivery (Alaaraj & Ibrahim, 2014), there is a lack of adequate scholarly attention on E-Government and service delivery from public administration and management perspective (Bhuiyan, 2011). Empirical research is also lacking on the moderating role of strategy execution on the relationship between E-Government and public service delivery.

1.3 Research Objectives

The objectives of the study are as herein shown. Highlighting the objectives in a study plays an important role in showing the framework and key aspects an sub-themes that the study intends to achieve. The objectives are shown in two main parts. First is the general objective which shows the overall intention of the study and secondly is the specific objectives which narrows-down the general objective to focus on key aspects.

1.3.1 General Objective

The main aim of this study was to examine the influence of E-Government strategies on the public service delivery among state agencies in Kenya.

1.3.2 Specific Objectives

In order to carry out the study effectively, five key objectives were identified.

  i.   To examine the influence of E-Commerce on the public service delivery among state agencies in Kenya.
 ii.   To establish the influence of E-Services on the public service delivery among state agencies in Kenya.
iii.   To determine the influence of E-Administration on public service delivery among state agencies in Kenya.

iv. To assess the influence of E-Participation on the public service delivery among state agencies in Kenya.

v. To investigate the moderating effect of strategy execution on the relationship between E-Government strategies and public service delivery of state agencies in Kenya.

1.4 Research Hypotheses

The study aimed to test the following null hypotheses:

H_{01}: E-Commerce does not significantly influence the public service delivery of state agencies in Kenya.

H_{02}: E-Services does not significantly influence public service delivery of state agencies in Kenya.

H_{03}: E-Administration does not significantly influence the public service delivery of state agencies in Kenya.

H_{04}: E-Participation do not significantly influence the public service delivery of state agencies in Kenya.

H_{05}: Strategy execution has no moderating effect on the relationship between E-Government strategies and public service delivery of state agencies in Kenya.

1.5 Justification of the Study

The study findings were expected to provide information on the influence of E-Government strategy on the public service delivery of state agencies in Kenya. The beneficiaries of the findings of the study include:

1.5.1 Government of Kenya and policy makers

Given ongoing pressures on governments at all levels to ensure value for money while delivering public services, it is vital that state agencies understand how their customers see them and the use of E-Government strategies, help administrators, practitioners and managers appreciate the critical success factors, implications, benefits and challenges associated with the use of E-Government strategies. The finding of the study provided insights into the trends and direction E-Government has taken in the 21st Century. This may influence the business policies concerning E-Government and public service delivery formulated to ensure that they are in line with the market trends. Such policies also influence the attainment of Sustainable Development Goals (SDGs) and Vision 2030.

1.5.2 Researchers and Scholars

The study findings are expected to benefit researchers and scholars. The findings lay a theoretical framework for future empirical study on E-Government strategy approaches and public service delivery performance. The study may be a source of inspiration to other scholars in developing a practical approach of operationalizing E-Government strategies and public service delivery.

1.5.3 Public Sector Organizations

Effective research on the proposed area of study is essential to determining whether the quality of public service is improving or not from the point of view of the customer. It is an important means of determining if the proposed strategy is effective and where improvements that will make the biggest difference to customers can be made.

1.6 Scope of the Study

The study sought to examine the influence of E-Government strategies on the public service delivery of state agencies in Kenya. The study specifically sought to establish the influence of E-Commerce, E-Services, E-Administration and E-Democracy on the public

service delivery of state agencies in Kenya. It further sought to determine the influence of strategy execution as a moderating variable on the public service delivery of state agencies in Kenya.

The study focused on the state agencies in Kenya. According to the State Corporations Advisory Committee (2018), there are 132 state agencies in Kenya as at December 2018. The study specifically targeted 4,230 employees within the management cadre at the state agencies comprising of 62 Executive Agencies, 25 Independent Regulatory Bodies as well as 45 Research Institutions, Public Universities and Tertiary Education Institutions as depicted in Appendix IV as at December 2018. This study was conducted in the period between December 2018 and July 2019 and focused on a five year period one the corporations which ranged from 2014 to 2018.

1.7 Limitations of the Study

In the course of this study experienced several limitations. The first limitation was that some target agencies considered some information as confidential and employees were not allowed to disclose without prior consent. The research overcame the limitation by having a letter of introduction from the university to assure the management of the target institutions and respondents that the information provided was strictly for academic purpose and would be treated with confidentiality. A research permit from the National Commission for Science, Technology and Innovation (NACOSTI) was presented to the companies' management in order to eliminate suspicion and enable the respondents to disclose the information sought. Some of the respondents failed to complete the questionnaire correctly because of misunderstanding of some issues and clarity of the questions. This was mitigated by clarification of issues that could not be easily understood by respondents. Also, inadequate responses to the study questions and unexpected occurrences like respondents leaving before completing the questionnaire were encountered. These challenges were mitigated through constant reminders and revisit to the respondents during the survey period.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter offered an overview of related literature and past studies on E-Government in relation to public service delivery. The relations between E-Commerce, E-Services, E-Administration and E-Participation as independent variables, strategy execution as a moderating variable and public service delivery as the dependent variable. It also provided a theoretical and conceptual framework adopted by the study.

2.2 Theoretical Review

A theory is a set of systematic interrelated concepts, definitions, and propositions that try to explain and predict phenomenon (facts) (Cooper & Schindler, 2014). According to Defee *et al*. (2010), good research should be grounded in theory and therefore the study was anchored on the following theories; New Public Management (NPM), Technology Diffusion Theory, Unified Theory of Acceptance and Use of Technology (UTAUT), Actor Network Theory (ANT), Dynamic Capability Theory and Contingency Theory.

2.2.1 New Public Management (NPM) Theory

New Public Management theory was proposed by Hood (1991) in the 1980s and 1990s whilst arguing for the reconfiguration of the public sector along more cost efficient and effective lines (Sunday & Lawal, 2016). Kihoro *et al*. (2017) asserts that NPM reforms aim at improving public service delivery, public expenditure saving, efficiency of governmental operations and effective policy implementation. The belief that large and monopolistic public bureaucracies are inefficient was a vital force driving the emergence of the NPM (Prasetyo *et al*., 2018). Gumede and Dipholo (2014) stressed the need to reinvent government, harness entrepreneurial spirit to transform the public sector and later "banish the bureaucracy". Bourgon (2017) states that NPM represents ideas, values and

practices aimed at emulating private sector practices in the public sector and as per Al-Otaibi (2015) NPM takes its intellectual foundations from public choice theory, which looks at government from the perception of markets, productivity, and from management methods to achieve productivity.

The underlying issues NPM attempts to resolve are citizen-centered services; value for taxpayers' money and a responsive public service. NPM has also been supported by Shimengah (2018) who says that the dominant theme of NPM is the use of market techniques to improve the public sector performance. The key features of NPM include performance management, e-governance, contracting and outsourcing, decentralization and accountability among others (Dassah, 2017).

NPM theory has been criticized for several short comings. First, Young and Grant (2015) stressed that NPM introduces a paradox of centralization via decentralization. Giving public managers more authority to manage programs resulting in concentrating decisions making in them. Thus, NPM may lead to centralized decision making by public managers, rather than encouraging decentralization in public organizations as it claims. The second criticism is that while NPM has encouraged the use of private sector management techniques, there is risk associated with adopting some private sector practices. Academicians argue that most public service and administration have distinct political, ethical, constitutional and social dimensions and these factors make the public sector different from the private sector (Lucianelli & Citro, 2017).

Some studies have indicated that the NPM reforms do not necessarily lead to improved public service delivery. For example, Bureau *et al*. (2014) analyzed governments' attempts at providing better and affordable health-care services in Germany, United Kingdom, Switzerland, France and Italy. The study concluded that NPM led to greater inequity and bureaucracy in some countries. Competition, a major characteristic of the theory, did not necessarily lead to better health outcomes, and, unlike in other sectors, the application of NPM theory in health care meant larger providers (insurers, hospitals) and regulations have remained strong.

Lastly, Mongkol (2011) argued that even though the NPM theory is based on applying market principles into public policy and management developing country governments often have little experience in the operation of markets. Basic infrastructure of management in developing nations is also not developed enough to support the reforms (Barker, 2006). Moreover, there are various factors which are required before the market can be effective. Mongkol (2011) pointed out that markets are ineffective without the rule of law, for example, to ensure compliance with contracts.

NPM supports the public service delivery variable and provides a unique perspective for exploring additional insight into the public service delivery challenges in line with emerging governance dynamics. The rationale of leveraging E-Government strategy is to ensure efficient public service delivery. In this regard, E-Government strategy is an important tool for NPM reforms in improving the quality public services and increasing the efficiency of governmental operations. NPM theory is therefore, evident in the quality of services delivered by the public service sector and provides a foundation for predicting the link between e-government and the public service delivery variable.

2.2.2 Technology Diffusion Theory

Samoei and Ndede (2018) states that the theory emanated from Everett M. Rogers in 1962 who defined diffusion as innovations acceptable and the adoption process by a society or individuals. Diffusion entails five elements that is early adopters, innovators, late majority laggards and early majority. Rogers explains that over time an innovation or an idea acquires impetus therefore spreading by a social system which is specific. Zhang et al (2015) acknowledges that the theory is the usual lens by which theorist carry out study on development and adoption of new ideas.

The theory positions that it is easier to implement innovations that show an improved advantage over that which is to be replaced, making it easier to adopt Adegbola (2018). Further it tries to explain how adoption is made to new ideas and innovations by suggesting attributes that have relative advantage when new innovations are seen to be

better than the previous one being replaced, the five innovation attributes, are: observability, compatibility, trial ability, relative advantage and complexity (Ouma & Mwangangi, 2018).

The theory provides a vital perspective on one of the most challenging topics within the innovation field, namely, technology assessment, improvement, adoption and implementation thus has become a common reference theory for empirical studies of technological strategies as its strength lies in its utility (Atkin, Hunt & Lin, 2015). It provides well-developed concepts and a large body of empirical results applicable to the study of technology evaluation, adoption and implementation, provides tools, both quantitative and qualitative, for assessing the likely rate of diffusion of a technology, and additionally, identifies numerous factors that facilitate or hinder technology adoption and implementation (Bosire & Wamache, 2017).

While the theory has been recognized for its role in elucidating technological innovations, limits such as pro-innovation bias have been raised, where the implication that innovations should be diffused to be adopted by all members of a social system, it should be diffused rapidly, and that innovations should be neither re-invented (Hazelman, 2017). Secondly there is individual-blame bias, inclination to hold people responsible for their problems, rather the system of which an individual is a part. Third is recall issue, where respondents are asked to remember a time at which they adopted a new idea which can lead to inaccuracies. Fourth is equality, as socioeconomic gaps among members of a social system are often widened as a result of the spread of new ideas.

Technology Diffusion Theory contributes to the current study since its relevant in the revolution of E-commerce as part of E-Government and how it in turn affects Public Service Delivery. The theory provides tools, both quantitative and qualitative, for assessing the likely rate of diffusion of a technology, and additionally, identifies numerous factors that facilitate or hinder technology adoption and implementation thereby supports the first research hypothesis: H_{01}: E-Commerce does not significantly influence the public service delivery of state agencies in Kenya.

2.2.3 Unified Theory of Acceptance and Use of Technology (UTAUT)

UTAUT was developed by Venkatesh *et al.* (2016) in the 2000s and is based on social cognitive theory with a combination of eight prominent ICT acceptance research models; the theory of reasoned action (TRA), the theory of planned behaviour (TPB), the technology acceptance model (TAM), the motivational Model (MM), a model combining the technology acceptance model and the theory of planned behaviour (C-TAM-TPB), the model of PC Utilization (MPCU), the innovation diffusion theory (ID) and socio cognitive theory (SCT).

UTAUT aims to explain user intentions to use an information system and subsequent usage behavior. Maruping *et al.* (2017) affirms that the UTAUT leverages on performance expectancy, effort expectancy, and social influence to predict behavioural intention towards the acceptance of ICT. The theory further proposes that the model constructs are moderated by facilitating conditions and behavioural intention made up of gender, age, experience and voluntariness to predict user behaviour in the acceptance of ICT (Dwivedi *et al.*, 2019).

Gao, Yang, and Krogstie, (2015) highlighted that though UTAUT has not been as widely used as other ICT acceptance research models, it has gradually drawn researchers' attentions, due to its unified perspective and has been recently applied to exploring user acceptance of ICTs. UTAUT integrated and improved the past technology acceptance models and provided a more complete one to explain users' behavioral intention and use behavior (Lu, Lin, & Lin, 2016). Yi, Lee & Kim (2017) concurs that empirical studies have proved UTAUT is more influential in explaining ICT than others, and this had brought about a great help for the study of technology acceptance.

A review of the literature shows that although UTAUT is robust model and many researchers have validated it in different contexts, it is still plagued by limitations that reduce the model's use prediction accuracy (Alshamaila, 2013). The most important limitation of UTAUT is the large number of independent variables and Ali and Soar

(2018) concur that "the exposition of UTAUT is a well-meaning and thoughtful presentation but if not managed well in the end we are left with a model with 41 independent variables for predicting intentions and at least eight independent variables for predicting behaviour" and this can contribute to chaos.

Secondly according to Khanyako (2014) another limitation of UTAUT is in the scales used to measure the core constructs which affects content validity (choosing the highest-loading items which resulted in items from some of the models not being represented in some of the core constructs). Suggested therefore is the need to view the measures of UTAUT as preliminary and for future research to develop appropriate scales for each of the constructs that address the issue of content validity.

Wang (2016) asserts that UTAUT provides practitioners with a means of assessing the possibilities of success following the introduction of technology as well as to understand drivers of acceptance of technology hence design interventions against potential resistance and supports the second research hypothesis H_{02}: E-Services does not significantly influence the public service delivery of state agencies in Kenya.

2.2.4 Dynamic Capability Theory

Dynamic capability theory, whose proponents are David Teece and Gary Pisano defines the organization's ability to purposely establish, reconfigure, create and assimilate internal and external capabilities as well as resources with the goal of improving performance, service delivery and address the fast-changing business environment (Kiende, Mukulu & Odhiambo, 2019). According to Gizawi (2014) it was originally coined in 1994 then refined in the year 2000 by Eisenhardt and Martin who defined dynamic capabilities as "organizational and strategic practices by which organizations realize new resource configurations as business environment emerge, collide, split evolve and die" giving organizations the ability to integrate, develop, and leverage on the environmental competitive advantage.

Dynamic capability theory emerged as a consequence of the inadequacies of the resource-based view (RBV) theory disapproved for overlooking factors surrounding resources instead of assuming that they exist. RBV theory underlines the choice of resource to be leveraged on while dynamic capability theory underlines the resources development and renewal (Liozu & Hinterhuber, 2013). Akhamiokhor (2017) concurs that dynamic capability is an evolutionary version of the resource-based view as it has similar conventions nonetheless it considers the dynamic and turbulent landscape of present-day business environment thereby integrating vital internal and external strategic aspects such as institutional and market position.

Critics have termed it as incomplete in terms of specifics given that it is not able to explain when there is need for change and when is not (Moldoveanu, 2016). According to Akhamiokhor (2017) there is also no explicit facts elucidating firm pricing as well as opportunity costs of strategic changes implemented in organizations as the theory mainly discusses changes important to organization survival. Arndt and Bach (2015) concurs that it does not scrutinize the cost of changes and at what equilibrium cost a change can be affected and not disrupt organizational performance. Another criticism is from Galvin, Rice, and Liao (2014) that the theory appears to be unconvincing, elastic and lacks definitional boundaries. Eisenhardt and Martin (2000) tried to redefine the theory and clarify some of the questions raised but failed to answer the measurement criteria in terms of what defines a dynamic capability, therefore giving the impression that dynamic capability appears everywhere whether at the operational level or at the environmental level.

With the dynamic business environment forcing organizations to incorporate strategic changes ranging from organizational structures, culture, marketing and customer's tastes and preferences organization ought to have the ability to respond to changes adequately, timely and in the most effective manner. This requires the adoption of different strategies that will harness multiple organizational capabilities (Chien & Tsai, 2012). The Dynamic Capabilities theory focuses on the firm's ability to quickly orchestrate and reconfigure externally sourced competences while leveraging internal resources and supports the third

research hypothesis: H_{03}: E-Administration does not significantly influence the public service delivery of state agencies in Kenya.

2.2.5 Actor Network Theory (ANT)

ANT was proposed in 2002 as a sociological theory by Bruno Latour, Michel Callon and John Law (Ochsner, 2017). Sakarkar, Deshpande and Thakare (2014) states that it defines technological innovations as a process which inseparable social and technical elements know as actors or actants are connected together to form as well as strengthen the network. Any actor, whether person, object (including software, hardware, and technical standards), or organization, is vital to a network as such, societal order is effectively instigated by a smooth-running actor network and when certain actors are detached order begins to fail (Akanle, Yusuf, D Ola-Lawson, & Akanle, 2018).

Carlsson (2017) states that ANT does not explain why networks are made, but how and requires impartiality when defining how actors within same theoretical frameworks communicate and network regardless of their status. A key tenet of ANT is the precept of heterogonous networking and according to De Araujo and De Albuquerque (2014) ANT stands out from other network theories by the fact that to realize objectives it leverages on many unlike elements (actors) working in harmony to create structured entities, or networks by resource allocation, communicating, defined roles, interdependent relationships formation and routine preset behaviors.

The key ANT limitations involve interrogations about whether it ever had a basis in history and how the theory addresses non-participants in the network (Otieno, 2016). Roy (2015) states that scholars have argued that ANT implies that all actors in the network are of equal importance which may be untrue. Shim and Shin, (2019) concurs that based on the above implication ANT is overly managerial, does not explain pre-existing structures, such as power, but sees these structures as emergent from network actors' actions and ANT's ability to align actors in pursuit of their interests.

Secondly critics have argued that ANT based research is completely descriptive and fails to offer explanations for social processes. Like similar social scientific methods ANT, requires researcher's judgment ability in determining the substantial, less significant and the none significant actors within the network (Lazova, 2018). Critics say that significance of certain actors cannot be identified in the absence of 'out-of-network' criteria. Similarly, others like Dymitrowv (2018) argue that given that social and technical elements can be networked with each other Actor-Networks risk deteriorating into endless chains of association.

ANT appreciates the vital role played by both the social as well as the technical and in order to determine the success of any process that incorporates the two, each element social or technical needs to be understood from the perception of the role played towards the overall objective (Mulwa, Ndati & Muthini, 2014). Informed by the fact that neither inherent properties of technology nor properties of the social context determine the success or failure of e-participation strategies rather the associations are created and exist between the strategy and its immediate technical and social actants, ANT supports the fourth research hypothesis: H_{04}: E-Participation do not significantly influence the public service delivery of state agencies in Kenya.

2.2.6 Contingency Theory of Management

Occasionally referred to as 'circumstantial' or 'situational' management theory contingency theory of management is based on the ideology that many situations direct managerial actions, that is, different circumstances call for different tactics and the theory was first proposed by Lawrence and Lorsch in 1967 (Juma & Kimencu, 2017). According to Lutans (2011) it challenges the "one size does not fit all" management style and Kulkarni (2017), concurs that the ideal strategic direction an organization can embrace is dependent upon internal and external situations, therefore it should be noted that there is no silver bullet in management, leadership, decision or strategy execution but the organization should bear in mind the conditions surrounding its operations.

Management theorists have embraced the contingency theory because of its ability to correlate organizational performance and design, and the implication that earlier prescriptions from scientific management for organizational structure and strategy 'blue-prints' were inappropriate (Kozielski, (2018). Martin, McKelvie and Lumpkin, (2016) highlights that it has been extensively used as an empirical, survey-based method to determine correlations present amongst 'contextual variables' (size, technology and environment), structural aspects of the organization (degree of formalization, standardization and centralization) and their effect upon performance.

As with any theory, contingency theory per se has some limitations and within the organization theory arena, it has been criticized for its deterministic assumptions and untheorized empiricism, self-contradictory and inconsistent empirical results with low explained variance, ill-defined concepts of fit and performance (Theodoraki, 2012). Detractors claim that there is a lack of literature on the topic and so while it has been said that different situations necessitate a different reaction, the best managerial actions for responding to different situations is uncertain and reactive in nature suggesting the course of action only after the state of affairs has changed. (Lockwood, Murray & Skokic, 2015). Other critics submit that the theory is far too demanding on management, too intricate and that any given setting is multivariate, hardly will any two setups be precisely similar and a successful response in one circumstance will not automatically flourish in another (Adegbite, Simintiras, Dwivedi & Ifie, 2018).

None the less the theory is applicable to the study, as according to Mitchell (2018) it underscores the fact that strategy execution is a risky affair, most (if not all) strategic projects operate in fragile and dynamic environments that are uncertain and ever-changing; hence, the need for the strategists to device and put into practice diverse management approaches (strategies), contingent on the prevailing circumstances. The theory supports the moderating variable "strategy execution" by saying that instead of, leveraging on general principles that can be applicable to all situations, the theory attempts to identify contingency principles that prescribe actions to take in line with the predicament at hand and this theory supports the fifth research hypothesis: H_{05}: There is

no moderating effect of strategy execution on the public service delivery of state agencies in Kenya.

2.2.7 Governance Theory of Service Delivery

The governance theory of service delivery was publicized by Stoker (1998), in an attempt to expound on how delivery of public services is the mandate of those in the governance positions and how this should be streamlined to make a difference in the social welfare. World Bank (1991) defines governance as the exercise of political authority and the use of institutional resources to manage society's problems and affairs. As a theory, Governance is concerned with steering actions of political authorities as they deliberately attempt to shape socio-economic structures and processes (Myantz, 2003).

The theory identifies the blurring of boundaries and responsibilities for tackling social and economic issues. This shift in responsibility goes beyond the public-private dimension to include notions of communitarianism and social capital. Governance identifies the power dependence involved in the relationships between institutions involved in collective action. According to Rhodes (2008), organizations are dependent upon each other for the achievement of collective action, and thus must exchange resources and negotiate shared understanding of ultimate program goals. It is about autonomous self-governing networks of actors aimed at enhancing the access to government services including education, healthcare, and road network among others. The governance theory recognizes the capacity to get things done which does not rest on the power of government to command or use its authority, but through the set institutions such as the state agencies.

The theory assumes that the government should focus on the formulation of public policy on service delivery and leave the implementation to other bodies, such as the state corporations. This encourages outsourcing, agentification and a stronger emphasis on market mechanisms to provide the best quality of services to the members of the public (Sorenson & Torfing, 2007). Public actors should control the implementation by performance indicators or market mechanisms. The assumption is that the more the

separation of policy implementation from the policy formulation, the more the participation by public actors in the implementation process, and the more the realization of efficiency on the process outcomes. These arguments, therefore, make the governance theory of service delivery to be essential in this study in enhancing the conceptualization of the dependent variable – the service delivery.

2.3 Conceptual Framework

Mugenda (2008) describes it as a concise description of the phenomenon under study accompanied by a graphical or visual depiction of the major study variables whereas Were, Gakure, Kiraithe and Waititu (2013), defined it as a pictorial representation, or relationships between empirical properties. The study utilized the conceptual framework illustrated below depicting the relationship between the independent, moderating and the dependent variables

E-Commerce

- E-Procurement
- E-Billing and Payment Gateways
- E-Marketing
- E-Custom Clearance Systems

E-Services

- One-Stop Service Centers
- E-Searching and Information Provision
- Electronic Tax Filing (E-Filing)
- Electronic Licensing (E-

Public Service Delivery

- Customer Satisfaction
- Accountability
- Cost efficiency
- Transparency

E-Administration

- Electronic Data Interchange (EDI)
- Integrated Human Resources and Payroll Systems
- Integrated Financial Management Systems
- Web-Based Collaborative Platforms

E-Participation

- Open Data Initiatives
- E-Voting
- Cyber Campaigns and Petitions
- Reputation systems

Strategy Execution

- Situational Analysis
- Strategy Formulation
- Strategy Implementation
- Strategy Evaluation Audits

Independent Variables   **Moderating Variable**   **Dependent Variable**

Figure 2.1: Conceptual Framework

2.3.1 E-Commerce

E-Commerce, refers to conducting commercial activities via electronic media, and most commonly, the internet (Kinuthia & Akinnusi, 2014). Nath (2013) defined e-commerce as the buying and selling of goods and services over the World Wide Web or internet. It is apparent from the variety of definitions offered that the key attributes of e-commerce relate to all technology mediated exchanges between organizations and a third party, different forms of electronic media are engaged at some point to facilitate such exchanges (Kinuthia & Akinnusi, 2014; Litondo & Ntale, 2013; Wanjau, Macharia, & Ayodo, 2012).

Though an emerging technology, E-Commerce has proved that it is a key feature in economic development worldwide, it has been adapted as an E-Government strategy by many organizations and governments to operate dynamically by digitizing business processes such as procurement, billing and payment gateways, banking, electronic funds transfer (EFT), marketing as well as custom clearance systems (Detlor *et al*., 2013). Although experts differ in predictions about the anticipated E-Commerce growth rate, how long it will take for it to be substantial portion of the economy, as well as in the industry segments that will grow the fastest the consensus regarding the future of E-Commerce is that it is bright and has become an increasingly important method of reaching customers, providing services, and improving operations of organizations (Sarode, 2015).

2.3.2 E-Services

Considered mainly as a front-end platform Denis-Re´mis *et al*. (2011) defines E-Services as the use of ICT to facilitate, perform, and process front end customer facing services including awareness, transaction, interaction, and distribution to improved delivery of public services to citizens. Some examples of E-Services are: requests for public documents, requests for legal documents and certificates, issuing permits and licenses. Santosh and Dikshit, (2018) highlights that E-Services is also known as electronic service delivery (ESD) of government information, programs and services which are available on-line "24h/7days."

Kozak, (2018) states that E-Services appear to be the easiest aspect of E-Government to leverage on in a short run via approaches such as 'one-stop service centers', E-Searching and Information Provision, Electronic Tax Filing (E-Filing), Electronic Licensing (E-Licensing) that citizen needs are met through a single contact with the government. For example, E-Searching and information provision can be simply achieved by proper design and navigation of websites while E-Participation and E-Democracy initiatives such as reputation systems, open data initiatives, E-Voting, citizen E-Juries, social translucence mechanisms, cyber campaigns and online petitions on the other hand might be more problematic (Kozak, 2018).

2.3.3 E-Administration

Also referred to as E-Management, is the use of ICT to improve administrative processes and the internal working of departments within an organization (Batta, Sethi & Kaur 2012). Ahmadi Zeleti, Ojo and Uusitalo, (2013) states that while E-Services focus on so called "front–office" relations, E-Administration refers to the so called "back-office" organizational systems. E-Government strategies within this domain deal with improving management from streamlining internal processes, cross-departmental flow of information and include initiatives such as E-Mail, Integrated human resources and payroll systems, Integrated financial management systems, web-based collaborative data resources platforms, electronic filing systems, electronic document management (EDMS), E-Recruitment as well as enterprise resource planning (Wallang, 2018).

According to Lavanya (2015), given its back-office capability E-Administration is usually recognized as a precondition for developing E-Services and E-Democracy and to have well working E-Services, E-Administration is vital for the effective use and transfer of information, data and electronic records between various public institutions as it refers to the incorporation of ICT in public administrations from two perspectives: intra-office and inter-office. Simões, (2011) concurs that E-Administration stands on the administrative modernization issue, on efficiency and efficacy of services and whether electronic services do or do not improve services to citizens.

2.3.4 E-Participation

E-Participation, also referred to as E-Democracy can broadly be described as the use of ICTs to increase and enhance citizens' engagement in democratic processes, greater and more active citizen participation and involvement enabled by ICTs in the decision-making process such as an E-Parliament, E-Initiatives, E-Legislation, E-Justice, E-Mediation, E-Environment, E-Voting, E-Petitions, E-Consultations E-Participation, E-Campaigning and E-Polling (E-Surveying) (Milakovich, 2010; Shirazi *et al*., 2010; Yigit & Colak, 2010).

According to Taghavifard, Fadaei and Ebrahimi (2014) E-Participation is a vital dimension of E-Government, it has been proposed to transform traditional bureaucratic systems to participatory, autocratic to democratic, and exclusive to inclusive, empowering, open, transparent and trustworthy however compared to the total amount of E-Administration projects within different E-Government strategies, the number of E-Participation projects is negligible.

Karemera, Baguma, and Mukamuhinda (2016) states that E-Government strategies frequently put emphasis on online public services delivery provision and not as much on feedback mechanisms that permit stakeholders to participate in policy debates and consultations. At the moment however, E-Government has been steadily transforming into a more interactive process where citizen engagement through E-Consultation and E-Participation is now being viewed as an essential subsequent step towards the promotion of a more inclusive society and proper designed E-Service design is complimentary to good E-Participation (Papaloi & Gouscos, 2011).

2.3.5 Strategy Execution

Strategy is the coordinated set of actions that fulfill a firm's objectives, purposes and goals (White, 2011). Thobani (2011) defines strategy simply as a method or plan chosen to bring about a desired future, such as achievement of a goal or solution to a problem. Strategy

Execution on the other hand is defined by De Flander (2016) as a process that enables people to create a decision pattern that gives traction to their desired goals. The communication and transformation process to set corporate strategies into action (Max Monauni, 2017).

Childress (2013) views strategy and its execution like two sides of a coin that is inseparable, different, but intimately connected and when separated they do not work. He views strategy as a living organism that only expresses itself via the delivery process. Strategy execution could consequently be viewed as carrying out what the strategy indicates has to be done to achieve what the strategy documents, specifically testing the hypothesis articulated in the strategy and directing the organization towards its ideal destination, phase by phase by means of actions or projects.

As part of strategic management, strategy execution is, a unique, disciplined process concerning the entire organization, a never-ending process and the four key phases of the process are situation analysis, strategy formulation, strategy implementation, and strategy evaluation (Shafiee & Moqadam, 2017). By addressing each phase of the strategic execution process in the aforementioned order, organizations can evaluate and re-evaluate situations as they develop, always checking to be sure the organization has positioned itself optimally in the business environment and this implies that strategy without execution is non-existent therefore making execution is the only competitive advantage (Tavakoli, 2014).

2.3.6 Public Service Delivery

Public Service is defined as all activities delivered by the government to fulfill the needs that society requires to go through life (Deloitte, 2012). OECD (2010) further states that public services can be provided directly by the government or indirectly - where the government is not the direct provider but still plays a role in their provision through regulation or a financial contribution. Based on the aforementioned public service delivery can be referred to as the provision of social or public goods that will promote socio-

economic wellbeing of the citizens. Public services offered by government are numerous and may include the provision of public utilities, security, economic development projects, and the enforcement of the law and so on (Angahar, 2013).

Krishnan (2016) states that a common challenge faced by organizations is how to serve customers better and public sector is no exception. Roland, (2017) concurs that public sector leaders worldwide face a common set of challenges if their services are to meet the increased expectations of their 'customers' both citizens and businesses. However, experience shows that whereas the challenges may be consistent, the ways in which they are being confronted, and the results that are being achieved, vary considerably. The public sector does not choose its clienteles, however the fact that it is required to service them and their diverse requirements is another factor driving the need for new service delivery models (Kyohairwe, 2018). To deliver on its clienteles promise, public sector institutions must build 'connected government', seamlessly aligning several government agencies with customer desires. The 'clienteles promise' is part of the essential agenda of public sector governance and sets out the public service delivery standards that public expects (Mathaba, Nzimakwe, Pfano & Munapo, 2013).

To address this, the public sector must innovate ways of improving customer satisfaction, accountability, cost efficiency, transparency and effectiveness of its public service delivery (Patel, 2014). This means providing value for money by improving quality of service (accessibility for all and satisfactory customer experiences and outcomes), and reducing the costs involved in providing services. Kakucha, Simba and Ahmed (2018) concurs that value for money is an essential concern nowadays since the need for a customer-oriented emphasis overlaps with the diminishing government resources and this is catalyzing the public sector to find innovative and sustainable service delivery strategies that can improve customer experience and results via heightened service stratums at the equivalent or abridged cost. The answer lies in developing customer-centric strategies such as E-Government that draw inspiration from the comparative success with which private sector has handled the situation, and that put stakeholders at the core of service design and service delivery (Abdalla, Kiragu, Waswa., Ono, Kariuki, & Ikua, 2015).

2.4 Empirical Review

Empirical Review is a review of past studies work by means of direct observation or experiment to answer a question or a hypothesis (Trochim *et al.,* 2016). Mugenda (2010) emphasizes that empirical review enables studies to put forward different perspectives and views of constructionist and positivist for comparison and or argument. The review of empirical literature plays a key role in establishing research gaps upon which a study can be built on and this section seeks to review scholarly works done in the past by identifying the studies, authors, areas of investigation, findings and the research gaps reported in tandem with the study area.

2.4.1 E-Government and Service Delivery

Over the last few years, researchers have examined the link between E-Government and public service delivery. For example, Irawan, Sumartono, Wijaya and Nurfitriyah (2014) sort to analyze strategies, critical success factors, obstacles as well as the impact of implementing E-Government on public service delivery of the Population and Civil Recording Agency of Samarinda, Indonesia. The study used a qualitative approach, Primary data was collected by observing and interviewing state officers and stakeholders who were involved in the implementation of E-Government at the Population and Civil Recording Agency while secondary data was got via document tracing. Data analysis was conducted by analysis of interactive data model. The study concluded that E-Government had a substantial impact on the agency's public service delivery by institutionalizing transparency, improving performance and increasing public trust.

To determine if a developing country such as Bangladesh can realize its E-Government strategy Siddiquee (2016) studied E-Government and transformation of public service delivery in developing countries. The research was based mainly on secondary data, supplemented by primary data collected from various sources. After an in-depth analysis of secondary sources, essential information was derived from related public sector websites and through interviews and conversations with selected public officials with

intimate knowledge on E-Government projects at the field and local levels. The study concluded that although E-Government is yet to make a revolution in governance and service delivery, it has set the wheels of change in motion and various E-Government strategies have transformed traditional administrative systems and practices, notwithstanding the nation's limited overall E-Government index.

Regionally Hussen (2017) researched on E-Government implementation in public service organizations of developing economies. The research assessed E-Government as an intervention mechanism to the challenges of good governance practices in three Ethiopian public service organizations. The research used action research methodology, targeted 165 public servants from three regional organization civil service bureaus as a sample size. Qualitative data collection was through interviews, focus group discussions, and workshops to identify the challenges of good governance and evaluate E-Government. The study finding showed that E-Government deployment had improved service delivery at the three selected bureaus. Organizational effectiveness, internal transparency and accountability, collaboration and public participation had improved significantly in those bureaus as a result of the E-Government strategies.

Elsewhere, in Nigeria Adegoroye, Oladejo and Yinus (2018) studied the impact of E-Government on governance service delivery in Ogun state, Nigeria. The sampling frame comprised of senior and junior staff in three (3) government parastatal (ministries) in Abeokuta, (Ministry of Education, Science and Technology, Ministry of Finance, Ministry of Information and Strategy). The ministries were selected via purposive sampling while the staff were selected at random. 150 questionnaires were administered to the respondents with 125 questionnaires returned and analyzed using frequency table and percentage analysis. Non-parametric statistical test Chi- square was used to test the formulated hypothesis and the findings showed that E-Government strategies improved service delivery by the public sector in a form of transactional convenience, savings of time and lower service costs which has improved customer's relationship and satisfaction.

Locally Mungai (2017) did a study on E-government strategy implementation and performance of the public sector in Kenya. The study used descriptive and explanatory research design. The study population was 13,228 which comprised of administration directors, ICT departmental heads, and customer care supervisors as the key informants in the government ministries and also the users (members of the public) who visited the current 18 Ministries with E-Government related issues. Multistage sampling was applied where larger clusters were by subdivided into smaller samples for the purposes of surveying. The study used disproportionate stratified sampling whereby the proportionate sample was adjusted to embrace a better sample size which was 384. The study collected primary data using both an interview guide and a semi structured questionnaire. Descriptive statistics and inferential statistics, regression analysis was used to analyze quantitative data. Qualitative data was analyzed using content analysis. The study established a significant relationship between E-government strategy implementation and performance of the public sector.

Wagana, Iravo, Nzulwa and Kihoro (2016) assessed the moderating effects of E-Government on the relationship between administrative decentralization and service delivery in county governments of Kenya. The sample size was 275 respondents, who are government officials drawn from 8 county governments in Kenya. The study used bivariate regression analysis and moderated multiple regression to examine the relationship between administrative decentralization, E-Government, and service delivery. The findings depicted, a significant relationship between administrative decentralization and service delivery but an insignificant moderating effect of E-Government on the relationship between administrative decentralization and service delivery.

2.4.2 E-Commerce and Service Delivery

Some researchers have studied different aspects of E-Commerce. Locally Asiabugwa and Munyoki (2012) assessed the connection between E-Commerce strategy and the performance of Kenyan commercial banks. The study used a cross sectional design,

targeted Kenyan commercial banks and data analysis was by measures of central tendency, dispersion and correlation analysis. The results depicted a strong relationship between E-Commerce strategy and performance of Kenyan commercial banks. The findings also indicated that the main factors fueling the adoption of E-Commerce in banks are client support service and the payment gateways.

Mutua, Oteyo and Njeru (2013) did a descriptive survey on the extent of E-Commerce adoption in SMEs in Nairobi. The target population was SMEs within 8 divisions of Nairobi, a cross-sectional survey was used and descriptive statistics used for data analysis. The study showed that while E-Commerce offers strategic value, 80% the SMEs had not embraced it and had no strategy.

Anuj, Fayaz and Kapoor (2018) studied the impact of E-Commerce in the Indian economy. The study used descriptive and exploratory research design, referred to secondary data collection from numerous research papers on E-Commerce, data collected was represented via tables, graphs, pie charts as well as X-Y graphs and to determine relationship among indicators spearman rank co-relation and Pearson co- relation was used. The study noted a momentous growth of E-Commerce in India stating that E-Commerce is a great strategy for infrastructure development, increasing employment rates and thus impacts economic and social growth in India (Anuj *et al*., 2018).

Globally Anvari and Norouzi (2016) did an empirical study on the impact of E-Commerce, research and development on the economic development of 21 countries; Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, and United Kingdom. The study used panel data technique with Generalized Least Square Regression. Results showed that though E-Commerce, research and development had an effect on Gross Domestic Product E-Commerce was most significant and régimes need to embrace it.

In Bangladesh Khan (2016) did a study on the benefits and challenges of E-Commerce in an emerging economy. The study was qualitative in nature and used secondary data collected from published books, journals, research papers, newspaper, internet and official statistical documents. The conclusion was that in Bangladesh E-Commerce has basically transformed business operations by breaking borders and offering innovative opportunities which strongly impacted the traditional business system and changing the life of people by making it easier.

2.4.3 E-Services and Service Delivery

In Kenya some studies have been done to determine the impact of E-Services. Onyiego (2016) did a study on the E-Service operations strategies and performance of tourism firms in Nairobi, Kenya. The study used descriptive research design, stratified random sampling to sample 35 tourism firms in Nairobi, integrated quantitative and qualitative methods for primary data collection, analysis was performed using descriptive statistics as well as regression analysis. The study revealed that Kenyan tourism firms had adopted the various E-Service strategies which depicted a significant relationship between E-Service operations strategies and firm performance.

Onono (2012) studied the impact of E-Service delivery on employees at the public service commission of Kenya. The study adopted a descriptive survey study design, simple random sampling was used to get the sample population from the target population comprising of all the 200 employees at the Public Service Commission of Kenya at Job Groups A – R. Data collection was via both primary and secondary data whereas for sampling, simple random sampling and stratified random sampling techniques were used. Descriptive statistics were computed for presenting and analyzing the data. Data was presented in the form of frequency distribution tables, graphs and pie charts that facilitated description and explanation of the study. The findings revealed that E-Services was highly influenced by the technological reforms taking place across government sectors making it a key factor in determining service delivery.

Gachuru (2017) studied the influence of E-Services on customer satisfaction by a case of fast food restaurants in Nairobi County. Data was collected using convenience sampling and a questionnaire administered to 50 customers who visited fast food restaurants in Nairobi that target the upper to middle class citizens. The data was analyzed using descriptive statistics, multiple regression and correlation analysis. The findings revealed that E-Services significantly affect customer satisfaction and fast food restaurants that incorporate E-Services in their operations have a high chance of ensuring customer satisfaction thus experiencing repeat purchases.

Singh (2016) did a case study on the impact of E-Services on customer satisfaction in the top three public sector banks of India; State Bank of India, Bank of Baroda and Punjab National Bank. The study used primary and secondary data with a total sample size of 100 respondents selected by stratified random sampling method. The finding showed that E-Services significantly influenced customer's satisfaction as operating cost per unit services was lower in the banks, there is low error rates and it offers convenience to clients by not requiring them to go to the bank's premises.

Regionally Oseni and Dingley (2015) did an impact case study on the roles of E-Service in economic development of Nigeria, a lower-middle income state. Multiple research methods were adopted with the research methodology based on a review of previous studies followed by a survey using online questionnaires to determine the awareness and usefulness of E-Service. The findings showed that E-Service contributed hugely to Nigeria's economic development in areas such as job creation, port decongestion, revenue increase via E-Tax and high E-Participation awareness. It   also had a major boost and substantial influence on customer reactions towards E-Governance.

Alaaraj and Ibrahim (2014) studied the influence of E-Government practices on good governance from the perspective of the public in Lebanon. The study used quantitative methodology to survey 600 SMEs in Beirut. 400 questionnaires were circulated among the sample got from the SMEs' managers and staff getting a working response rate of 94%. The study empirically showed that E-Government strategies had positive and

significant influence on governance. Also, unlike E-Administration and E-Procurement, E-Service positively and significantly influenced governance.

2.4.4 E-Administration and Service Delivery

Oni, Oni and Gberevbie (2015) did a study on electronic mediated administration and public service delivery in Nigeria. The study adopted a qualitative approach of systematic literature reviews for data collection and analysis. Extensive analytical literature review of published and unpublished scholarly works generated secondary data for descriptive and analytical use. The findings noted that E-Administration adoption in the public service significantly boosted the quality of public services offered to citizens by the government and its agencies. It makes public administration processes efficient, cost-effective, convenient, more transparent and accountable.

Ohiole, Ojo, Arijeniwa, Olatunde and Ojo (2017) examined the impact of E-Administration on Service Delivery in Adekunle Ajasin University Akungba-Akoko, Ondo State, Nigeria. A case study research design and a sample size of 350 respondents was used to know the extent to which E-Administration enhances service delivery within the University. Frequency and simple percentage method were used for data analysis and interpretation. It revealed that E- Administration enhanced service delivery effectiveness, efficiency and accuracy.

Ali, Younas and Saeed (2016) assessed the impact of the moderating role of E-Administration on training, performance appraisal and organizational performance. The study population comprised of employees working in twenty-five (25) companies where E-Administration was in place. Based on probability/simple random design, 245 employees were sampled, 220 employees responded to a structured questionnaire giving a response rate of 81%. The study revealed the significance of E-Administration as a strategic element in improving organizational performance. E-Administration moderates the relation between performance appraisal and organizational performance as it plays a

vital role in appraising the job performance of employees in transparent manner, it reduces the chances of bias and other errors like leniency or strictness.

To assess the role of E-Administration in achieving sustainable competitive advantage Ibrahim, Shaker and Abduljabbar (2018) did a field study of Zain Telecom in Iraq. From the theoretical side, the study reviewed previous studies used theoretical books, periodicals and university letters. From the practical aspect it used questionnaire method for data collection. The study population was Zain Telecom staff, whereas the sample was 40 employees of the Telecom. The study used analytical descriptive approach and an applied study where statistical averages, standard deviations and explanatory analysis were used. The study depicted a statistically significant relationship between the use of E-Administration and achieving sustainable competitive advantage.

Jdedo (2019) examined the shift toward electronic administration in government institutions in Libya to meet the challenges of the digital age. The study used descriptive analytical approach and the field study method. To achieve the study objectives, a research methodology allowing for the collection of secondary data via literature review was used, and for primary data questionnaires were used during a fieldwork exercise. The study sampled 300 respondents made up of personnel in Libya's most significant government entities representing the study's population. Descriptive, deductive and statistical methods were applied. The study showed that E-Administration plays a key role by introducing changes which catalyze administrative work stages and methods. It boosts performance by offering timely information, better quality services and at lower cost.

2.4.5 E-Participation and Service Delivery

Al-Zyadat (2016) assessed E Government Systems and its impact on quality of service at public hospitals in Amman. The independent factors of the study were E-Participation, M-Government and open data whereas the dependent factor was quality of service. The study population comprised of employees from all managerial levels within three public hospitals in Amman. The study sampled 300 respondents, distributed 300 questionnaires

and 243 were returned for data analysis via Percentage, frequency, mean and standard deviation to describe the sample and basic responses. Simple linear regression analysis with (F) test was also used. The study concluded that there was significant statistical effect each of E- Government systems independent factors (E–Participation, M- Government and open data) on quality of service in public hospital in Amman.

Sivarajah *et al*. (2016) examined the role of E-Participation and open data in evidence-based policy decision making in local government. The study utilized an interpretive qualitative approach combining literature review and synthesis with primary analysis of Cambridge Shire County Council, an established local government authority in the United Kingdom. Empirical data was primarily gathered by conducting semi structured interviews with five local government authority experts. To complement the interviews, secondary data was gathered via consultancy reports, policy documents, corporate strategy reports, minutes from meetings, and informal conversations. The findings and discussion highlighted that E-Participation strategies and the use of open data can facilitate more factual, evidence-based, and transparent policy decision making and evaluation.

Reddick and Norris (2013) did a national survey examining the political-managerial support and impacts of E-Participation among the United States of America local governments. The study tried to explain top governmental officials' support for E-Participation and the impact of adopting E-Participation in the local governments. To get primary data, questionnaires were mailed to respondents comprising of elected executives and managers in municipals as well as county governments with a population of 10,000 or greater. The respondents also had an option of filing the questionnaires online. 78.5 percent of respondents returned paper surveys, while the rest filled it online. Ordinary least squares regression was used to test the models and descriptive statistics for the variables were presented. The study showed that most local governments had adopted E-Government, had the impetus to adopt E-Participation and experience impact over time E-Participation may lead to better governance and cost reductions in public service delivery.

Earlier Feeney and Welch (2012) analyzed the E-Participation technologies and perceived outcomes for local government managers. A cross-sectional survey was administered to 2,500 government managers in 500 local governments with citizen populations ranging from 25,000 to 250,000. Since larger cities often have greater financial and technical capacity for E-Government, all 184 cities with a population over 100,000 were selected while a proportionate random sample of 316 of the 1,002 communities was drawn from cities with populations under 100,000. The final response rate was 37.9 percent, with 902 responses. Ordinary least squares (OLS) regression was used to test the models whereas descriptive statistics to show sample distribution for the dependent and independent variables. The study concluded that increased use of E-Government strategies such E-Participation improves participation input processes and governance thus, concluded that using more E-Government generates positive outcomes for local government managers.

Regionally Ochara and Mawela (2015) studied how to enable social sustainability of E-Participation through mobile technology from a South African context. As it was anchored in the positivist paradigm the study used a survey method and self-administered questionnaires for data collection. The target population was South Africans in Gauteng Province but focusing on citizens that are socially and digitally excluded. Non-probabilistic sampling methods were applied, namely a blend of convenience and judgment sampling. In total, 220 questionnaires were administered, with 120 completed correctly and free from errors resulting in a response rate of 55%. The questionnaire generated quantitative data that was captured and analyzed statistically using cluster analysis. The findings highlight that E-Participation propels the quest for good governance not only at local but all levels of government, generates huge public sector transformation redesign and result in societal benefits is heralded as a shift towards public innovation.

2.4.6 Strategy Execution and Service Delivery

Al-Khouri (2014) did a case study on strategy and execution from a perspective of lessons learned from the public sector. It was conducted at the Emirates Identity Authority (Emirates ID), one the most effective public institute in the United Arab Emirates and it

attempted to examine how strategy impacted organizational performance. The research design was descriptive and interpretive case study and analyzed through qualitative methods. Data collection was via primary sources from social actors followed by secondary sources such as publications and technical documentation analysis. The study concluded that initially government strategies tend to have clear visions and outcomes yet, experience shows that many do not study their complexity and multifaceted nature at execution leading to huddles while articulating expectations, objectives, and key performance indicators hence face higher failure rates than those in the private sector.

Siam and Hilman (2014) studied the relationship of strategy execution plan dimensions on organization performance of higher educational institution in Palestine. The study opted for a cross-sectional research design and adopted a simple random sampling technique to select 255 respondents from 13 universities and colleges from the list of the Palestinian higher education institutions. Data was analyzed using the partial least squares-structural equation model. The finding revealed that strategy execution plan dimensions significantly affect organizational performance as hypothesized and suggest that the higher education in Palestine can be enhanced through an effective strategy execution.

In West Java, Indonesia Musty, Yahya, Effendi and Soemaryani, (2015) researched on the private polytechnics' performance achievement as the impact of strategy, organizational competence, strategy execution and competitive advantage. To get a picture of the variables, the research was conducted through descriptive analysis and a census on 29 polytechnics operating in Kopertis IV Region. Primary data was obtained through questionnaires sent to the top-level management in the polytechnics whereas secondary data was got through a review of data from books, journals, websites as well as brochures from several stakeholders such as the polytechnics, Ministry of Education and Culture, Directorate General of Higher Education, Directories of Kopertis IV of West Java and Banten and the Statistics Central Agency. The study findings showed that performance is affected by the strategy execution quality and its competitive advantage, which are determined by the precision and alignment strategies with organizational competence.

Rompho, Twiddy, Boon-itt and Siripullop (2014) examined strategy execution by Thai large companies for ASEAN economic community (AEC). A survey was conducted on senior officials of large Thai corporations listed on the Stock Exchange of Thailand (SET), covering eight industries including retail, property, banking, telecommunications, oil and gas, chemicals, transportation, and food focusing. The study sort to assess the readiness levels, impact, challenges and solutions associated with executing strategy within the corporations in line with ASEAN economic community integration. Interviews based on a prescribed questionnaire formed the primary method in the study. The study sampled 50 managers of the corporations, 50 interviewed 15 respondents and 15 questionnaires returned. Qualitative approach was used to analyze the data and the findings indicated that though most senior officials of the corporations agree that strategic execution leads to better performance most of them do not have the said strategies.

Locally Gakenia, Katuse and Kiriri (2017) studied the influence of strategy execution on academic performance of national schools in Kenya. The study used descriptive research design with the unit of observation being national secondary schools' deputies or department heads in Kenya in the 103 national schools. The study sampled 93 principals of the schools by census sampling, 93 questionnaires were distributed to the respondents and 87 questionnaires were returned generating a response rate of 93%. The cumulative effect of strategy execution metrics on the academic performance was examined using multiple linear regression analysis and data presented via frequency distribution tables. The study recommended that the national schools should emphasize the role of strategy execution with view of improving on the academic performance of their schools as the strategy execution was found to have a significant influence on the academic performance.

2.4.7 Public Service Delivery

The field of public service delivery has gained a sustained prominence in the public services management in the past two decades (Salami, 2015). The legitimacy of any public service delivery draws its breath from its capacity to respond to the citizens' needs in a way that is economically efficient. An emerging consensus among public sector experts

is that in as much as public service delivery involves efficiency and outputs, it also involves the effectiveness of outcomes (Kelemba, Chepkilot & Zakayo, 2017). The two pertinent questions under debate when it comes to public service delivery are if citizens are getting what they need and in what optimal ways public sector organizations are using the resources under their disposal (Alfadli & Munro, 2013).

Globally state agencies have been experiencing a call to enhance the levels of public service delivery due to the fact that public sector offers employment to many, receives substantial amount of funding from the exchequer and the public not to mention that many countries are in a debt crisis making public service budgets erratic (Kelemba *et al*., 2017). The need to increase efficiency, value addition, transparency and accountability, stakeholder inclusivity by increased participation and collaboration, as well as keeping abreast with the digital era has given impetus to NPM reforms in the last two decades, defining new paths for the public sector to follow (Emery *et al*., 2016).

Said, Alam and Aziz (2015) assessed the status of accountability practices of the Malaysian public sector in based on an Auditor General report that exposed corruption, weakness and lack of control in asset management. Primary data was collected using a questionnaire distributed through Google Docs application to the heads of 682 state agencies under 24 federal ministries. Data analysis was by using descriptive statistics and factor analysis. Data reliability was tested using Cronbach's alpha test. Data validity and normality were tested using the Shapiro Wilk's test. The findings revealed that 87.3% of the respondents, agreed that to improve public service delivery several strategies have been implemented but statistics underscore the adverse result of having no or minimal impact and the public sector needs to be transformed into a reliable and efficient sector by ensuring proper accountability and assessment.

Regionally in the Sedibeng district, municipality of South Africa Akinloye, Chanceline and Putuma (2012) did an analysis of the levels of citizen satisfaction with public service delivery. The sampling procedure was designed, taking into account the spatial distribution of the population in the Sedibeng district municipality and the three local

municipalities Lesedi, Emfuleni and Midvaal. A structured sample of 1,000 respondents was used for the study and descriptive and inferential statistics approaches were used. The findings indicated that respondents from all three municipalities did not hold positive feelings about public service delivery.

This is consistent with research findings by Mashamaite (2014) who also studied the dilemma for local municipalities in relation to public service delivery protests in democratic South Africa. The research findings highlighted that South Africa had observed a wave of protests associated with poor or lack of service delivery. Very few local municipalities had significantly contributed to the achievement of social and economic development instead there was ineffectiveness and unresponsiveness to the citizens' needs.

Locally public service reforms and restructuring have become a tendency and have been aimed at improving performance and efficiency but from the experience of many public servants, the result has been redundancies, intensification of work and an increase in red tape bureaucracy that do not add any value addition to the delivery of services. (Kelemba *et al*., 2017). Ndubai, Mbeche and Pokhariyal (2016) studied the factors influencing improvement in performance and delivery of public services in Kenya. The study considered 470 public institutions comprising of ministries, state corporations, local authorities and tertiary institutions. The study compiled performance appraisal results from 2004 to 2011 and cross-sectional survey design was used. By means of regression analysis, it was found that performance measurement of customer satisfaction was vital for enhancing in public service delivery and explained 73.6 % of improvement in service delivery.

Kariuki and Kasomi (2011) equally tried to assess the perception of Kenyan citizens on improvement of public service delivery since the implementation of performance contracts in Kenya. The target population comprised of citizens residing within Nairobi County. The study leveraged on respondents from state agencies, government ministries and local government. The findings indicated though a slight improvement of service

delivery in terms of accountability, resource utilization, transparency, timely and quality services had been noted Kenyans perceive public service delivery as very poor hence low customer satisfaction in government institutions. Other measures of service delivery such as productivity, state agencies independence as well as reliance on the exchequer were rated poorly.

2.5 Critique of Literature

According to Cooper and Schindler (2014) researchers critique literature on thematic or chronological bases. This study based its critique on thematic development in the E-Government in relation to public service delivery. Many studies have been carried out to Examine E-Government implementation perspective, many challenges and themes have been discussed in E-Government literature (Ebenezer, 2018; Abu-Shanab, 2017; Porumbescu, 2016). Yet, few studies have used a formal theoretical basis to explain how and why they have classified the determinants, challenges, themes in a certain or particular manner.

Firstly, most of the literature reviewed are foreign and may not truly depict the local context of E-Government in relation to public service delivery. For example, within the sources of information dully acknowledged in this section, only about 10 are from studies conducted regionally or locally. These informational asymmetry may result in the validation or otherwise of data that may be in variance with the actual situation in the less studied areas. Most of the literature reviewed herein arises from studies conducted in the developed countries creating a gap that needs to be filled.

Secondly from the review, it emerged that as the time evolved; scholars are interested in different perspectives or themes of E-Government strategy and the public service delivery. A close examination of the literature reveals that, although different researchers have identified various factors that influence E-Government strategies, no study has combined E-Commerce, E-Services, E-Administration and E-Participation jointly in relation to public service delivery. Furthermore, the use of a strategic management process as a

moderating variable has not been given much consideration as most studies use organizational culture as a moderating variable.

2.6 Summary of Literature

This chapter highlighted pertinent literature on the theoretical framework, empirical reviews as well as the conceptual framework adopted by the research. The literature review also highlighted how E-Government adoption and implementation can facilitate institutions to cultivate core competencies as well as enhancing public service delivery. The theoretical framework review detailed six theories informing the direction of the study. These are, New Public Management (NPM), Technology Diffusion Theory, Unified Theory of Acceptance and Use of Technology (UTAUT), Actor Network Theory (ANT), Dynamic Capability Theory and Contingency Theory.

The conceptual framework of the study was based on areas of E-Government strategies. The study had the following objectives: to find out the influence of E-Commerce on the public service delivery of state agencies in Kenya, to establish the influence of E-Services on the public service delivery of state agencies in Kenya, to determine the influence of E-Administration on public service delivery of state agencies in Kenya, to assess the influence of E-Participation on the public service delivery of state agencies in Kenya and finally to investigate the moderating effect of strategy execution on the public service delivery of state agencies in Kenya.

Empirical reviews have been presented putting forward different perspectives and views of constructionist and positivist for comparison and or argument on the influence of E-Government strategy on the public service delivery of state agencies. The empirical and theoretical literature reviews are relevant to the problem being examined and they reinforce the clear relationship between the literature review and the research questions. The literature review has provided relevant information and analysis that have informed the direction of the study.

2.7 Research Gaps

Literature presented in the empirical review indicates there are emerging interests in the subject of E-Government in relation to public service delivery. To the researcher's knowledge, there are a limited number of studies that have been conducted in developing countries, particularly in Kenya, to address E-Government in relation to public service delivery. A search for "E-Government in Kenya" through the Scholars Portal and Web of Science search engine reveals that only a few scholarly articles, mainly from journals that focus on E-Government in developing countries.

Secondly, although research into E-Government strategy has recognized the need to address indigenous local conditions (Wamoto, 2015; Kihoro, Nzulwa, Iravo & Wagana, 2017; Abu-Shanab, 2017; Mutuku & Machyo, 2017), generally it is limited in the analysis of how implementing E-Commerce, E-Services, E-Administration and E-Participation actually influences public service delivery not to mention how strategic execution process moderates the same.

Thirdly, most articles concentrate on focusing mainly on financial indicators such as performance and not non-financial indicators of public service delivery. For instance, Kareem and Haseeni (2015) analyzed E-Government and its impact on organizational performance, the financial indicators in the study included financial and material resources, sales growth, productivity, profitability as well as return on investment. Al-Zoubi, Sam and Eam (2011) also analyzed of E-Government adoption and organization performance in the Jordan businesses sector. The study indicators included long term profitability, financial resources, sales growth and operational cost but did not examining how public service delivery transformation happens within the public sector.

Fourthly, prior research suffers from either not using an analytic framework or only focusing on one aspect of E-Government adoption impacts. Most of the studies have adopted a perspective of technological determinism offering little help in terms of understanding and interpreting the effect context has on E-Government execution. In

addition, majority of the studies done relied on secondary data from different sources which can be criticized for lacking explanatory power and omitting important factors. In order to bridge this gap, the research employed the use of primary data which was considered more valid and reliable.

Lastly, even though the review notes that E-Government has the potential to improve service delivery previous E-Government research focuses on developed countries (Siddiquee, 2016; Irawan, Sumartono, Wijaya & Nurfitriyah, 2014; Krishnan & Teo, 2012). Consequently, little is known about the current state of E-Government in developing countries and its impact on service delivery. The literature reviewed also points a gap between theory and practice by the inability of research to produce integrative and representation frameworks for implementation, as well as reliable" generalizations on E-Government adoption in Kenya. In light of the gaps identified in literature, this research aims at filling the gap by studying the influence of E-Government strategy on the public service delivery of state agencies in the local context of Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provided the pathway through which the objective of the study was achieved. It presented the philosophical assumptions underpinning the research, introduced the research methods and the empirical techniques applied. It further defined the scope and limitations of the research methodology, and organized into the following sub sections: research design, research philosophy, target population, sampling frame and techniques, demographic sample composition, research instruments, measurement of variables, pilot test, data collection and analysis procedures

3.2 Research Philosophy

Research Philosophy defined by Cooper and Schindler (2014) as the way in which data of a certain phenomenon can be collected and analyzed whereas Kothari (2014) defines it as a belief about the way in which data about a phenomenon should be gathered, analyzed and used. The study adopted positivism research philosophy. The choice was informed by the fact that positivist philosophy premises that knowledge is based on facts and that no abstractions or subjective status of individuals is considered whereas interpretive philosophy contends that only through subjective interpretation and intervention in reality can that reality be fully understood (Saunders, Lewis, & Thornhill, 2016).

3.2.1 Research Design

Kothari (2014) defined research design as a detailed plan on how research is to be carried out whereas Cooper and Schindler (2014) defines it as a blueprint for collection, measurement and analysis of data within limited resources in order to address research questions. The study adopted a descriptive research design which was defined by Babbie and Mouton (2012) as an attempt to describe what is happening in more detail, by filling

in the missing parts and expanding understanding. The choice of descriptive study was informed by the fact that though a descriptive study is simple, easy to conduct and it enables one to capture all important aspects of a situation (Sekaran & Bougie, 2011). Other scholars also reinforce the choice by stating that descriptive research design is suitable as it provides accurate account of characteristics of particular individuals, situations and groups. In addition, descriptive research design is used when one wants to get information on the current status of a person or an object (Kothari, 2014).

3.3 Target Population

Mugenda (2012) defined a population is as a complete set of individuals, cases or objects with some common observable characteristics whilst target population also referred to as the unit of observation is defined as a group of individuals, objects or items from which samples are taken for measurement (Field, 2013). To gather the information required, the study's target population was the state agencies in Kenya. According to the State Corporations Advisory Committee (2018), there are 132 state agencies in Kenya as at December 2018 that either directly or indirectly deal with public service delivery. These state agencies are in the mainstream civil services established for the purpose of public service delivery in Kenya. They comprise of 62 Executive Agencies, 25 Independent Regulatory Bodies and 45 Research Institutions, Public Universities and Tertiary Education Institutions as depicted in Table 3.1 while a detailed breakdown is shown in Appendix IV.

The unit of observation was the employees in these 132 state agencies. According to the State Corporations Advisory Committee (2018), there are 4230 senior managers in the service delivery state agencies. The study drew its sample size from these managers. This group of respondents was chosen for the study since it is responsible for the development, implementation and evaluation of various policies and strategies within the state agencies. Table 3.1 shows distribution of the population as per the categories of the state agencies.

Table 3.1: Target Population

Type of State Agency	No of State Agencies	Senior Managers
Executive Agencies	62	1,987
Independent Regulatory Bodies	25	801
Research Institutions, Public Universities and Tertiary Education Institutions	45	1,442
Total	**132**	**4,230**

Source: HR and Corporate Affairs departments of respective (2018) and State Corporations Advisory Committee (2018)

3.4 Sampling Frame

According to Mugenda (2012), a sampling frame is a list of cases from which a sample can be selected. It describes the list of all population units from which the sample is selected. Cooper and Schindler (2014) concurs that it is a physical representation of the target population and comprises all the units that are potential members of a sample. The sampling frame for this study was the 132 state agencies that directly or indirectly deal with service delivery for the units of analysis while for the units of observation, the sample frame was the list of senior level managers (4230) as provided by the respective state agencies' HR departments and the State Corporations Advisory Committee. The sampling was carried out effectively to ensure fair distribution and selection of the respondents.

3.5 Sample Size and Sampling Techniques

The purpose of sampling is to gain an understanding about some features or attributes of the whole population based on the characteristics of the sample therefore the study used deliberate sampling also known as convenient sampling. According to Passer (2014) this is a sampling method which involves drawing a sample from part of the population which is readily available and convenient is referred to as convenient sampling. To determine the appropriate sample size, a sampling formula by Yamane (1967) was used. This formula is simple to use; it is scientific and can be used in cases of large populations (Yamane, 1967).

The formula is as shown:

$$n = N/\{1 + N(e)^2\}$$

Where:

n = sample size

N = population size,

e = level of precision or margin of error at 5% (standard value of 0.05).

Thus, when this formula was applied to calculate the sample size from 4230 employees within the management cadre, the result was as follows;

$$n = 4230 / \{1 + 4230 (0.05^2\}$$

$$n = 365$$

The sample size for the study was therefore 365 respondents. To pick these respondents from the target population, a stratified random sampling was used. The categories of the state agencies were chosen as the strata and a percentage that would give a total of 365 respondents from the strata identified. Table 3.2 shows the distribution of the sample size.

Table 3.2: Distribution of the Sample Size

Type of State Agency	Target Population	Sample Size	Percentage
Executive Agencies	1,987	171	47.0%
Independent Regulatory Bodies	801	69	18.9%
Research Institutions, Public Universities and Tertiary Education Institutions	1,442	124	34.1%
Total	**4,230**	**365**	**100%**

3.6 Data Collection Instruments

This study collected both primary as well as secondary data and the choice of data collection instruments depends on the attributes of the subjects, research topic, problem question, objectives, design, expected data and results because each tool and instrument collect specific data. Structured questionnaires were administered to collect primary data directly from respondents whereas Secondary data was collected from numerous documentary sources using a secondary data collection template.

The questionnaire was appropriate in this study because a self-administered questionnaire is the only way to elicit self-report on people's opinion, attitudes, beliefs and values. Its validity and reliability can also be evaluated via a pre-test before being administered thus ensuring accuracy and minimizing research bias. The questionnaire was divided into various sections to adequately cover the study objectives and consisted of open ended, structured and unstructured questions. The structured questions provided a set of answers from which the respondents chose the appropriate answers. Unstructured ones provided freedom while responding to the subject matter.

Cooper and Schindler (2014) explained that secondary data is a useful qualitative technique for evaluating historical or contemporary confidential or public records, reports, government documents, journals, organizational websites, newspapers, published data and opinions therefore in order to fully meet the objectives of the study, the primary data gathered was supplemented by secondary data.

3.7 Data Collection Procedure

The study leveraged on an introductory letter obtained from the University and a research permit from the National Commission for Science, Technology and Innovation. The study administered questionnaires containing open ended and closed ended questions to all respondents via drop and pick approach. The questionnaires also had a quantitative section utilizing both a nominal and a Likert-type scale format. The Likert-type format was

selected because according to Guluta and Rusum (2016) it has easiness of understanding by most respondents, yields equal-interval data, produces scalar numbers permitting analysis via correlation, factor-analysis, and regression. A fact that allows for the use of more powerful statistical statistics to test research variables

To ensure all questionnaires issued to the respondents were received care and control was exercised by maintaining a register of questionnaires sent, and received. To achieve the desired response questionnaires were dropped, picked from respondents and interviews conducted with the assistance of trained research assistants. Given that the study was to collect both primary and secondary data for this study secondary data was collected from published reference materials such as reports and journals.

3.8 Pilot Study

Cooper and Schindler (2014) indicated that a pilot test is conducted to detect weaknesses in design and instrumentation and to provide proxy data for selection of a probability sample whereas according to Neuman (2013) pilot testing aids in establishing the accuracy and appropriateness of the research design and instrumentation and to provide proxy data for selection of a probability sample.

Given that the rule of thumb is that 10% of the sample should constitute the pilot test (Cooper & Schilder, 2014). The pre-test consisted of a first revision of these instruments in Kisumu County. A pilot survey was then performed on 10% of the sample size. 36 senior managers at the government state agencies. This 10% of the senior managers were excluded from the main study. The outcome was studied, making it possible to modify, delete or update some variables as need be. The choice of Kisumu County was informed by the fact that most of the government state agencies entities under study have their headquarters in Nairobi and regional centers in Kisumu County hence was likely to get employees within the management cadre required for the study.

3.8.1 Reliability of Research Instrument

The reliability of a study has to do with the degree to which the measuring instruments used in the study yield consistent results or data after repeated trials (Mugenda, 2012). The study used the Coefficient Alpha (Cronbach's Alpha) which according Traxler (2017) has three main advantages. First, it is available in all present-day computer-based statistical packages such as SPSS, SAS, and R and consequently, is accessible to researchers across a wide range of academic fields. Second, it is a single measure of inter-correlations between items on a continuous scale, only needs one test administration, and may be more easily conceptualized by researchers than other estimates. Third, it is the most commonly stated reliability estimate worldwide therefore literature citing Cronbach's α in a variety of academic fields is easy to find. To compute the coefficient, the study proposed to use the formula:

$$Re = \frac{2r}{r + 1}$$

Where

Re = reliability of the original test

r = reliability of the coefficient resulting from correlating the scores of the odd items with the scores of the even items. According to Mugenda (2012), a coefficient of 0.7 implies that there is consistency among items measuring the same concept of interest.

3.8.2 Validity of Research Instrument

Mugenda (2012) defines validity as the degree to which result obtained from the analysis of the data actually represents the phenomenon under study whereas according to Glesne (2015) validity can be defined as the extent to which a measuring instrument provides adequate coverage of the topic under study or in simple terms, the degree of relevance the instruments are towards the research. The study tested for both content and construct validity

For content validity, the questionnaire was tested to ensure that there are no typographical or form errors via expert opinions. Pilot testing helped to detect some, if not all the errors. The pilot respondents were encouraged comment on the clarity of questions which helped to assess the validity of questions framed. Feedback from the pilot test formed a basis for revising the questionnaire before final administration. The supervisors and strategy experts assessed the questionnaire to ensure that it is not indistinct, vague or offensive.

To test for construct validity the study adopted confirmatory factor analysis. Factor analysis acts as a gauge of the substantive importance of a given variable to the factor and it is used to identify and remove hidden constructs or variable items that do not meet the objectives of the study and which may not be apparent from direct analysis (Finchman, 2012). Communalities were used to indicate the substantive importance of variable factors where a loading value of 0.4 as a rule of thumb was used to be satisfactory. Smith (2015) argued that a factor loading of 40% and above is satisfactory and in such a case the variable is not dropped.

3.9 Data Analysis and Presentation

Cooper and Schindler (2014) define data analysis as the process of editing and reducing accumulated data to a manageable size, developing summaries, looking for patterns, and applying statistical techniques. Upon completion of the data collection exercise, all completed research instruments were assembled, coded, summarized, entered into the computer; and analyzed using the statistical package for social science (SPSS) version 25.0 to examine relationships between dependent and independent variables

Data was analyzed using descriptive and inferential statistics. The study applied descriptive analyses as they are key in providing the foundation upon which correlational and experimental studies emerge; they also provide clues regarding the issues that should be focused on leading to further studies (Mugenda, 2012). Glesne (2015) concurs that descriptive analyses are leveraged on to compute measures of central tendencies as well

as measures of variability and they include percentages, frequency tables, means, and standard deviations.

The inferential statistics was conducted by ANOVA, regression, B- coefficient and correlation analysis. ANOVA was performed to check on the goodness of fit of the model. Using the p value from the ANOVA table, the study rejected H_0 if the p value was less than alpha=0.05 (5% level of significance or 95% level of confidence) meaning that the E-Government strategy had a significant effect on the public service delivery of state agencies in Kenya. To predict the influence of E-Government strategy (as independent variables) on the public service delivery (as dependent variable) the study used regression analysis. The broad regression model (without moderator) for this study was:

$$Y = \alpha_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$$

Where:

Y	-	Public service delivery
α_0	-	Is the constant
X_1	-	E-Commerce
X_2	-	E-Service
X_3	-	E-Administration
X_4	-	E-Participation
$\beta_1, \beta_2, \beta_3 \ \& \ \beta_4 \ \&$	-	Coefficients
ε	-	Error term

Correlation analysis was used to determine the relationship between the research variables and to test the strength of the relationship between the variables through generation of the

Pearson Correlation Coefficients (r). The r lies between -1 and 1 and the closer the r to 1 the strong the positive relationship and the closer the r to -1 the stronger the negative relationship between the independent and dependent variables.

To test for the moderating effect of strategy execution on the relationship between E-Government strategies and public service delivery, the study leveraged on the Moderated Multiple Regression (MMR) analysis technique which consists of two steps. In the first step, the main effects of the predictor (X) and the hypothesized moderator (Z) are estimated using regression.

$$Y = a + B_1X + B_2Z + e\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (1)$$

Where a = is the estimate of the intercept, B_1 = the estimate of the population regression coefficient for X, B_2 = the estimate of the population regression coefficient for Z, and e = a residual term.

The second step consists of adding the interaction term to the equation (1) as:

$$Y = a + B_1X + B_2Z + B_3X*Z + e\dots\dots\dots\dots\dots\dots\dots\dots. (2)$$

B_3 = is the estimate of the population regression coefficient for the product term (X*Z) (Aguinis, Gottfredson & Wright, 2011). To assess the role of the moderator (Z), the procedure delineated in the analytical section was applied. After running the regression model with the independent variables, moderating variable and interaction term as predictor variables, the significance of the interaction term was used to establish if there was a significant moderating effect of strategy execution. If the significance level of the beta coefficient of interaction term is significant (Less than 0.05) at 5% level of significance, then the null hypothesis of no moderation is rejected.

Moderated multiple regression was suited to this study as according to Upadhyaya, Hakeem and Chavan (2013) it enables the slope of one or more of the independent variables to vary across values of the moderator variable, thereby facilitating the

investigation of an extensive range of relationships and function forms. The statistical tool equally allows the multiple relationships between the endogenous variable and exogenous variables to depend on the levels of the other exogenous variables in the study

3.10 Diagnostic Tests

Statistical tests rely on specific assumptions regarding the variables used in the analysis and when the assumptions are not met, the results may not be trustworthy resulting into either Type I or Type II error, over or under-estimation of significance or effect sizes (Williams, Grajales & Kurkiewicz, 2013). To determine if data collected was reliable, accurate, valid and capable of inferring the findings to the population normality of the dependent variable, multicollinearity and homogeneity tests were done to test the statistical assumptions and determine if the data collected was properly modeled.

3.10.1 Test for Multicollinearity

Wonsuk *et al.* (2013), defines multicollinearity as the presence of high correlations between the predictor variables. In severe cases of perfect correlations between predictor variables, multicollinearity can imply that a unique least squares solution to a regression analysis cannot be computed. Multicollinearity was assessed using the variance inflation factors (VIF) as according to Mattar and Alamoud (2015) is usually used with an ordinary least squares' regression, provides a quick measure of how much a variable is contributing to the standard error in the regression.

3.10.2 Normality Test

To assess if the sample was obtained from a normally distributed population normality test was used. Saunders, Lewis and Thornhill (2016) posits that when this assumption is violated, the study results are likely to give biased estimates of the parameters. To test the normality of dependent variable (service delivery) Kolmogorov-Smirnov and Shapiro-Wilk test were used. The null hypothesis in the Kolmogorov-Smirnov and Shapiro Wilk test of normality is that the data for the variable is normally distributed. The desirable

outcome for this test is to fail to reject the null hypothesis. The tests fail to reject the hypothesis of normality when the p-value is greater than or equal to $\alpha=0.05$ (Shapiro - Wilk, 1965). The decision rule is such that fail to reject H_0 if P- value is greater than $\alpha = 0.05$ otherwise, reject H_0 if P-value is less than $\alpha = 0.05$. The hypotheses were as follows:

H_0: The data is normal

H_1: The data is not normal.

The study also used the normal Quantile Quantile (Q-Q) plots and graphical methods to test for normality of the dependent variable. When the values coalesce along the line of best fit, it implies that the data was normally distributed.

3.10.3 Test of Homogeneity variance

Homogeneity variance of the study variables was tested using Levene tests. Homoscedasticity is a situation in which the variance of the dependent variable does not vary across the data whereas heteroscedasticity indicates that the variance of the dependent variable varies across the data (Saunders Lewis & Thornhill, 2016). Levene's test is an inferential statistic used to assess the equality of variances for a variable calculated for two or more groups. It tests the null hypothesis that the population variances are equal (called homogeneity of variance or homoscedasticity).

CHAPTER FOUR

RESEARCH FINDINGS, ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter presents the findings of the study on the influence of E-Government strategies on the public service delivery by state agencies in Kenya. The chapter begins by covering the results of the pilot study followed by the response rate of the research instruments. The chapter highlights the distribution of the respondents by their age, level of education and level of experience. The response rate is also presented followed by the descriptive analysis of the study findings. The findings on the regression analysis are as well presented in the chapter.

4.2 Response Rate

The study sought to find out the rate at which the targeted respondents participated in the study. This would help to determine whether the study attained a reliable number of respondents to make conclusions and recommendations. The study had a sample of 365 respondents who were surveyed using a structured questionnaire. A response rate of 81.6% (298 respondents) was achieved and the data used for analysis. This therefore makes the study appropriate to make conclusions and recommendations since according to Creswell (2014) and Kingslay (2012) a response rate of 30-60% in a study is adequate for making conclusions and recommendations. The response rate is as shown in table 4.1.

Table 4.1: Response Rate

Category	Frequency	Percentage
Sampled Population	365	100%
Responses	298	81.6%
Non-Responses	67	18.4%

4.3 Results of the Pilot Study

A pilot test was carried out to establish the reliability and validity of the data collection tools. The pilot test aimed at establishing construct validity and reliability of the data collection instruments (Mugenda & Mugenda, 2012). A total of 36 respondents took part in the pilot study. This was in line with descriptive research design methodology employed in the study. The respondents in the pilot study were picked from agencies not included in the sample size but met the requirements to be included in the sample, the pilot study also focused on a few academicians and practising managers in strategic management. From the pilot study, it was observed that most of the questions in the questionnaire were addressing the intended purpose and the respondents understood them as required. The respondents however needed brief interpretations in a few questions which after the pilot study were restructured for easier interpretation.

4.3.1 Reliability Test

According to Mugenda (2012) and Sasaka *et al.* (2014), reliability is the ability of the research instrument to give the same answer in the same circumstances from time to time. If respondents answer a questionnaire the same way on repeated situations, then the questionnaire is said to be reliable. The research instrument was subjected to a reliability test using Cronbach's Alpha. The findings indicated that all constructs had Cronbach's Alpha values within the suggested value of between 0.7 and 0.9 thus the data collection tool was reliable (Young, 2013; Nunnally & Bernstein, 1994; Creswell (2013); Creswell & Miller, 2000; Lincoln, Lynham, & Guba, 2011). On the basis of this reliability test it was confirmed that the scales used in the study were reliable to capture the constructs. The findings of the reliability test are shown in table 4.2.

Table 4.2: Reliability Results

Construct	Cronbach's Alpha Value	Number of Items	Comment
E-Commerce	0.891	16	Accepted
E-Services	0.878	16	Accepted
E-Administration	0.838	16	Accepted
E-Participation	0.843	16	Accepted
Strategy Execution	0.791	11	Accepted
Public Service Delivery	0.748	19	Accepted

4.3.2 Validity

Validity requires that an instrument is able to measure the intended subject as per the researcher's intentions. Expert judgment achieved through a peer review was applied to test for content validity of the research instruments. A peer review is the review of the data and research process by someone who is familiar with the research or the phenomenon being explored (Creswell & Plano, 2011). A peer reviewer provides support, plays devil's advocate, challenges the researchers' assumptions, pushes the researchers to the next step methodologically, and asks hard questions about methods and interpretations (Lincoln & Guba, 1985). In this view, the judgment of the pilot study respondents on the items contained in the questionnaire on the study variables was sought and their proposed changes noted and incorporated in the final questionnaire used for the main study.

4.4 Demographic Information

To enhance the feasibility of a study, it is a prerequisite to ask the respondents the background information as a way of developing a concrete relationship between the respondents and the researcher (Axinn, Link & Groves, 2011). In this regard, the study asked the respondents the demographic information which included age bracket, and level of education as well as level of experience. This is presented in tables and figures as shown below.

4.4.1 Respondent's Gender

The study sought to identify the gender distribution of the respondents. The findings in figure 4.1, shows that the majority (78%) of the respondents were male while 22% were female. Information from the gender distribution is to ascertain that there is a balance in distribution of views collected from both sides of gender. The findings indicate that while male respondents were more than female respondents, there was diversity in the respondents and hence the data collected was not expected to be distorted by factors relating to data distribution. Mugenda (2012) argued that even though there is a difference in gender distribution, it does not affect the reliability of the data collected.
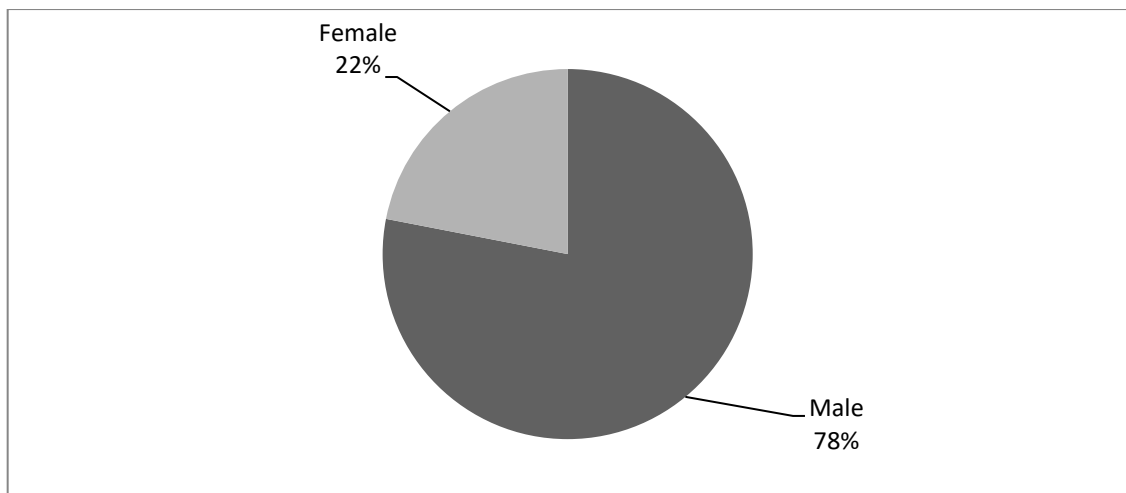
Figure 4.1: Respondent's Gender

4.4.2 Respondent's Age Bracket

The study equally sought to determine the age bracket of the respondents. The results presented in Figure 4.2 reveal that 5.92 % of the respondents were aged between 21 and 30 years, 14.79 % of the respondents were aged between 31 and 40 years, 33.14 % of the respondents were aged between 41 and 50 years, 46.15 % of the respondents were aged above 51 years. This implies that majority of the senior management of the specific government agencies implementing E-Government strategies as part of their core mandate

and daily operations whilst offering public service delivery in Kenya are 51 years of age and above. Therefore, this representation indicates that the respondents were mature and the majority of the workforce in the government agencies comprised of mixed age groups, and therefore an indication of mature information. Boehm, Kunze and Bruch (2014) argues that advanced age is correlated to experience and understanding and hence based on this assertion, majority of the respondents in this study were mature
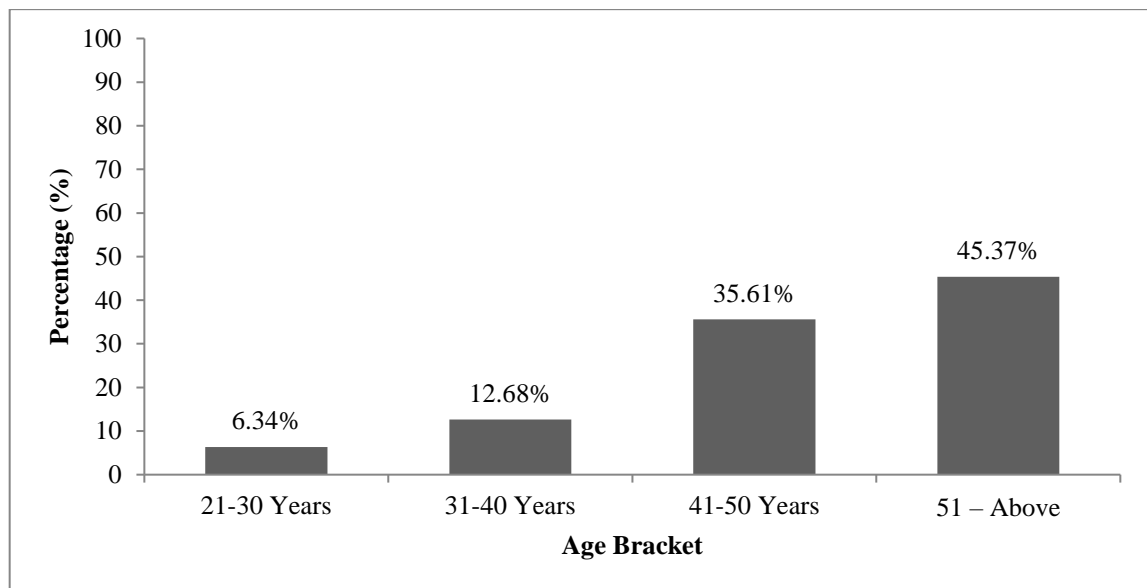
Figure 4.2: Respondents Age Bracket

4.4.3 Respondent's Level of Education

The study sought to establish the highest level of education held by the respondents. From the study findings as indicated in figure 4.3, none of the respondents had no formal education, 1.46% of the respondents had primary school education as their highest level of education, 3.41% of the respondents had secondary school education as their highest level of education, 33.66% of the respondents had college education as their highest level of education while 61.47% of the respondents had university education as their highest level of education. This implies that most of the respondents had the prerequisite education levels to do their work. The level of education of the respondents indicates that the well-educated respondents mean that they were well informed and provided the research with

prudent information which is significant for this study. The findings are consistent with the Bashir & Durrani (2014) who argued that higher educational levels are associated with high understanding and promotions at work place. The argument confirms the findings of this study since the respondents were in management positions and had high educational qualifications.
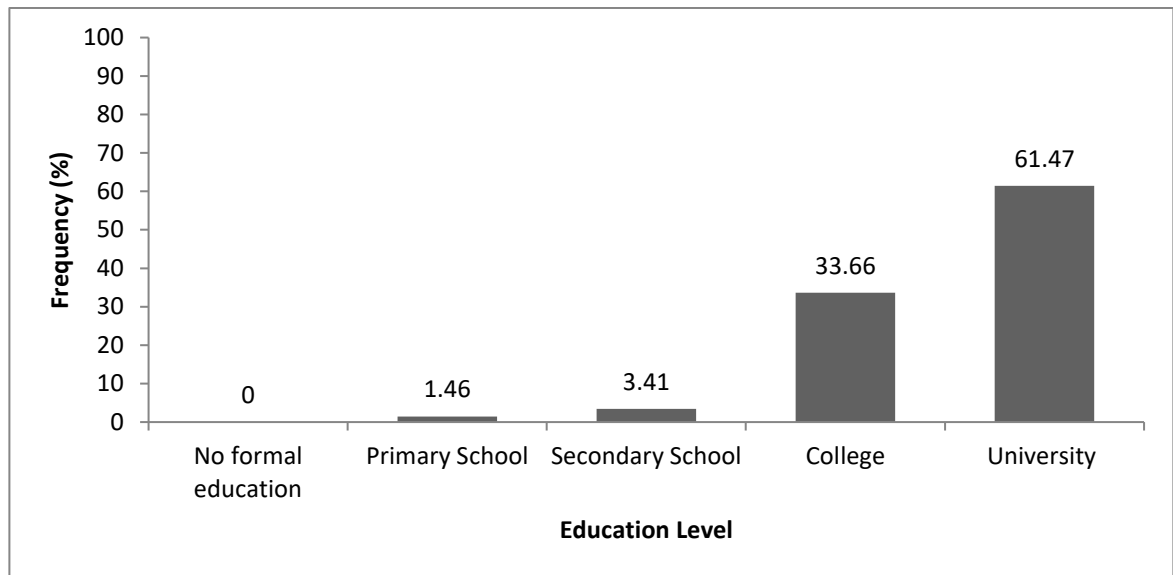
Figure 4.3: Distribution of Respondents by Education Level

4.4.4 Respondent's Work Experience

The study sought to establish the work experience of the respondents. From the study findings as indicated in figure 4.4, 7.1 % of the respondents have been working with their respective state agencies for less than 5 years, 8.88 % of the respondents have working with their respective state agencies between 5 to10 years, 36.68 % of the respondents have been working with their respective state agencies between 11 to15 years, 26.63 % of the respondents have been working with their respective state agencies over 15 to 20 years and 20.71 % of the respondents have been working with their respective state agencies for over 20 years. This implies that most of the respondents had worked long enough in the institutes to appreciate how it works and daily operations. Thus, an indication that the

respondents have adequate working experience in their respective ministries; therefore, possess the necessary knowledge and information which is considered valuable for this study. A study by Kotur and Anbazhagan (2014) indicated that more work experience is associated with high institutional knowledge. The findings also confirm an argument by George and Jones (2012) that work experience leads to high institutional knowledge.
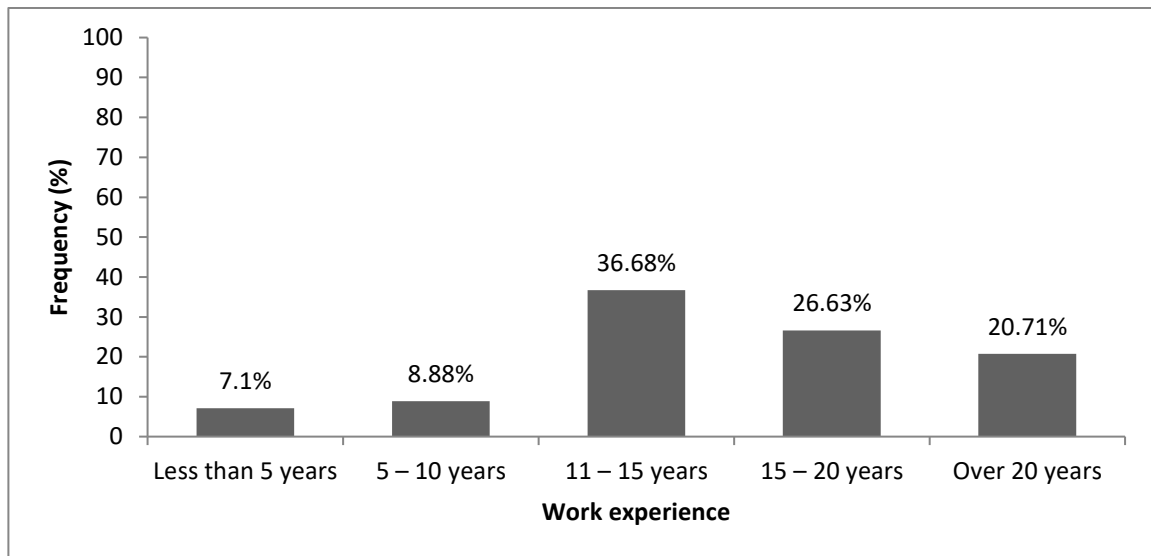
Figure 4.4: Distribution of Respondents by Work Experience

4.4.5 Respondent's Management Cadre

The study sought to establish the management cadre held by the respondents. The findings of the study as revealed in Figure 4.5 shows that 17 % of the respondents fall under the senior or executive management cadre, 58 % of the respondents fall under the middle management cadre and 25 % of the respondents fall under the lower management cadre. This implies that majority of the respondents were senior/Executives or middle management who are the chief architects of strategies within the state agencies. It can be deduced from this finding that the current study collected data from the right sources implying that the results give a true picture of what is happening within the state agencies not to mention that the respondents having been in management positions and operational levels are actively involved in driving E-Government strategies forward at both policy and

regulation levels and at day to day running of activities and thus they understand clearly the intricacies involved in E-Government strategies adoption.
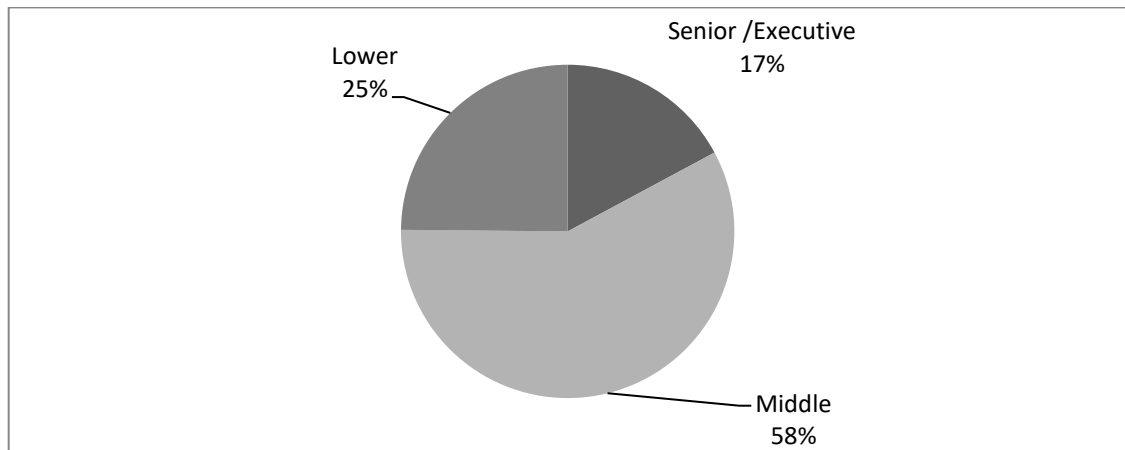
Figure 4.5: Distribution of Respondents by Management Cadre

4.4.6 Respondent's State Agency Type

The study sought to establish the type of state agencies the respondents worked with. The findings of the study as revealed in Figure 4.6 shows that shows that 47 % of the respondents work with Executive Agencies, 19 % of the respondents work with Independent Regulatory Bodies and 34 % of the respondents work with Research Institutions, Public Universities and Tertiary Education Institutions. This implies that majority of the respondents were employees of Executive Agencies,

Information on State Agency Types was necessary in analyzing the variations in the E-Government strategies and public service delivery among the state agencies and the findings could be generalized across the state agencies. The findings indicate that responses were distributed across various state agencies though Executive Agencies was significantly higher. The findings are in line with the RoK (2016) that depicted state agencies categorized as Executive Agencies to be leading in relation to public service staff count.
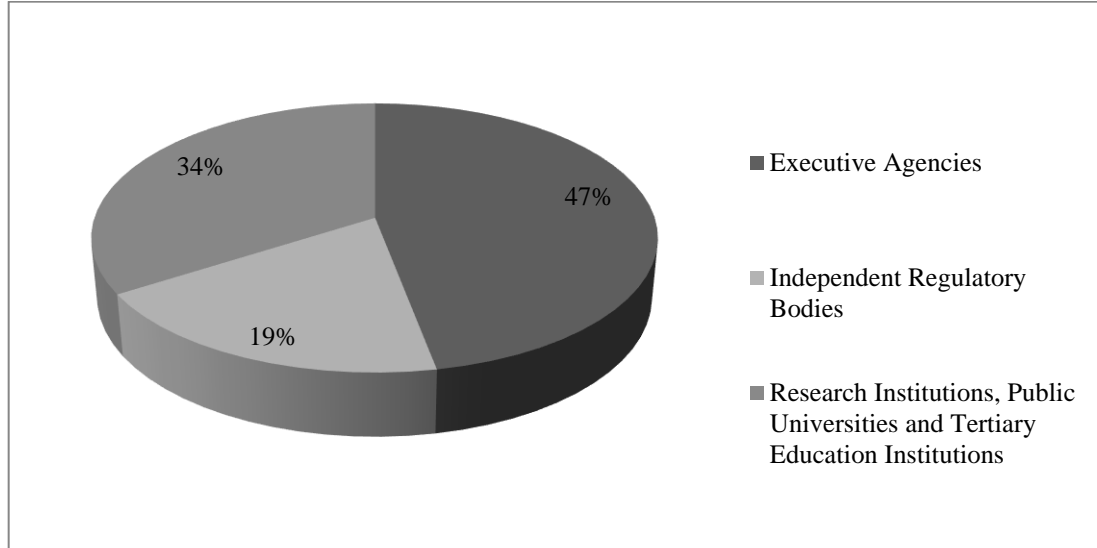
Figure 4.6: Distribution of Respondents by State Agency Type

4.5 Descriptive Analysis of the Study Variables

The main aim of the study was to assess the influence of E-Government strategies on public service delivery among state agencies in Kenya. The study herein presents the analysis of the major findings systematically based on the specific objectives of the study which were to examine, the influence of E-Commerce, E-Services, E-Administration and E-Participation on the service delivery in state agencies in Kenya and to analyse the moderating effect of strategy execution on the relationship between E-Government strategies and service delivery by state agencies in Kenya. According to Creswell (2013), descriptive analysis is necessary in a study in that it helps stipulate the findings the way they are thus forming the basis for the researcher to deeply understand the phenomenon under which the research is based on.

4.5.1 Electronic Commerce

The first objective of the study was to examine the influence of E-Commerce on service delivery among state agencies in Kenya. The sampled respondents were asked to indicate their views based on specific aspects of E-Commerce which included the E-Procurement,

E-Billing and payment gateways, E-Marketing as well as the E-Custom clearance systems. The findings are as herein discussed in figure 4.4 and table 4.5. A 5-point Likert's scale was used with 1 as the lowest and 5 as the highest rated.

The study sought to establish the extent to which the aspects of E-Commerce were embraced in the respondents' respective state agencies. As the findings in figure 4.4 portray, E-Procurement was the highest embraced aspect of E-Commerce with 66.1% of the respondents (48.0% high extent & 18.1% very high extent) indicating that their respective agencies had embraced the aspect to a high extent. E-Marketing was also fairly embraced by most of the agencies where 34.9% had embraced it to a high extent and 25.2% had embraced it to a very high extent. The least embraced E-Commerce aspect was E-Billing and payment gateways where 25.8% had embraced the aspect to a low extent while 22.5% had embraced it to a very high extent. Generally, all the four aspects of E-Commerce had been embraced in all the agencies although not effectively. This is an indication that as much as the state agencies could be ready to integrate the E-Commerce aspects (E-Procurement, E-Billing and payment gateways, E-Custom clearance systems and E-Marketing), there are factors that could be limiting them to have the aspects integrated effectively.

Figure 4.7: Extent of Embracing E-Commerce Practices

Table 4.3: Extent to which the Aspects of E-Commerce Practices have been embraced

	Very low extent	**Low extent**	**Moderate extent**	**High extent**	**Very high extent**
E-Procurement	4.7%	13.8%	15.4%	48.0%	18.1%
E-Billing and Payment Gateways	7.7%	18.1%	26.8%	24.8%	22.5%
E-Custom clearance systems	9.7%	14.4%	17.8%	36.6%	21.5%
E-Marketing	12.1%	12.8%	15.1%	34.9%	25.2%

The respondents were further asked to indicate their level of agreement on specific statements reading the E-Commerce aspects. The findings are as shown in table 4.6. As the findings portray, majority of the respondents agreed that their respective departments had integrated E-Procurement as a way of promoting efficiency and effectiveness as shown by a mean of 3.43 and a standard deviation of 1.35. Through use of E-Procurement, most of the state agencies had achieved integrity and accountability in the procurement operations as shown by a mean of 3.64 and a standard deviation of 1.14. It was further

established that most of the management of the state agencies were committed towards integrating E-Procurement as evidenced by a mean of 3.55 and standard deviation of 1.28. On E-Billing and payment gateways, most of the respondents indicated that their respective agencies had moderately integrated the latter in their operations as shown by a mean of 3.31 and a standard deviation of 1.45.

Majority of the agencies had however put in place appropriate systems and personnel to ensure effective adoption of E-Billing and payment gateways as shown by a mean of 3.57 and a standard deviation of 1.26. The respondents further agreed that through adoption of E-Billing and payment gateways, service delivery in their respective agencies had improved and this is evidenced by a mean of 3.73 and a standard deviation of 1.07. The findings further revealed that most of the agencies surveyed used E-Marketing to carry out most of their marketing activities as shown by a mean of 3.81 and a standard deviation of 0.98. The respondents agreed that their respective agencies were able to reach out to more people as a result of adoption of e-marketing as shown by a mean of 3.93 and a standard deviation of 1.00. The respondents also agreed that through E-Marketing, their respective agencies were able to create more awareness on government projects.

As the findings portray, most of the respondents indicated that their respective agencies had adopted electronic based custom clearance systems as evidenced by a mean of 3.68 and a standard deviation of 1.11. The findings further revealed that most of the agencies recorded effectiveness and efficiency in clearance of customs as a result of adopting E-Custom clearance systems. Majority of the respondents as revealed by a mean of 3.85 and standard deviation of 1.03 agreed that through adoption of E-Custom clearance systems, their respective agencies achieved more accuracy and transparency.

The findings imply that the state agencies in Kenya have to some extent Embraced E-Commerce in their operations. However, the agencies have not effectively integrated the aspects of E-Commerce including E-Procurement, E-Marketing, E-Billing and payment gateways as well as E-Custom clearance systems. The findings however revealed that adopting E-Commerce and putting the necessary measures to integrate the E-Commerce

aspects puts the agencies in a better position to achieve their mandate. The findings concur with those by Mazzarol (2015) who found that through effective utilization of E-Commerce, modern business tend to enhance their efficiency and consistency in doing business thus achieving better results.

Wanjau *et al.* (2012) noted that every organization in the 21st century regardless of its size requires E-Commerce strategies such as E-Procurement and E-Marketing as a way of standing out from the competitors as well as gaining effective use of its resources through properly monitored and streamlined business processes. The findings also go hand in hand with the suggestions by Rogers (1962) in his technology diffusion theory that modern businesses ought to be tied to technology-based way of doing things as a way of gaining from the ever-changing technology. E-commerce in the same way helps the state agencies to align their operations to the ever-changing technology thus attaining efficiency and better service delivery.

Table 4.4: The Extent of E-commerce

Measurement Aspect	Mean	Std. Dev.
We have effectively integrated electronic procurement in our department to promote efficiency and effectiveness	3.43	1.35
Integrity and accountability have been achieved in our agency as a result of use of E-Procurement	3.64	1.14
There has been full commitment by the management of our agency to integrate E-Procurement	3.55	1.28
E-billing and payment gateways have adequately been integrated in the agency	3.31	1.45
Appropriate systems and personnel have been put in place to enhance adoption of E-Billing and payment gateways	3.57	1.26
The adoption of E-Billing and payment gateways has improved delivery of services in the agency	3.73	1.07
The agency carries out most of its marketing activities through electronic means	3.81	0.98
Through E-Marketing we are able to reach more people hence achieve the best results	3.93	1.00
E-Marketing has enabled our agency to create more awareness on the government projects	3.61	1.11
The agency has effectively adopted electronic based custom clearance systems	3.68	1.11
Efficiency and effectiveness in custom clearance has increased with adoption of E-Custom Clearance systems	3.75	1.11
Accuracy and transparency have been enhanced through adoption of e-custom clearance systems	3.85	1.03

4.5.2 E-Services

The second objective of the study was to establish the influence of E-Services on service delivery among state agencies in Kenya. The study sought to unveil the respondents' views on the electronic services done in their respective agencies. The E-Services under consideration included one-stop service centers, E-Searching and information provision, E-Filing and E-Licensing. A five-point Likert's scale was used. The findings are as herein presented.

The respondents were asked to indicate the extent to which their respective agencies embraced the four major aspects of E-Services (one-stop service centers, E-Searching and

Information Provision, E-Filing and E-Licensing). The findings as shown in figure 4.8 and summarized in table 4.5 revealed that majority of the state agencies surveyed had embraced E-Service aspects to a high extent with e-searching being the most embraced where 46.3% indicated that it had been embraced to high extent and 20.8% indicated that the latter had been embraced to a very high extent. E-Filing and E-Licensing had also been fairly adopted where 38.9% and 37.6% had embraced the aspects to a high extent respectively. This signifies the commitment of the agencies to enhance service delivery through E-Services. According to Lindgren and Jansson (2013), most of the citizens seeking government services expect better services where the waiting time is as minimal as possible. Through adoption of the e-services aspects, therefore, the state agencies reduce the waiting time in licensing, tax filling and information searching thus promoting customer satisfaction.
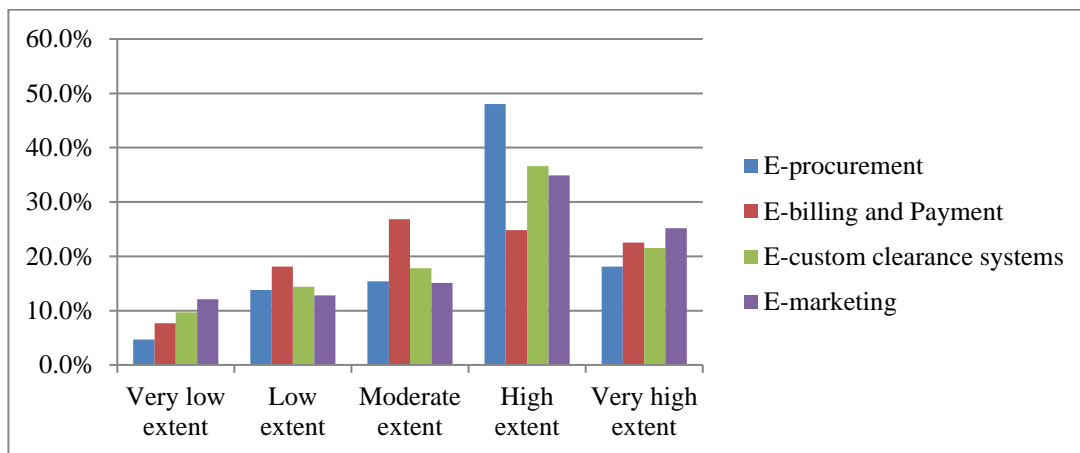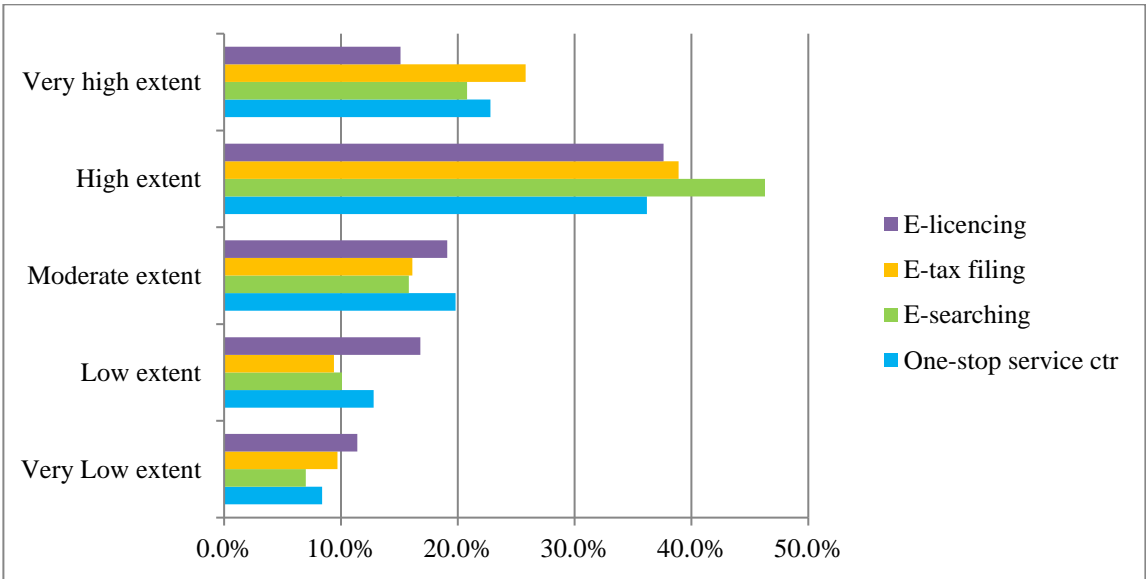

Figure 4.8: Extent of Embracing E-Services Practices

Table 4.5: Extent to which the Aspects of E-Service Practices have been embraced

	One-Stop service Center	E-Searching	E-Filing	E-Licencing
Very Low extent	8.4%	7.0%	9.7%	11.4%
Low extent	12.8%	10.1%	9.4%	16.8%
Moderate extent	19.8%	15.8%	16.1%	19.1%
High extent	36.2%	46.3%	38.9%	37.6%
Very high extent	22.8%	20.8%	25.8%	15.1%

The study further sought to find out the respondents' level of agreement on specific statements regarding the role played by E-Services on promoting service delivery in their respective agencies. The findings as shown in table 4.6 revealed that majority of the respondents were neutral on the statement that their respective agencies had embraced one-stop service centres to enhance effectiveness in service delivery as evidenced by a mean of 3.11 and a standard deviation of 1.37. This was also the case on the statement that the service centres were always available and capable of providing all the required information to the customers as shown by a mean of 3.05 and a standard deviation of 1.42. The respondents however agreed that one-stop service centres enhanced service delivery in their respective agencies as shown by a mean of 3.58 and a standard deviation of 1.26. This is to imply that as much as one-stop service centres have not been effectively initiated at the state agencies surveyed, their presence has helped enhance service delivery.

On E-Searching and Information Provision, the respondents were neutral that searching of any information by the members of the public in their respective agencies was electronically done as shown by a mean of 3.42 and a standard deviation of 1.33. The findings revealed that majority of the state agencies surveyed gave feedback to their customers through electronic means as shown by a mean of 3.68. The respondents agreed that through adoption of e-searching, customer satisfaction was enhanced and this is evidenced by a mean of 3.64 and a standard deviation of 1.23. The findings imply that E-Searching and information provision is upheld by the state agencies although they may

have not embraced it on the customer side to ensure that they (customers) also tune to e-searching when in need of any information in the agencies.

The findings further revealed that majority of the state agencies surveyed filed their tax returns through electronic systems as shown by a mean of 3.84 and a standard deviation of 1.07. This as the findings portray, enhanced timeliness in filing taxes (mean=3.61) hence beating deadlines to avoid penalties and fines (mean=3.80). The study established that majority of the state agencies issued the licenses through electronic means (mean=3.87) through which they were able to issue more licenses at a go (mean= 3.73) and avoid forgery and fraud (Mean=3.60). The findings imply that E-Filing and E-Licensing are major moves of adopting E-Services through which the delivery of services by the state agencies is effectively done to enhance customer satisfaction.

The findings compare with those by Santosh and Dikshit (2018) who established that electronic service delivery ensures equity and reliability in government services such that the citizens are able to obtain the necessary information timely and with the required manner. Anuj *et al.* (2018) suggested that both public and private institutions ought to embrace E-service delivery as a way of meeting the customer information needs and promoting timeliness and cost-saving. The findings also gain support from the New Public Management theory by Hood (1991) who contended that public services can be adequately and openly assessed if technology could be embraced (E-Services) and ensuring that all the state departments are pushed towards adopting technology-based service delivery. This way, more customers (members of the public/citizens) are served and with the necessary equity and equality. Moreover, the Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh *et al*. (2016) upholds the need for adoption of technology in government services and cites policing and provision of framework for adoption of E-Services mainstreams as the main way through which the government can enhance service delivery.

Table 4.6: The Extent of E-services

Measurement Aspect	Mean	Std. Dev.
We have embraced one-stop service centers in our agency to ensure effectiveness in service delivery	3.11	1.37
The service centers are always available and with all the required information/services	3.05	1.42
Through the one-stop service centres the service delivery in our agency has improved	3.58	1.26
Searching of any information in our agency by the members of the public is electronic based	3.42	1.33
We mainly give feedback to the clients through electronic means	3.68	1.17
Satisfaction of the customers and efficiency in service delivery has been achieved through adoption of E-Searching and Information Provision	3.64	1.23
Tax failing in our agency is mainly electronic based	3.84	1.07
Through adoption of E-Filing in our agency there has been timelines and catch of deadlines	3.61	1.23
E-Filing has helped our agency to minimize fines and enhance tax compliance	3.80	1.18
Most of the licenses given in our agency are electronically generated	3.87	1.06
E-Licensing has enabled the agency to issue more licenses that when it was manually done	3.73	1.09
Through E-Licensing forgery and fraud has been reduced in our agency thus ensuring effective service delivery	3.60	1.10

4.5.3 E-Administration

The third objective of this study was to assess the influence of E-Administration on service delivery among state agencies in Kenya. Electronic administration stands to be a key aspect of E-Government that explains the ability of the government to integrate management practices in electronic means as a way of promoting efficiency, effectiveness and reliability. The study therefore sought to establish the extent at which various government agencies have embraced E-Administration through adopting various aspects including electronic data interchange, integrated human resource and payroll systems, integrated financial management systems as well as use if web-based collaborative platforms. The views of the respondents on these aspects were sought using five-point Likert's scale.

The respondents were asked to indicate the extent to which the main aspects of electronic administration (electronic data interchange, integrated human resource and payroll systems, integrated financial management systems and web-based collaborative platforms) were adopted in their respective agencies. The findings as shown in figure 4.9 and summarized in table 4.7 revealed that majority of the agencies had embraced the aspects of E-Administration (Electronic data interchange, Integrated human resources and payroll systems, IFMIS and Web-based collaborative platforms). Integrated Financial Management Systems (IFMIS) was the most embraced where 46.3% of the respondents indicated that it was embraced to a high extent and 22.8% indicated that it had been embraced to a very high extent. Web-based collaborative systems were also embraced to a high extent (44.0%) and very high extent (27.5%). Majority of the respondents also indicated that electronic data interchange programmes and integrated human resource and payroll systems were integrated by their respective state agencies to high extent (43.0%, 40.3%) and to a very high extent (22.5%, 19.5%). The findings imply that the state agencies had indeed embraced the E-Administration aspects as a way of ensuring proper governance of the corporations and promote accountability. Ali *et al.* (2016) indicated that as a result of adoption of E-administration, employee training and performance appraisals were effectively done thus promoting service delivery.
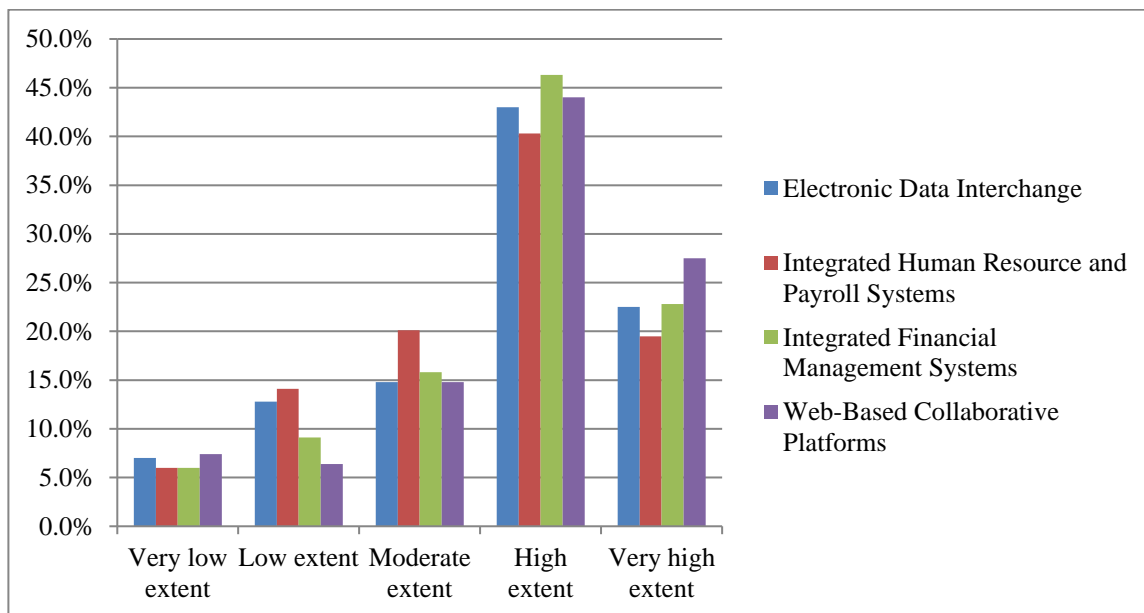
Figure 4.9: Extent of Embracing E-Administration Practices

Table 4.7: Extent of Embrace of E-Administration Practices

Measurement Aspect	Very low extent	Low extent	Moderate extent	High extent	Very high extent
Electronic Data Interchange	7.0%	12.8%	14.8%	43.0%	22.5%
Integrated Human Resource and Payroll Systems	6.0%	14.1%	20.1%	40.3%	19.5%
Integrated Financial Management Systems	6.0%	9.1%	15.8%	46.3%	22.8%
Web-Based Collaborative Platforms	7.4%	6.4%	14.8%	44.0%	27.5%

The respondents' level of agreement or disagreement with specific statements on the role played by electronic administration in promoting service delivery in their respective state agencies was sought in the study. The findings as shown in Table 4.8 revealed that most of the respondents agreed that that their respective agencies had effectively embraced data interchange programmes to enhance communication with other agencies as shown by a

mean of 3.7 and a standard deviation of 1.13. This as the findings portray, promoted learning within the agencies (mean=3.66) and reduced information linkages (mean=3.58). The findings further revealed that most of the state agencies surveyed upheld use and integration of human resource and payroll systems as evidenced by a mean of 3.78 and a standard deviation of 1.11. Through this, equity in motivation and rewarding of the employees was attained (Mean=3.69) as well as effective management of the workforce (mean=3.64).

As the findings further portray, majority of the respondents agreed that their respective state agencies had embraced IFMIs in their financial proceedings and this is revealed by a mean of 3.85 and a standard deviation of 1.09. Through integration of IFMIS as the findings portray, accountability was enhanced (mean=3.61) thus enhancing service delivery by ensuring that the funds were used in the right/intended manner (Mean=3.62). The respondents agreed that their respective agencies had adequate software and hardware inputs to facilitate the integration of Web-based collaborative platforms as shown by a mean of 3.68 and a standard deviation of 1.14. The respondents further agreed that most of the communications and information sharing in their respective agencies were Web-based as shown by a mean of 3.80 and a standard deviation of 1.13. The findings also revealed that as a result of adoption of Web-based collaboration systems, customer feedback and timeliness were enhanced thus promoting service deliver in the state agencies.

The findings imply that E-Administration was indeed a key strategy of E-Government adopted by the state agencies. Through use of E-Administration, it was clear that communication was enhanced as well as properly coordinated information sharing and service delivery. The findings concur with those by Irawan *et al.* (2014) who found that E-Government was mainly enhanced by E-Administration whereby the state departments and agencies adopt electronic based communication and instructional procedures to deliver their mandate. As contended by Lucianelli and Citro (2017), if an organization intent to achieve the value for its resources, using E-administrations strategies such as Integrated Financial Management Systems (IFMIS) would be the way to go. These

findings also reap support from the Actor Network Theory (ANT) by Latour, Callon and Law (2002) who upholds the need for technological innovations in both public and private administration through which accountability, efficiency and proper management is achieved.

Table 4.8: The Extent of E-Administration

Measurement Aspect	Mean	Std. Dev.
Our agency has effectively embraced Electronic data interchange in communicating with other agencies and organizations	3.70	1.13
Through integration of EDI our agency has enhanced communication with other organization thus promoting learning and efficiency	3.66	1.19
Information linkages and loss has been reduced as a result of adoption of EDI	3.58	1.18
Use of integrated human resource and payroll system is emphasized in our agency to promote efficiency and effectiveness	3.78	1.11
Adoption of human resource systems has brought equity in motivation and rewarding systems	3.69	1.18
Management of the workforce has been enhanced as a result of adoption of Integrated HR systems	3.64	1.19
Our agency has fully embraced IFMIS in its financial proceedings and practices	3.85	1.09
Accountability in our agency has been enhanced as a result of adoption of IFMIS	3.61	1.14
Proper use of funds through application of IFMIs has seen enhanced service delivery in our agency	3.62	1.11
There are adequate software and hardware inputs to facilitate integration of Web-Based Collaborative Platforms in our agency	3.68	1.14
Most of the communications and information sharing in our agency are web-based	3.80	1.13
Through adoption of web-based collaboration our agency has enhanced customer feedback and timeliness hence promoting service delivery	3.42	1.26

4.5.4 E-Participation

The fourth objective of the study was to examine the influence of E-Participation on service delivery among state agencies in Kenya. E-Participation entails using the available modern technology platforms to engage the employees and other stakeholders in an organization to enhance their level of participation in decision making processes. In this

case therefore, the study sought to assess the extent to which the Kenyan state agencies have embraced E-Participation as one of the aspects of E-Government. The specific indicators used for the variable were open data initiatives, E-Voting, cyber campaigns and petitions and reputation systems. Likert's scale (5-point) was adopted as the unit if measure where the respondents were asked to rate various aspects based on the latter. The findings are presented hereunder.

To achieve this objective, the study first sought to assess the respondents' views on the extent to which e-participation aspects (open data initiatives, E-Voting, cyber campaigns and petitions and reputation systems) were adopted in their respective agencies. The findings as shown in figure 4.10 and summarized in in table 4.9 revealed that majority of the state agencies surveyed had mainly embraced open data initiatives as an aspect of E-Participation where 45.0% of the respondents indicated high extent and 23.2% indicated very high extent. Reputation systems were also embraced by most of the agencies with 42.3% of the respondents indicating high extent and 19.8% indicating very high extent. E-Voting and Cyber Campaigns were moderately embraced by the agencies where each had 29.9% of the respondents indicating high extent. The findings imply that electronic participation is moderately embraced by the state agencies and this could signify low or moderate participation of the stakeholders including employees and the customers to the matters of the agencies. According to Bureau *et al.* (2014), electronic participation is partially adopted in most of the organizations as a way of distinguishing the institutional benefits to the individual benefits and creating participation boundaries based on the category of the stakeholder. This indicates the reason as to why some aspects of the E-Participation were embraced more than others in the surveyed state agencies.
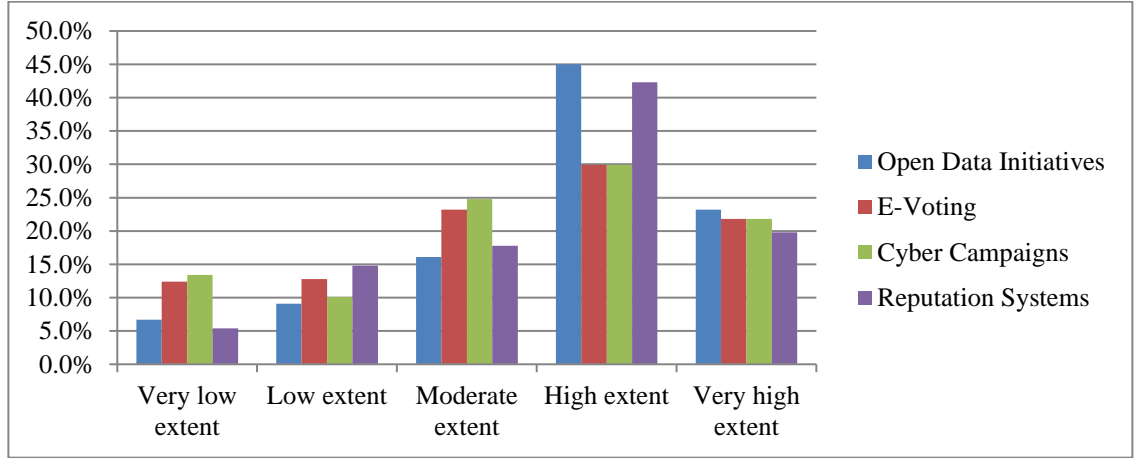
Figure 4.10: Extent of Embracing E-Participation Practices

Table 4.9: Extent to which E-Participation Aspects have been embraced

Measurement Aspect	Very low extent	Low extent	Moderate extent	High extent	Very high extent
Open Data Initiatives	6.7%	9.1%	16.1%	45.0%	23.2%
E-Voting	12.4%	12.8%	23.2%	29.9%	21.8%
Cyber Campaigns	13.4%	10.1%	24.8%	29.9%	21.8%
Reputation Systems	5.4%	14.8%	17.8%	42.3%	19.8%

The respondents' level of agreement with specific statements on the influence of E-Participation on service delivery was sought. The findings as shown in Table 4.10 revealed that majority of the respondents agreed that their respective agencies had extensively adopted open-data initiatives as a way of enhancing public participation as shown by a mean of 3.65 and a standard deviation of 1.15. The data collected from the members of the public was made available through open-data initiative (Mean=3.58) thus enhancing public participation (Mean=3.53). The respondents were neutral on the statement that their respective state agencies adopted E-Voting (Mean=3.35) and that the required inputs and systems for E-Voting were provided (Mean=3.46). The respondents agreed that in case E-Voting was adopted in their respective state agencies satisfaction of voters and aspirants was enhanced as evidenced by a mean of 3.64 and a standard deviation of 1.20. E-Voting

plays a significant role as an aspect of E-Participation in ensuring that transparency and openness election of leaders is achieved.

The findings further revealed that cyber campaigns and petitions were not highly upheld in the state agencies surveyed (mean=3.23) thus not able to use fewer resources and time (Mean=3.05). Majority of the respondents disagreed that reputation systems were effectively used to rate leaders in their respective agencies as shown by a mean of 2.97 and a standard deviation of 1.11. This therefore as the findings portray, denied all stakeholders with an equal opportunity to give their views regarding any leader to the organization (Mean=3.20). Majority of the respondents were neutral on the statement that trust had been built between the customers (citizens) and their respective state agencies out of use of reputation systems as shown by a mean of 3.27 and a standard deviation of 0.90. This is an implication that reputation systems could not have effectively embraced thus not serving its role of enhancing satisfaction and trust among the customers.

The findings are in line with those by Taghavifard *et al.* (2014) who found that through E-Participation, inclusivity is enhanced through which the views of the citizens are put into consideration thus promoting service delivery. As Ochara and Mawela (2015) contend, through effective E-Participation, there is enhanced service delivery and societal transformation in that the government through its agencies focuses on offering what is expected by the recipients (citizens). As Latour, Callon and Law (2002) argue in their Actor Network Theory (ANT), every social setting including an organization such as the state agencies surveyed in the study, require properly strengthened networks through which they are able to walk together towards achievement of a common goal. The theory indicates that participation or connection of the social network is enhanced through embrace of technology and this shows the need for E-participation.

Table 4.10: The Extent of E-Participation

Measurement Aspect	Mean	Std. Dev.
Our agency has extensively adopted open-data initiatives in managing public participation of its activities	3.65	1.15
The data collected from the members of the public and other stakeholders is readily and easily accessible through open data initiative	3.58	1.18
Public participation and satisfaction has been enhanced through availing of the required data via open-data initiatives	3.53	1.29
Electronic voting has been effectively adopted in our agency to promote transparency and reliability	3.35	1.45
There are appropriate systems and training to facilitate E-Voting in our agency	3.46	1.46
The satisfaction of the voters and the aspirants in various positions in our agency has been enhanced as a result of E-Voting	3.64	1.20
Most of the campaigns in any voting session in our agency are done electronic through the available platforms	3.23	1.34
As a result of cyber campaigns fewer resources and time are utilized during the campaigning period	3.05	1.48
All petitions with regard to voting in our agency are done through electronic means	3.10	1.55
Reputation systems are effectively embraced in rating leaders in our agency	2.97	1.11
Through use of reputation systems every member of the public has an opportunity to give their views and rating regarding any leader in the organization	3.20	0.93
As a result of adopting reputation systems trust has been built between the members of the public and our agency	3.27	0.90

4.5.5 Strategy Execution

The fifth objective of the study was to analyse the moderating effect of strategy reputation on the relationship between electronic government strategies and service delivery by the state agencies in Kenya. Strategy execution has been recognized as a major way through which an organization streamlines its systems and way of doing things towards achieving success in a given strategy. It is therefore appropriate to examine how the procedures used by the state agencies cut across the adoption of E-Government strategies and service delivery. The study therefore sought to unearth the respondents' views on the effectiveness of strategy execution processes in their respective agencies and how these

had affected both the success of e-government strategies and service delivery. The findings are as shown in table 4.11 herein.

As the findings portray, the respondents were neutral on the statement that an all-inclusive strategic situation analysis was carried out during development of any E-Government strategy as evidenced by a mean of 3.04 and a standard deviation of 1.04. Majority of the respondents disagreed that there were strategic issues identified through situational analysis for use in strategy formulation and planning as shown by a mean of 2.23 and a standard deviation of 0.89. Moreover, the respondents disagreed that information was sought from different stakeholders such as customers, and employees in the situational analysis processes as shown by a mean of 2.03 and a standard deviation of 0.90. The findings imply that situational analysis as an aspect of strategy execution could not have been effectively carried out in the surveyed state agencies and this could affect the success of the entire process. As outlined by Al-Khouri (2014), for a strategy to be executed successfully, there ought to be proper involvement of the stakeholders through situational analysis so as to have their (stakeholders) incorporated.

On strategy formulation as another aspect of strategy execution, the study established that most of the agencies did not take into account the views of the stakeholders during strategy formulation processes as shown by a mean of 1.80. The respondents disagreed that the strategy implementation/realization plan was put in place, widely circulated and communicated among employees and other stakeholders as shown by a mean of 1.23 and a standard deviation of 0.51. The respondents further indicated that there were no adequate resources and effective leadership to ensure proper implementation of the strategies in their respective agencies and this is evidenced by a mean of 1.26 and a standard deviation of 0.50. The findings revealed that the majority of the respondents were neutral on the statement that there were adequate mainstreams and systems set aside to facilitate evaluation and monitoring of the implemented strategies as shown by a mean of 3.18 and a standard deviation of 1.15. The respondents were neutral on the statement that there were evaluation audits carried out through which some strategies, systems and policies were revised as shown by a mean of 3.40 and a standard deviation of 1.02. The findings

imply that most of the agencies upheld strategy evaluation and audits that it was for other aspects of strategy execution (situational analysis, strategy formulation and implementation).

Strategy execution process stands to steer the success of every strategy that an organization puts in place. Through effective means of executing a given strategy, the organization is able to streamline its operations towards the strategy and reap employees support on the same. The findings however show that strategy execution has not been effectively done in the state agencies surveyed. Siam and Hilman (2014) contemplate that coming up with strategy is one thing and seeing the successful execution of the strategy is another. This is to mean that as much as an organization upholds coming up with new strategies, there is equal need for the management to ensure the strategies are executed properly through which the expected results are achieved. The findings showed that strategy execution was recognized as a key aspect in steering adoption of E-Government strategies but it was not properly done by the surveyed state agencies. The findings gain support from the Lawrence and Lorsch's (1967) contingency theory of management that upholds the need for strategy execution for strategic decisions to be successful through proper strategy formulation, situational analysis, strategy implementation and evaluation.

Table 4.11: The Extent of Strategy Execution

Measurement Aspect	Mean	Std. Dev.
An all-inclusive strategic situation analysis is normally conducted as part of any E-Government strategy development	3.04	1.04
The strategic issues identified via strategic situational analysis are used to formulate the strategies and plans	2.23	0.89
Information is sought from both customers, employees and any other stakeholder during situational analysis process	2.03	0.90
During the strategy formulation process an assessment of strategic options is carried out, strategic plan developed or revised and well documented	2.03	0.97
The views of all the stakeholders are considered during formulation of any strategy in our agency	1.80	0.94
The strategy implementation/realization plan is in place, widely circulated and communicated among employees and other stakeholders	1.23	0.51
There is effective leadership, change management and resource allocation to enhance implementation of the strategy	1.26	0.50
Every phase of implementing strategies in our agency is keenly undertaken to minimize mistakes and ensure success of the strategy	1.25	0.50
There are adequate mainstreams and systems set aside to facilitate evaluation and monitoring of the implemented strategies	3.18	1.15
Strategy evaluation audits frameworks are frequently and effectively carried out within the agency	3.16	0.99
As a result of the evaluation audits carried out, some of the strategies, systems, policies, and goals were revised in line with approved remedial and corrective actions	3.40	1.02

4.5.6 Service Delivery by the State Agencies in Kenya

The main motive behind the government's idea to introduce state agencies is so as to enhance the effectiveness of service delivery to the citizens. Service delivery is therefore the main mandate for any state agency and any strategy to enhance achievement of this quite is critical. This also explains why the state agencies have been encouraged to adopt modern methods of doing their business such as the electronic government strategies. This study was purposed to therefore, assess the current state of affairs as far as service delivery by the state agencies is concerned. The respondents were asked to give their views on various aspects of service delivery and the findings are herein presented.

As the findings in table 4.12 portray, the respondents indicated that the service delivery in their respective state agencies was moderately done in some aspects and in others it was not done to satisfaction. On customer satisfaction, the findings revealed that access to information and feedback and improved financial transparency were moderately achieved (mean=3.40, 3.37) while improved clarity and openness in decision making was lowly achieved (mean=2.58). This is to imply that customer satisfaction as a measure of service delivery was not satisfactorily achieved and this could be as a result of minimal participation and public involvement (Patel, 2014).

On accountability, the findings revealed that majority of the respondents disagreed that there was reduced Turnaround Time (TAT) (mean=2.15) and that there was a high rate of new products and services (mean= 2.81). Performance contracting was not adequately done in the surveyed state agencies (mean=2.98) and there was not effective communication (mean=1.34) and goods and/or services were not timely offered (mean=1.58). The findings imply that service delivery at the state agencies is not effectively done and this signifies the increased public complaints and dissatisfaction (Abe & Monisola, 2014).

The findings are in line with those by Adegoroye *et al.* (2018) who found that public service delivery is an aspect of how well the government does its mandate to its citizens and more so to what extent the services meet the needs of the recipients. According to Kariuki and Kasomi (2011), the perceptions of the members of the public on various projects depends on how well they were involved during the inception of these projects and the level at which the projects meet their needs. On the same note, E-Government strategies are meant to bring the citizens closer to the government as well as enhancing the government's ability to understand the needs of the citizens. This way, the service delivery is able to be aligned to the expectations of the citizens thus enhancing their satisfaction.

Table 4.12: Rating the Aspects of Service Delivery by the State Agencies

Indicator of Public Service Delivery	Mean	Std. Dev.
Access to information and feedback	3.40	1.03
Improved financial transparency	3.37	1.11
Improved clarity and openness in decision making	2.58	1.07
Reduced Turnaround time (TAT) – (Processing duration)	2.15	0.89
Rate of new products/services development	2.81	1.07
Customer satisfaction through provision of value-adding services or products	3.13	1.10
Performance Contracting rating	2.98	1.09
Administrative costs	3.09	1.19
Efficiency in allocation of institutional resources	3.12	1.16
Co-ordination and control of institutional activities	3.11	1.22
Offering timely goods and services	1.58	0.56
Effective communication	1.34	0.54

Rate Public Service Delivery

The respondents were asked to rate the public service delivery in their respective agencies. As the findings in Figure 4.11 portray, 14.1% of the respondents indicated that the service delivery at their respective stat agencies was poor, 20.1% indicated that the service delivery was good while 37.2% were not sure on whether the service delivery was good or not. On the same note, 25.2% of the respondents indicated that service delivery in their respective agencies was fair while 3.4% said that service delivery was excellent. The findings imply that public service delivery by most of state agencies surveyed was not satisfactory with only 48.7% at least rating the service delivery to be at a moderate level. As Kyohairwe (2018) contemplates, public service delivery in most of the state agencies in developing countries is not effectively attained as a result of inappropriate mainstreams of operations as well as lack of accountability and effective use of the resources.
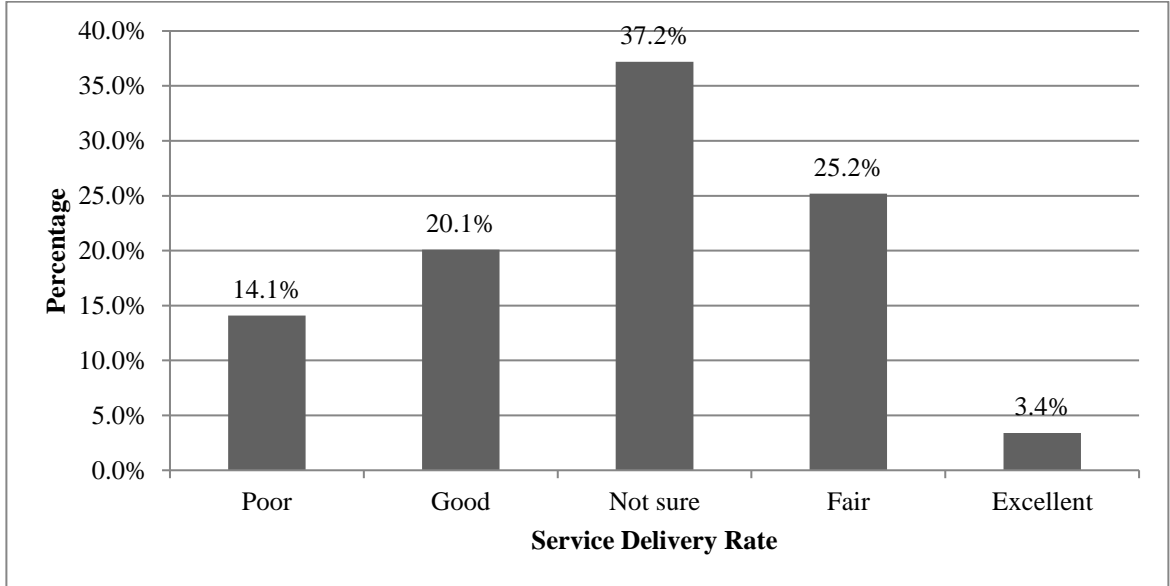
Figure 4.11: Rating Service Delivery at the State Agencies

Number of Complaints from the Customers

Further, the study sought to find out the respondents' views on the number of complaints received from the members of the public and the number of any new products and/or services that their respective agencies had introduced as a way of enhancing service delivery. As the findings in Figure 4.12 portray, most of the surveyed state agencies received between 500 and 2500 (37.6%) and between 2500 and 5000 (29.9%) complaints from the members of the public. As Mashamaite (2014) contends, public service delivery is achieved through listening to the citizens through their complaints and addressing them accordingly.
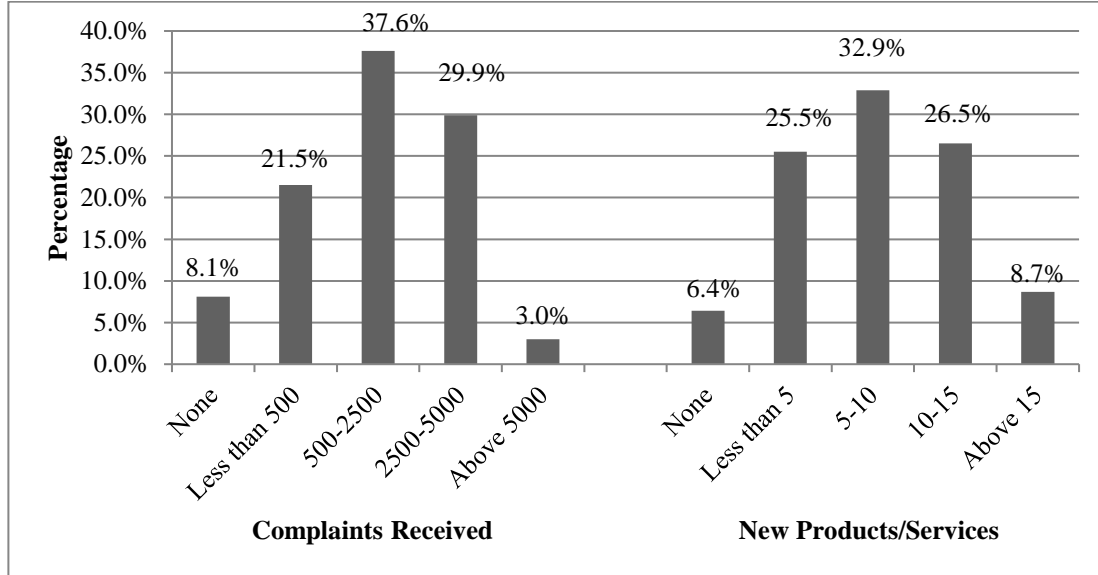
Figure 4.12: Number of Complaints and New Products/Services

Electronic Government Strategies and Public Service Delivery

The respondents were further asked to indicate their views on the extent to which the electronic government strategies (E-commerce, e-participation, e-services and e-administration) influenced service delivery in their respective agencies. As the findings in Figure 4.13 and summarized in table 4.13 portray, majority of the respondents indicated that E-Commerce, E-participation, e-services and E-Administration influenced service delivery in their respective state agencies to a moderate extent. The respondents indicated that E-Commerce influenced service delivery to a moderate extent (32.9%) and high extent (26.5%). On the other hand, 21.5% of the respondents indicated that E-Services influenced service delivery to a low extent, 31.9% to a moderate extent and 27.2% to a high extent.
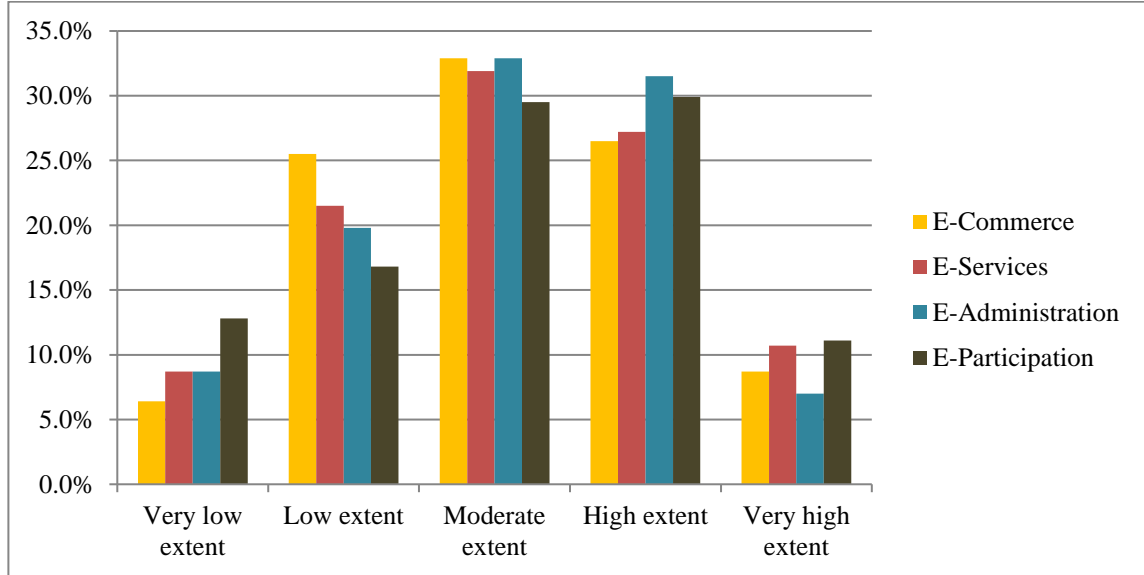
Figure 4.13: E-Government Strategies and Service Delivery

Table 4.13: Extent to which E-Government Strategies Influence Service Delivery

	Very low extent	Low extent	Moderate extent	High extent	Very high extent
E-Commerce	6.4%	25.5%	32.9%	26.5%	8.7%
E-Services	8.7%	21.5%	31.9%	27.2%	10.7%
E-Administration	8.7%	19.8%	32.9%	31.5%	7.0%
E-Participation	12.8%	16.8%	29.5%	29.9%	11.1%

Secondary Data on Public Service Delivery

The study sought to support the primary data on service delivery by use of secondary data from official government websites and state agencies. Secondary data on key indicators of public service delivery of the state agencies consisted of cost efficiency, transparency and customer satisfaction. To establish the cost efficiency of the state agencies, data on the reliance on government transfers was used. The findings presented in Figure 4.14 revealed that in MDAs the trends of the National government transfers to the MDAs as a

95

percentage of tax revenue has been indicating an increasing trend since the year 2000. However, the trend is unsteady and most of their budgeted allocations are taken up by operating costs. Most of the capital expenditure is replacement, rather than expansionary; thus much of this capital expenditure cannot be 'transformational'. This indicates that management of funds is not efficient, poor governance leading to resource loss and burdening the public purse, including a multitude of legal and institutional frameworks that generate multiple reporting and accountability lines, compounding the challenge of effectiveness
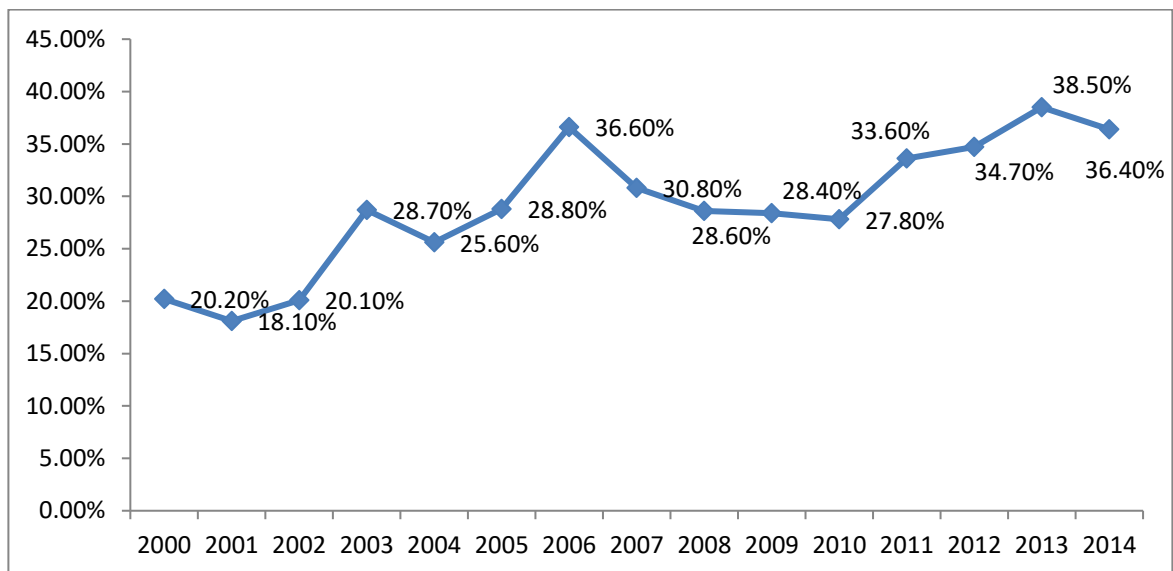
Figure 4.14: National Government Transfers to Parastatals (% of Tax)

Source: Presidential Taskforce Report (2015)

Transparency

A report from the Transparency International (2018) on transparency revealed the levels of transparency in Kenyan state agencies from a survey done in 126 state corporations out of the total 187 state corporations. The assessment was based on four major aspects of transparency which were; information accessibility, anti-corruption, openness and due diligence process. The findings as shown in figure 4.15 revealed that due diligence process

had the highest index of 56.4% followed by information accessibility with an index of 40.2%, anti-corruption with an index score of 38.4% and openness was he last with an index score of 21.7%. The findings imply that overall transparency was moderate in the state corporations and indication that there is still a gap to enhance the latter as a service delivery aspect.
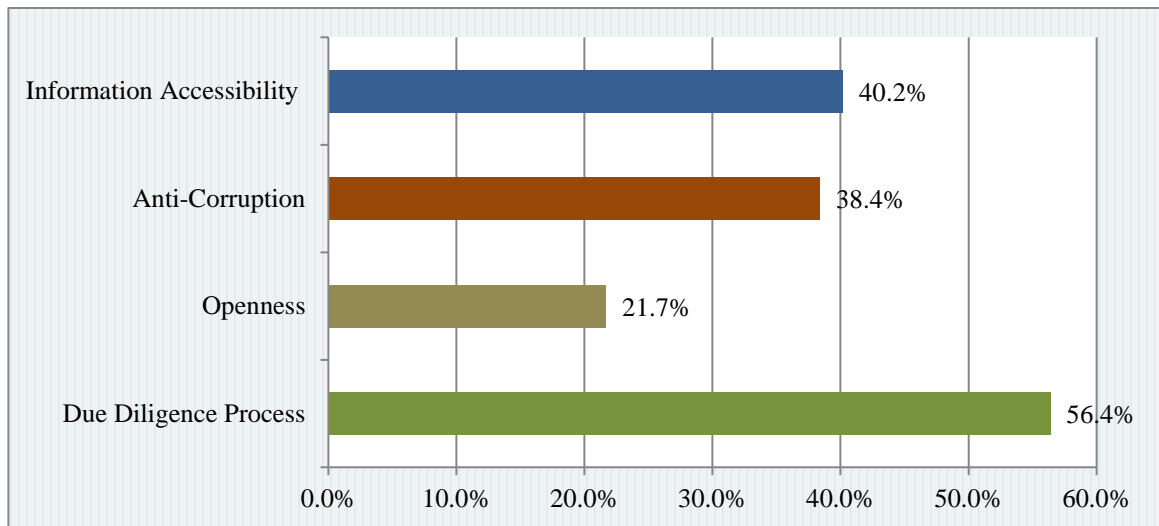
Figure 4.15: Level of Transparency in State Agencies

Source: Transparency International (2018)

Customer Satisfaction

There was a need to establish the customer satisfaction rate of citizens. All state agencies in Kenya are required to identify their customers and develop a customer service charter for service delivery. Based on this, a survey is conducted to establish the customer satisfaction levels within the public service on a scale of 0% to 100%. The figures in Figure 4.16 generated from the presidential taskforce report 2015, revealed that customer satisfaction rating of the public services in Kenya has been unsteady and has remained below 50%. The service delivery levels of state agencies was found to be mixed, some exhibiting excellence and providing high quality services, while in other areas there are deficiencies characterized by low levels of customer satisfaction, complaints and service

delivery civil protests. This justifies the statement of the problem that service delivery in the public sector is below average and strategies are needed to improve it.
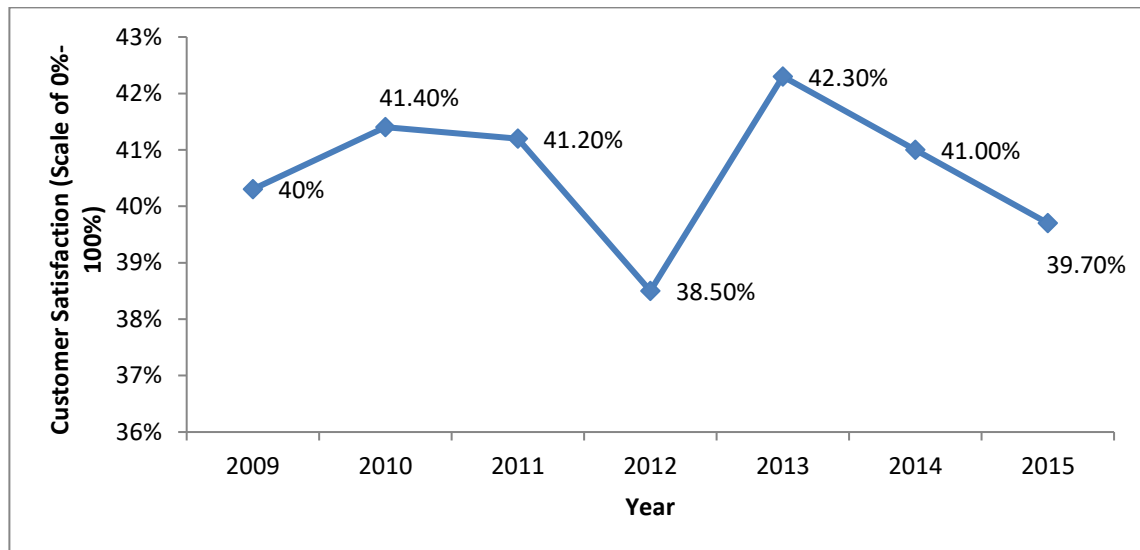
Figure 4.16: Customer Satisfaction Rate (Scale of 0% - 100%)

Source: Presidential Taskforce Report (2015)

4.6 Diagnostic Tests

The researcher conducted various diagnostic tests to ensure that the assumptions of Classical Linear Regression Model (CLRM) were not violated. Estimating the regression models when the CLRM assumptions are violated would result in inefficient, inconsistent and biased parameter estimates (Franzese & Kam, 2009). This section presents the results of the following diagnostic tests: linearity test, normality test, heteroscedasticity test, multicollinearity test and the outlier test.

4.6.1 Normality Test

Normality can be defined as the shape of the data distribution for an individual metric variable and its correspondence to the normal distribution, the benchmark for statistical methods (Hair et al., 2010). Normality is one of three assumptions for multivariate

analysis. Regression assumes normality between the variables under analysis (Hair et al., 2010). Skewness and kurtosis measures of the distributions should be calculated (Tabachnick & Fidell, 2007). Q-Q Plot was used to test for the normality distribution in the study variables. The findings as shown in figure 4.17 indicated that the points on the plot formed a linear pattern passing through the origin with a unit slope. It is visually clear that the residuals were normally distributed and therefore, the model could be applied in the analysis (Brooks, 2008).
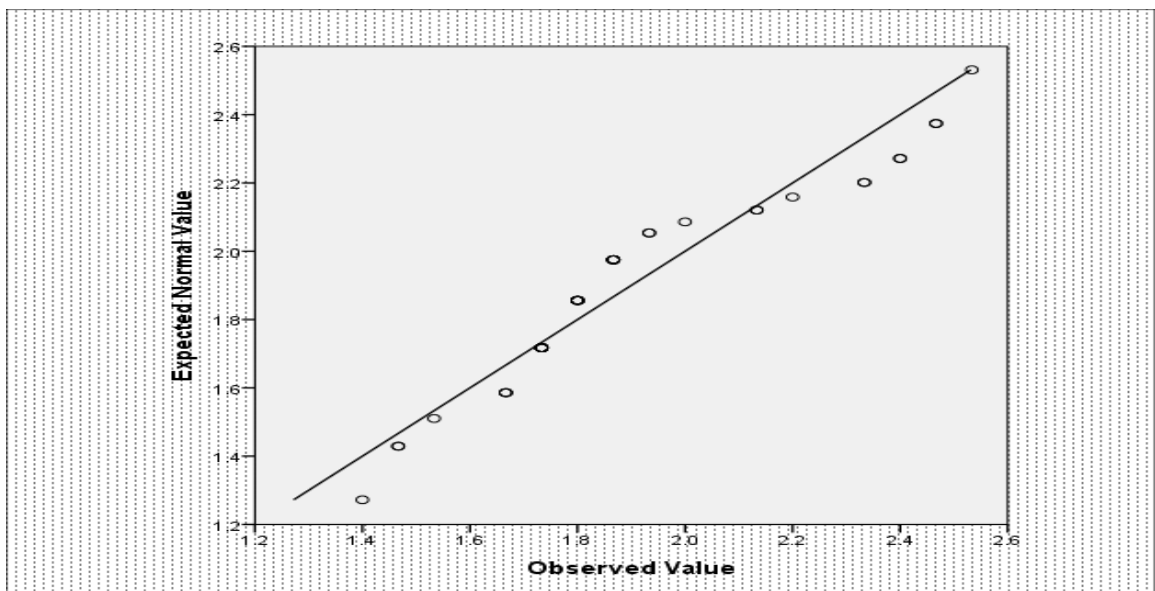
Figure 4.17: Q-Q Plot for Normality Test

Many of the statistical procedures in parametric tests are based on the assumption that the data follows a normal distribution (Ghasemi & Zahediasl, 2012). The normal distribution peaks in the middle and is symmetrical about the mean. Data does not need to be perfectly normally distributed for the tests to be reliable. According Ghasemi and Zahediasl (2012), Kolmogorov-Smirnov (K-S) test is the most popular and appropriate test for normality test. A Normally distributed data when using Kolmogorov-Smirnov should have a significant value of above the standard value of 0.05 to exemplify that the variable under consideration is not statistically significant to normal distribution. Table 4.14 shows all variables with the distribution of the variables of the study with reference to K-S test. The

findings show that the variables have significance values higher than 0.05 thus implying that they are normally distributed.

Table 4.14: Kolmogorov-Smirnov Test for Normality

Variables	Kolmogorov-Smirnov[a]		
	Statistic	**df**	**Sig.**
Electronic Commerce	.160	298	.107
Electronic Services	.096	298	.085
Electronic Administration	.018	298	.125
Electronic Participation	-.136	298	.061
Strategy Execution	.013	298	.103
Service Delivery	.071	298	.093

4.6.2 Multicollinearity

Multicollinearity exists when the standard errors of estimated co-efficients of two or more independent variables are inflated (Simon, 2004). To test for multicollinearity the study adopted Variance Inflation Factor (VIF) approach to test for multicollinearity. This study adopted the rule of thumb for VIF value of 10 as the threshold (Neter, Kutner, Wasserman & Nachtsheim, 1996; Porter & Gujarat, 2010). The VIF values of greater than 10 would indicate presence of multicollinearity. These results as indicted in table 4.15. revealed that the VIF values of the independent variables were within the threshold of 10 (ten). The tolerance value was greater than 0.1 ruling out the possibility of multicollinearity (Field, 2009).

Table 4.15: Results for Multicollinearity Test

Variable	Tolerance	VIF
Electronic Commerce		
	0.785	1.275
Electronic Services		
	0.785	1.274
Electronic Administration		
	0.642	1.513
Electronic Participation		
	0.661	1.513
Mean Tolerance/VIF	**0.718**	**1.394**

The result, therefore implied non- existence of a multicollinearity problem among the independent variables and hence the level of multicollinearity in the model could be tolerated. The multicollinearity diagnosis indicated that there was no threat of multicollinearity problem and therefore, all the independent variables could be used for further analysis using the regression model. A VIF of less than five and tolerance greater than 0.2 are recommended and in the study, values for tolerance and VIF were within an acceptable range.

4.6.3 Homoscedasticity Test

Homoscedasticity is the assumption that the variability of a variable is unequal across the range of values of a second variable that predicts it (Vinod, 2008). In this study homoscedasticity was tested using the Breusch-pagan/cook-Weisberg test. For the Breusch-Pagan/Cook-Weisberg test, the null hypothesis is that the error variances are all equal while the alternative hypothesis is that the error variances are a multiplicative function of one or more variables. Using the Breusch-Pagan/Cook-Weisberg test, homoscedasticity is evident when $p \geq 0.05$ (Bera & Jarque, 2012). Table 4.16 below shows that the constant variance ($Chi^2 = 14.03$) is insignificant ($p = 0.153$). Thus, we fail to reject the null hypothesis and conclude that the error variance is equal thus homoscedasticity is

evident in the study data. Hence, we fail to reject the null hypothesis that there is no difference in residual variance of independent to dependent variables tested.

H₀   Constant variance

Study variables   E-Commerce, E-Services, E-Administration and E-Participation

Table 4.16: Test for Homoscedasticity

H₀	Variables	Chi²	Prob. > Chi²
Constant Variance	$X_1 X_2 X_3 X_4$	14.03	.153

4.7 Inferential Statistics

4.7.1 Correlation Results

Results of the Pearson correlation, as shown in Table 4.17 below, indicate that there is a significant positive correlation between E-Commerce and service delivery by the state agencies (r=0.609, p value <0.05); a significant positive correlation between E-Services and service delivery by the state agencies (r=0.628, p value <0.05); a significant positive correlation between E-Administration and service delivery by the state agencies (r=0.551, p value <0.05) and a significant positive correlation between E-Participation and service delivery by the state agencies (r=0.577, p value <0.05). Overall, the findings indicate that the study's independent variables (E-Commerce, E-Services, E-Administration and E-Participation) have a strong positive association with the dependent variable (service delivery by the state agencies). This implies that any positive changes in the state agencies E-Commerce, E-Services, E-Administration and E-Participation would enhance their service delivery.

Table 4.17: Correlation Matrix

		Service Delivery	E-Commerce	E-Services	E-Admin	E-Participation
Service Delivery	(r)	1				
	Sig. (2-tailed)					
	N	298				
E-Commerce	(r)	.609*	1			
	Sig. (2-tailed)	.000				
	N	298	298			
E-Services	(r)	.628*	.127	1		
	Sig. (2-tailed)	.000	.309			
	N	298	298	298		
E-Admin	(r)	.551*	.112	.237	1	
	Sig. (2-tailed)	.000	.106	.098		
	N	298	298	298	298	
E-Participation	(r)	.577*	.146	.115	.121	1
	Sig. (2-tailed)	.000	.103	.114	.165	
	N	298	298	298	298	298

*Correlation is significant at the 0.05 level (2-tailed)

4.7.2 Simple Regression Results

A simple regression analysis was performed in order to analyze the influence of electronic government strategies on service delivery by the state agencies. This was done by regressing the independent variables (E-Commerce, E-Services, E-Administration and E-Participation) independently against the dependent variable (service delivery). The regression results are organized on the basis of the research hypotheses as follows;

4.7.2.1 E-Commerce

H_{o1}: E-Commerce does not significantly influence the public service delivery of state agencies in Kenya

$$Y = \beta_0 + \beta_1 X_1 + \mathcal{E}$$

Table 4.18: Model Summary for E-Commerce

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.832[a]	0.692	0.691	.8843

Predictors: (Constant), E-Commerce

As the findings in Table 4.18 reveal, R square which is the coefficient of determination that tells the variation in the dependent variable due to changes in the independent variables is 0.692. This means that 69.2% variation in service delivery by the state agencies in Kenya was due to variations in E-Commerce, with 30.8% of variation in service delivery by the state agencies in Kenya being explained by other factors other than E-Commerce.

Table 4.19: ANOVA (Analysis of Variance) for E-Commerce

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	489.644	1	489.644	626.109	.0000[a]
1	Residual	218.190	207	1.0541		
	Total	707.834	208			

a. Predictors: (Constant), E-Commerce

b. Dependent Variable: Service Delivery

Analysis of Variance (ANOVA) consists of calculations that provide information about levels of variability within a regression model and form a basis for tests of significance. The "F" column provides a statistic for testing the hypothesis that all $\beta \neq 0$ against the null hypothesis that $\beta = 0$ (Weisberg, 2005). From the findings in Table 4.20, the significance value is 0.0000 which is less than the standard P-value of 0.05 thus the model was statistically significant in predicting how E-Commerce influenced service delivery by state agencies in Kenya.

Table 4.20: Coefficient results for E-Commerce

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	6.431	.712		9.032	.0000
E-Commerce [X_1]	0.680	.188	.645	3.617	.0004

a. Dependent Variable: Service Delivery

Based on the regression results shown on Table 4.20 above, holding Electronic Commerce constant at zero, service delivery by the state agencies in Kenya would be 6.431. A unit increase in E-Commerce would lead to a 0.680 increase in service delivery by the state agencies in Kenya. At 5% significance level, E-Commerce had a $p=0.0004$ which is less than the standard P-value of 0.05, and hence the study rejected the null hypothesis that *E-Commerce does not significantly influence the public service delivery of state agencies in Kenya*.

4.7.2.2 E-Services

H_{o2}: *E-Services does not significantly influence public service delivery of state agencies in Kenya*

$$Y = \beta_0 + \beta_2 X_2 + \mathcal{E}$$

On the second hypothesis of the study, model summary, ANOVA and regression coefficients were used to test for the hypothesis and exemplify the statistical relationship between E-Services and public service delivery of state agencies in Kenya. The model summary findings as shown in table 4.21 revealed that the R^2 for the model was 0.747. This implies that E-Services up to 74.7% of the variation of service delivery in the state agencies in Kenya.

Table 4.21: Model Summary for E-Services

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.864[a]	0.747	0.746	.7513

Predictors: (Constant), E-Services

The ANOVA results are as shown in table 4.22. The findings indicate that the model had an F-calculated of 67.156 at a significance level of 0.000<0.05. This implies that the model is statistically significant and that E-Commerce can statistically explain the service delivery in the state agencies in Kenya.

Table 4.22: ANOVA (Analysis of Variance) for E-Services

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	464.906	1	464.906	823.647	.0000[a]
1	Residual	157.481	296	.5644		
	Total	622.387	297			

a. Predictors: (Constant), E-Services

b. Dependent Variable: Service Delivery

The regression coefficients shown in table 4.23 revealed that E-Services had a significant and positive influence on service delivery by the state agencies in Kenya ($\beta = 0.719$ & P-value = $0.000 < 0.05$). The findings imply that a unit change in E-Services can explain up to 71.9% of service delivery by the state agencies in Kenya. This therefore justifies the decision to reject the null hypothesis that E-Services has no significant influence on the service delivery by state agencies in Kenya.

Table 4.23: Coefficient results for E-Services

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	4.709	.814		5.785	.0000
E-Services [X_2]	0.719	.149	.642	4.826	.0000

a. Dependent Variable: Service Delivery

4.7.2.3 E-Administration

H_{o3}: E-Administration has no significant influence on service delivery by the state agencies in Kenya

The study sought to find out the statistical relationship between E-Administration and service delivery by the state agencies in Kenya. The statistical relationship between the two variables was sought through regression model whereby the output was generated in terms of model summary, ANOVA and regression coefficients. The model adopted herein was of the form: **$Y=\alpha_0+\beta_3X_3 + \mathcal{E}$.** The findings on the model summary as shown in table 4.24 revealed that the R^2 for the model was 0.615 an indication that the variation of public service delivery by the state agencies was explained by up to 61.5% by Electronic Administration.

Table 4.24: Model Summary for E-Administration

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.784[a]	0.615	0.614	.7715

Predictors: (Constant), Electronic Administration

Analysis of Variance (ANOVA) consists of calculations that provide information about levels of variability within a regression model and form a basis for tests of significance. The "F" column provides a statistic for testing the hypothesis that all $ß \neq 0$ against the null hypothesis that $ß = 0$ (Weisberg, 2005). The ANOVA results revealed that at an F-calculated of 446.069, the model was significant at a significant level of 0.000<0.05. This implies that the service delivery in state agencies in Kenya could be explained by E-Administration and that the model was significant to give a direction on whether to reject or fail to reject the null hypothesis.

Table 4.25: ANOVA (Analysis of Variance) for E-Administration

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	265.539	1	265.539	446.069	.0000[a]
	Residual	166.085	296	.8023		
	Total	431.624	297			

a. Predictors: (Constant), E-Administration

b. Dependent Variable: Service Delivery

The regression coefficients shown in table 4.26 on the other hand revealed that at a beta coefficient of 0.572, E-Administration significantly and positively influenced service delivery by the state agencies in Kenya at a significance level of 0.000. The model now becomes: **Y=5.739+0.572X$_3$ $_+$ $\mathcal{E}$.** This implies that a unit change in E-Administration leads to 57.2% increase in service delivery by the state agencies in Kenya. This therefore gives a go-ahead to reject the null hypothesis of the study that E-Administration has no significant influence on service delivery by the state agencies in Kenya.

Table 4.26: Coefficient results for E-Administration

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	5.739	.687		8.354	.0000
E-Administration [X$_3$]	0.572	.253	.519	2.261	.0245

a. Dependent Variable: Service Delivery

4.7.2.4 E-Participation

H_{04}: E-Participation has no significant influence on the public service delivery by state
agencies in Kenya

$$Y = \beta_0 + \beta_4 X_4 + \mathcal{E}$$

Simple regression analysis was carried out to find out the statistical relationship between E-Participation and public service delivery by state agencies in Kenya. Model summary (R^2), Analysis of Variance (ANOVA) and regression coefficients (β) were used to explain the relationship. The model summary results as shown in table 4.27 revealed that the R^2 for the model was 0.647. This implies that the E-Participation explained up to 64.7% variation of service delivery by state agencies in Kenya.

Table 4.27: Model Summary for E-Participation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.805[a]	0.647	0.646	.8139

Predictors: (Constant), Electronic Participation

The ANOVA results on the other hand as shown in table 4.28 revealed that at the F-calculated of 512.332 the model was significant at a p-value of 0.000 which is less than the standard p-value of 0.05. This implies that the model can significantly explain the relationship between E-Participation and Service delivery by the state agencies in Kenya.

Table 4.28: ANOVA (Analysis of Variance) for E-Participation

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	339.408	1	339.408	512.332	.0000[a]
1	Residual	184.831	296	.8929		
	Total	524.239	297			

a. Predictors: (Constant), E-Participation

b. Dependent Variable: Service Delivery

The regression coefficients on the other hand revealed the beta coefficient for E-Participation was 0.636 at a significant level of 0.000. The model now changes from $Y=\alpha_0+\beta_4 X_4 + \varepsilon$ to $Y=4.237+0.636 X_3 + \varepsilon$ which implies that a unit change in E-Participation can explain up to 63.6% of service delivery by the state agencies in Kenya. This on the other hand means that the study rejects the null hypothesis that E-Participation has no significant influence on the service delivery by state agencies in Kenya.

Table 4.29: Coefficient results for E-Participation

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	4.237	.703		6.027	.0000
E-Participation [X_4]	0.636	.215	.648	2.958	.0034

a. Dependent Variable: Service Delivery

4.7.5 Analysis of the Overall Regression Model

An overall regression model was carried out to determine the combined effect of E-Commerce, E-Services, E-Administration and E-Participation as the independent variables on the public service delivery as the dependent variable. The findings on model

fitness (model summary) are as shown in table 4.30 which revealed that all the four aspects of E-Government strategies focused on in the study had a strong effect on public service delivery by the state agencies in Kenya. This is evidenced by the R^2 value of 0.821 which means that E-Commerce, E-Services, E-Administration and E-Participation explained up to 82.1% of public service delivery by the state agencies in Kenya.

Table 4.30: Model Summary (Overall Model Unmoderated)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.906[a]	.821	.819	.35244

a. Predictors: (Constant), E-Commerce, E-Services, E-Administration and E-Participation

The analysis of variance (ANOVA) for the overall model is as shown in table 4.31. The results depicted that when combined, E-Commerce, E-Services, E-Administration and E-Participation had a significant influence on public service delivery by the state agencies in Kenya. This is evidenced by the P-value of $0.000 < 0.05$ and the F-calculated of 305.548 which is way higher than the F-critical.

Table 4.31: ANOVA Test for the Overall Model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	151.817	4	37.954	305.548	.000[b]
	Residual	33.042	293	.162		
	Total	184.858	297			

a. Dependent Variable: Public Service Delivery

b. Predictors: (Constant), E-Commerce, E-Services, E-Administration and E-Participation

The regression coefficients of the overall model are as shown in table 4.31. The results revealed that E-Commerce, E-Services, E-Administration and E-Participation had a

significant and positive influence on public service delivery by the state agencies in Kenya. The model now becomes:

$$Y = -0.693 + 0.255X_1 + 0.432X_2 + 0.319X_3 + 0.212X_4 + \varepsilon$$

The model output reveals that a unit change in E-Commerce would lead to 25.5% increase in the service delivery by the state agencies in Kenya. A unit change in E-Services would lead to 43.2% increase in service delivery by the state agencies in Kenya while a unit change in E-Administration would lead up to 31.9% public service delivery by the state agencies in Kenya.

Table 4.32: Regression Coefficients for Overall Unmoderated Model

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-.693	.170		-4.082	.000
Electronic Commerce	.255	.048	.259	5.371	.000
Electronic Services	.432	.046	.462	9.431	.000
Electronic Administration	.319	.042	.236	7.570	.000
Electronic Participation	.212	.048	.126	4.421	.000

4.7.6 Moderating effect of Strategy Execution on the relationship between E-Government and Service Delivery

The moderating influence of strategy execution on the relationship between E-Government and public service delivery was established in the study. A multi-stage approach was used to determine the influence of the moderator. The study used a moderated multiple regression models to assess the moderating effect of strategy execution. The moderated multiple regression model involved first running regression analysis between E-Government strategies and service delivery; E-Government strategies

with the moderator included as a variable and finally running regression with the moderator to observe the interaction effect between strategy execution and public service delivery by state agencies in Kenya.

Table 4.33 provide a model summary indicating an R^2 value of 0.597 for the relationship between Electronic Government Strategies; E-Commerce, E-Services, E-Administration and E-Participation and public service delivery in state agencies implying that 59.7% of the variations in public service delivery in state agencies could be attributed to E-Government Strategies. When strategy execution was included as a variable, the R^2 value increased to 0.633 implying that 63.3% of the variations in public service delivery in state agencies could be attributed to strategy execution and E-Government strategies. Further when strategy execution moderated the relationship between E-Government strategies and public service delivery in state agencies, the study realized an R^2 value of 0.713 which indicated that 71.3% (percent) of variations in public service delivery could be attributed to E-Government strategies when moderated by strategy execution.

Table 4.33: Moderated Multiple Regression Model

Model Summary									
Model	**R**	**R Square**	**Adjusted R Square**		**Change Statistics**				
					R Square Change	**F Change**	**df1**	**df2**	**Sig. F Change**
1	.773a	0.597	0.587	0.3081	0.597	57.861	4	156	0.000
2	.796b	0.633	0.621	0.2951	0.036	15.043	1	155	0.000
3	.844c	0.713	0.696	0.26451	0.08	10.481	4	151	0.000

a Predictors: (Constant), E-Commerce, E-Services, E-Administration and E-Participation,
b Predictors: (Constant), E-Commerce, E-Services, E-Administration and E-Participation, Strategy Execution
c Predictors: (Constant), E-Commerce, E-Services, E-Administration and E-Participation, Strategy Execution, X3*, X1*, X2*, X4*

The study carried out ANOVA test to determine the significance of the models. The significant values for the first, second and the moderated model were all 0.000 which was <0.05 at 95% confidence level indicating that the models were statistically significant as

shown by F-values, $F_1=57.861$, $F_2=53.464$, $F_3=41.628$. This implies that the models were reliable and could be used for statistical inference. In addition, the study analyzed the coefficients and compared the beta and p-values in order to determine the effect of the moderator (strategy execution) on E-Government strategies. The study findings indicate that E-Commerce had coefficients ($\beta=0.278$, $t=3.659$,$p=0.000$), E-Services had coefficients ($\beta=0.332$,$t=3.659$,$p=0.000$), E-Administration ($\beta=0.437$,$t=--8.417$,$p=0.000$) and E-Participation ($\beta=0.126$,$t=1.830$,$p=0.069$).

The significant values obtained for all the variables were significant, the overall model was significant implying that strategy execution moderated all the E-Government strategies jointly. The study rejected the null hypothesis that strategy execution had a positive significant moderating effect on E-Government strategies and public service delivery by state agencies in Kenya.

Table 4.34: ANOVA for the Moderated Model

		Sum of Squares	Df	Mean Square	F	Sig.
		ANOVA[a]				
1	Regression	21.97	4	5.492	57.861	.000[b]
	Residual	14.808	293	0.095		
	Total	36.778	297			
2	Regression	23.28	5	4.656	53.464	.000[c]
	Residual	13.498	292	0.087		
	Total	36.778	297			
3	Regression	26.213	9	2.913	41.628	.000[d]
	Residual	10.565	288	0.07		
	Total	36.778	297			

a Dependent Variable: S-Delivery
b Predictors: (Constant), E-C, E-S, E-A, E-P
c Predictors: (Constant), E-C, E-S, E-A, E-P, S-E
d Predictors: (Constant), E-C, E-S, E-A, E-P, S-E, X3, X1, X2, X4

Table 4.35: Regression Coefficients for the Moderated Model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.57	0.267		9.623	0.000
	E-C	0.24	0.066	0.278	3.659	0.000
	E-S	0.343	0.071	0.332	4.839	0.000
	E-A	-0.284	0.034	-0.437	-8.417	0.000
	E-P	0.1	0.055	0.126	1.83	0.069
2	(Constant)	1.479	0.38		3.892	0.000
	E-C	0.138	0.068	0.16	2.023	0.045
	E-S	0.343	0.068	0.332	5.052	0.000
	E-A	-0.229	0.035	-0.352	-6.496	0.000
	E-P	0.126	0.053	0.158	2.375	0.019
	S-E	0.25	0.065	0.229	3.878	0.000
3	(Constant)	3.247	0.615		5.281	0.000
	E-C	-0.012	0.082	-0.013	-0.141	0.888
	E-S	0.358	0.082	0.346	4.379	0.000
	E-A	-0.312	0.036	-0.48	-8.578	0.000
	E-P	-0.02	0.085	-0.025	-0.238	0.812
	S-E	-0.122	0.125	-0.112	-0.975	0.331
	X_1	0.01	0.012	0.076	0.827	0.410
	X_2	0.003	0.018	0.026	0.194	0.846
	X_3	0.041	0.007	0.376	5.997	0.000
	X_4	0.025	0.016	0.217	1.514	0.132

a Dependent Variable: S-Delivery

4.8 Optimal Model

Statistical modelling is a simplified, mathematically-formalized way to approximate reality and optionally to make predictions from the study approximation. In the context of this study, statistical model will help predict relationship between E-Government strategies, Strategy execution and public service delivery in Kenya. The study adopted hierarchical regression to test three models. Model one only constituted E-Government strategies. Model two was fitted including the moderating variable (strategy execution) while model three included interaction variables between E-Government strategies and the moderator (strategy execution). The results of the first model generated an equation given as:

$$Y = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon.$$

Where; Y is Public service delivery

α_0 is the constant

β_1- β_4 are the coefficients of the independent variables

X_1-X_4 are E-Commerce, E-Services, E-Administration and E-Participation.

Based on the outcome of the Regression Analysis shown in Table 4.31, the model therefore was

$$Y = 2.57 + 0.24 X_1 + 0.343 X_2 - 0.284 X_3 + 0.1 X_4 + 0.267 \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{ (i)}$$

Model two results that addition of the moderating variable to the initial model improved the model. This study established that in the joint model with E-Government strategies had a significant influence on service delivery. The second was adopted as follows;

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$$Y = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_4 * Z + \varepsilon$$

α_0 is the constant

$\beta_1 - \beta_4$ are the coefficients of the independent variables

$X_1 - X_4$ are E-Commerce, E-Services, E-Administration and E-Participation.

Z is the moderator (strategy execution) and ε is the error term.

Based on the Regression Analysis shown in Table 4.32, the model therefore became.

$$Y = 1.479 + 0.138 X_1 + 0.343 X_2 - 0.229 X_3 + 0.126 X_4 + 0.250 * Z + 0.38 \ldots\ldots\ldots\ldots\ldots\ldots(ii)$$

This model implies that when all the E-Government strategies and Strategy execution are held constant except E-Commerce, service delivery will improve by 13.8%. Further when all the E-Government strategies and strategy execution are held constant except E-Services, public service delivery will improve by 34.3%. Moreover, when all the E-Government strategies and Strategy execution are held constant except E-Administration, public service delivery will decrease by 22.9%. When all E-Government strategies and strategy execution are held constant except E-Participation, public service delivery will improve by 12.6%, and finally when all the E-Government strategies are held constant, Strategy execution will enhance public service delivery by 25.0%.

The results for the third model show the addition of interaction variables on individual E-Government strategies. The final model generated the equation given by;

$$Y = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_1 X_1 * Z + \beta_2 X_2 * Z + \beta_3 X_3 * Z + \beta_4 X_4 * Z + \varepsilon$$

Where Y= Service delivery

α_0 is the constant

β_1- β_4 are the coefficients of the independent variables

X_1-X_4 are E-Commerce, E-Services, E-Administration and E-Participation

Based on the outcome of the Regression analysis shown in table 4.34 the model therefore became;

$$Y = 3.247 - 0.012 X_1 + 0.358 X_2 - 0.312 X_3 - 0.02 X_4 + 0.01 X_1 * Z + 0.03 X_2 * Z + 0.041 X_3 * Z + 0.025 X_4 * Z + 0.615 \ldots\ldots\ldots\text{(iii)}$$

This model implies that when all E-Government strategies are held constant other than E-Commerce, a unit increase in E-Commerce will reduce service delivery by 1.2%, further when all the E-Government strategies are held constant other than E-Services, a unit increase in E-services will increase service delivery by 35.8%. When all E-Government strategies are held constant other than E-Administration, a unit increase in E-Administration will decrease public service delivery by 31.2%.

The interaction effect of E-Government strategies and strategy execution shows that when all variables are held constant other than interaction between E-Commerce and strategy execution, service delivery increases by 3%; when all variables are held constant other than the interaction between E-Administration and strategy execution, service delivery

increases by 4.1% and when all interactions are held constant other than interaction between E-Participation and Strategy execution, service delivery increases by 2.5%. Upon comparing the coefficients of the Third model and their respective p-values, the study found that only E-Administration was statistically significant. This meant that Strategy execution moderated E-Government strategies when acting jointly but not individually. It was important to realign the model given the study findings; the model was therefore adjusted to the optimal model (iv).

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter outlines the summary of findings of the study on the influence of E-Government strategies on public service delivery by the state agencies in Kenya. The conclusion and recommendations are outlined based on the specific objectives of the study which were to examine the influence of E-Commerce, E-Services, E-Administration and E-Participation on delivery of public services by the state agencies in Kenya. The chapter also covers the suggestions for further studies as well as the contribution of this study to the existing knowledge, literature and/or theory.

5.2 Summary of Findings

The focus of the study was to assess the influence of E-Government strategies on public service delivery by the state agencies in Kenya. The study surveyed 365 respondents drawn from various levels of management in state agencies out of which a response rate of 81.6% (298 respondents) was obtained. Majority of the respondents were males and were aged from 41 years and above with University degree as their highest level of education. Most of the respondents had worked in their respective agencies for over 11 years and majority were in the middle level of management. The demographic results herein Imply that the respondents surveyed were in a capacity to respond satisfactorily to the research questions. The diversity in the respondents' background information also signified a possibility of obtaining diverse info ration and views regarding the subject matter of the study.

5.2.1 Electronic Commerce

The first objective of the study was to assess the influence of electronic commerce on public service delivery by the state agencies in Kenya. The findings revealed that most of

the state agencies had embraced various e-commerce practices among them E-Procurement, E-Billing and payment, E-Custom clearance and E-marketing. However, the findings depicted that E-procurement was the most embraced E-commerce practices by the surveyed state agencies. Majority of the respondents agreed that as a result of embracing E-Procurement, accountability and integrity in the procurement processes was attained thus promoting effectiveness in service delivery. The findings revealed that most of the surveyed state agencies had embraced E-marketing through which they were able to reach more customers during awareness creation of the government services. The inferential analysis of the regression model revealed that indeed E-Commerce had a significant and positive influence on public service delivery by the state agencies in Kenya.

5.2.2 Electronic Services

The second objective of the study was to examine the influence of E-Services on the public service delivery by the state agencies in Kenya. The study sought to find out the extent to which various aspects of E-Services had been adopted by the state agencies and as the findings portray, E-Licensing, E-tax filing, E-searching and one-stop service centre had been embraced to a high extent in the surveyed state agencies. E-Searching was however the most embraced E-service practices among the state agencies. The respondents indicated that their respective agencies had moderately embraced on-stop service centres to avail their services to the customers when required and improve service delivery. The findings revealed that most of the surveyed agencies used electronic means to give feedback to their clients and enhance their satisfaction and also filed their tax returns through electronic means to meet deadlines and avoid penalties. The findings connected with previous studies that have exemplified the need for E-Services in promoting service delivery among public agencies. The descriptive findings gained support from the inferential analysis results which revealed that E-Services had a positive and significant influence on public service delivery among state agencies in Kenya.

5.2.3 Electronic Administration

The study sought to assess the influence of E-Administration on public service delivery by the state agencies in Kenya. The findings showed that most of the state agencies surveyed had adopted the major E-Administration aspects which include Electronic data interchange platforms, Integrated human resource and payroll systems, integrated financial management systems and Web-based collaborative platforms. Integrated Financial Management Systems (IFMIS) was the majorly adopted E-Administration aspect among the state agencies which signifies the directive by the government to the have the system embraced in its agencies to enhance accountability and effective use of public funds. The respondents were of the opinion that through adoption of Electronic Data Interchange (EDI) communication and data security were enhanced thus promoting smooth service delivery. The findings revealed that workforce productivity was enhanced through adoption of the Human Resource and Payroll Systems in that effective rewarding and employee supervision was enhanced thus contributing to better service delivery. The output from the regression model for the study confirmed these findings by unveiling that indeed E-Administration ha d a positive and significant influence on public service delivery by the state agencies in Kenya.

5.2.4 Electronic Participation

The fourth objective of the study was to determine the influence of E-Participation on public service delivery by the state agencies in Kenya. The findings showed that open data initiatives, Electronic voting, cyber campaigns and reputation systems had been adapted to a moderate extent by the state agencies surveyed as the Electronic participation practices. The findings revealed that as a result of embrace of open data initiatives, the state agencies were able to acquire more data from the members of the public and ensure that the data was readily available through which public participation was enhanced. The respondents agreed that through electronic voting transparency in the voting process was enhanced and lesser time was used in voting. This implies that the elected leaders in any representation in the agencies mirrored the expectations of the people thus promoting

satisfaction among the members of the public. The inferential analysis results revealed that E-Participation had a significant and positive influence on public service delivery among the state agencies in Kenya.

5.2.5 Strategy Execution

The study sought to analyze the moderating effect of strategy execution on the relationship between electronic government strategies and public service delivery among the state agencies in Kenya. The findings revealed that most of the surveyed state agencies did not effectively execute their strategies where the respondents indicated that the employee's opinions were not sought in the situational analysis processes and that there was ineffective leadership change management and resource allocation to support implementation of the set strategies. This is an indication of poor execution of the strategies which could negatively affect the contribution of E-Government strategies to public service delivery among state agencies in Kenya. The inferential analysis results revealed that strategy execution had a significant moderating effect on the relationship between E-Government strategies and public service delivery among the state agencies in Kenya.

5.3 Conclusion of the Study

The study concluded that electronic commerce was a key aspect in promoting service delivery among the state agencies in Kenya. Through E-procurement and E-Billing, the state agencies are able to achieve transparency and effectiveness in procurement processes thus promoting service delivery. E-Marketing enabled the state agencies to reach more clients (citizens) in creating awareness on different government projects thus enhancing their satisfaction on the public services. Through E-Customer clearance systems, efficiency and timeliness were achieved and this streamlined the service delivery by the agencies.

The study concluded that E-Service was effectively adopted by the state agencies to offer public services to the citizens. The major E-service aspect adopted was E-Searching followed by E-tax filing. Through adoption of E-services as an E-Government strategy, public service delivery was enhanced among the state agencies. Timeliness in tax filing was enhanced through E-tax filing thus avoiding penalties while E-searching availed the information required by the members of the public with ease thus promoting satisfaction.

The study further concluded that E-Administration played a significant role in promoting delivery of public services by the state agencies in Kenya. Through adoption of Integrated Data Interchange and Integrated Human Resource and Payroll Systems, the management of the employees as well as access of customer data was enhanced thus streamlining service delivery to the citizens. The adoption of Integrated Financial Management Systems (IFMIS) enhanced accountability and effective use of public resources thus reducing wastage and achieving value for money among the agencies.

On E-Participation, the study concluded that through adoption of E-participation practices such as E-voting, cyber campaigning and open data initiatives, the representation of different parties at the state agencies was enhanced thus achieving satisfaction among the citizens. Transparency in voting process is achieved thus the representation is based on people's will. This helps safeguard the interests of the members of the public an aspect that strengthens service delivery.

Finally, the study concluded that strategy execution is a key moderating factor on the relationship between E-Government strategies and public service delivery by the state corporations in Kenya. Through situational analysis, strategy formulation and implementation, the E-Government strategies such as E-Services, E-Commerce, E-Administration and E-Participation are strengthened to support public service delivery. However, it was established that most of the state agencies did not uphold strategy execution thus evidencing the conclusion that failure to keenly observe and undertake strategy execution could be the source of declined success of E-Government strategies and so to say the continued decline in service delivery.

5.4 Recommendations of the Study

Based on the findings and conclusions of the study, the following recommendations have been drawn.

5.4.1 E-Commerce Strategy

The study recommends that the government through the state agencies should embrace E-Commerce as a way of enhancing service delivery. Through adoption of E-procurement and E-billing, efficiency and openness in the procurement processes is achieved thus enabling effective service delivery. E-marketing on the other hand is essential in promoting awareness and making the members of the public aware of the government services and embracing them for better livelihoods.

5.4.2 E-services Strategy

The state agencies through the management ought to embrace E-services by ensuring that there are one-stop service centres across the country and that the members of the public can easily access any information regarding government services with ease. This way, the citizens are able to get more concerned and connected to the government services thus reaping benefits from the latter. The state agencies should ensure that the licences are offered through electronic means thus saving cost and time while at the same time carrying out their tax returns through electronic mechanisms to avoid penalties as a result of delays and failure to meet deadlines.

5.4.3 E-Administration Strategy

Electronic administration is an important step towards enabling running of the state agencies. The agencies through their management should therefore ensure that E-Administration id adopted through embrace of different aspects such as the Integrated Human Resource and Payroll Systems and Integrated Financial Management Systems. Through these systems, the agencies are able to achieve accountability and integrity in

dealing with public funds as well as effectively managing the workforce to ensure productivity and commitment to service delivery.

5.4.4 E-Participation Strategy

The study recommends that E-participation ought to be embraced as a key step towards streamlining satisfaction in public service delivery among the state agencies. The Agencies should ensure voting is done electronically for transparency and credibility while at the same time promoting cyber campaigns and petitions through which time and cost saving is enhanced. E-Participation services to bring the citizens closer to the government services thus promoting their satisfaction and understanding for their needs and what is required of them.

5.4.5 Strategy Execution

The management of state agencies should embrace strategy execution practices so as to enable success of E-Government strategies which are significant to enhanced public service delivery. The management of the agencies should ensure that situational analysis before implementation of any strategy is effectively done and that the employees are engaged in any processes of strategy execution thus ensuring proper implementation of any given strategy.

5.5 Areas for Further Research

The study focused on the influence of E-Government strategies on public service delivery. A similar study should be carried out to underpin other aspects that affect service delivery among the state agencies apart from the E-Government strategies.

The focus of the study was on state agencies in Kenya. A study ought to be carried out to establish the effect of Electronic governance prospect in private sector which is also a key economic driver in the country.

The study was limited to public service delivery among the state agencies. These agencies are faced with other challenges apart from public service delivery issues. There ought to be a study, therefore, to focus on other issues facing state agencies such as performance, competitiveness (for commercial state agencies) and survival of these agencies since most of them have continually collapsed and operated under losses for years despite the continued government funding.

5.6 Implications of the Study

5.6.1 Policy Implications

From the study, it came out clear that all the E-Government strategies had a significant positive effect on public service delivery by the state agencies in Kenya. The study will assist policy makers in coming up with policies geared towards improving public service delivery by the state agencies. The study will assist intellectuals and be a reference for future studies and practitioners undertakings on strategic management and particularly E-Government strategies and service delivery. This study makes a useful contribution to the advancement of academic knowledge on E-Government strategies from the context of Sub-Saharan African setting and particularly to state agencies in Kenya.

5.6.2 Managerial Implications

The findings of this research reveal positive implications for managers and senior officials in the state agencies in Kenya on the adoption of E-Government strategies. The implications are that through adoption of E-Government strategies, the managers of the state agencies keep a more streamlined and effective way of operation thus promoting public service delivery. The findings therefore provide an insight to state agency managers on the importance of the use of E-Commerce, E-Services, E-Administration and E-participation in running the daily affairs of the agencies. Due to the changing business environment in Kenya coupled with the increased awareness among the members of the public, the state agency managers ought to consider their relationships with the employees

as well as the members of the public who are the customers as key drivers of effective service delivery.

5.6.3 Theoretical Implications

In the course of analyzing the research findings some unexpected issue emerged that have implications for the wider body of knowledge. This issue is the combination of E-Government strategies as public service delivery strategy. After scrutinizing the Kenyan public sector and particularly the state agencies literature, there was no reference to E-Government strategy as a differentiating strategy in the public sector. This gap in literature suggests that the research has made a significant contribution to the body of knowledge. The study will therefore assist intellectuals and be a reference for future studies and practitioners undertakings on strategic management and specifically E-government and public service delivery. The results obtained from this study are important in terms of reflecting the situation on the usage and levels to which E-Government strategy enhance public service delivery among the state agencies. The findings of the study will add to the theoretical literature on the E-Government strategies and public service delivery in state agencies.

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APPENDICES

Appendix I: Letter of Introduction

JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY
NAIROBI CBD CAMPUS
Department of Commerce and Economics Studies

P.O. Box 62000
NAIROBI - 00200
KENYA

TEL: 020-221306
Email: cesncbd@jkuat.ac.ke

Ref: JKUAT/6/2/0027

Date: 10th July, 2019

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

RE: LETTER OF INTRODUCTION – KENNETH RIANY HDB433-C004-0599/14

This is to confirm that the above named is a student pursuing PhD in Business Administration (Strategic Management Option) at Jomo Kenyatta University of Agriculture and Technology, NCBD Campus.

He has successfully completed his coursework and is now working on his research project titled *"Influence of E-Government Strategies of Public Service Delivery Among State Agencies in Kenya"* as a partial fulfilment of the requirements of the Programme. As such, he will contact your organization for data collection.

Any assistance accorded to him will be highly appreciated. Please do not hesitate to contact the undersigned for any further information.

Yours sincerely,

Associate Chairperson
CES NAIROBI CBD CAMPUS

Joyce Nzulwa (PhD)
Associate Chair –CES
/pw

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JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

NAIROBI CBD CAMPUS

Department of Commerce and Economics Studies

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...ociate Chairperson
...S NAIROBI CBD CAMPUS

Joyce Nzulwa (PhD)
<u>**Associate Chair –CES**</u>
/pw

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NAIROBI CBD CAMPUS

Department of Commerce and Economics Studies

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Associate Chair –CES
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NAIROBI CBD CAMPUS
Department of Commerce and Economics Studies

P.O. Box 62000
NAIROBI - 00200
KENYA

TEL: 020-221306
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Appendix II: Research Questionnaire

This questionnaire is divided into seven parts (I, II, III, IV, V, VI and VII). Instructions have been provided for each part.

PART A: INTRODUCTION

Dear respondents,

The researcher is a student at Jomo Kenyatta University of Agriculture and Technology carrying out a study that aims to examine the influence of E-Government strategies on the public service delivery among state agencies in Kenya. You have been selected as the respondent and as one of the respondents, your opinions are very important to this study. This is an academic research and the information provided is purely for academic purpose and will be treated with utmost confidentiality. Your co-operation will be highly appreciated.

Please read the following instructions carefully before you start filling the questionnaire:

1. Please read each question carefully and complete the questionnaire appropriately.
2. For questions requiring you to choose the extent of agreement or importance indicate only one appropriate choice on scale of 1-5
3. Fill in answers to all questions with blank spaces.

Confidentiality: The responses you provide will be strictly confidential. Do not indicate your name on the questionnaire

PART I: BIOGRAPHIC DATA

1	Type of the State Agencies? (tick appropriately☑)	☐ Executive Agencies ☐ Independent Regulatory Bodies ☐ Research Institutions, Public Universities and Tertiary Education Institutions
2	Name of department	
3	Your current position falls within which management cadre? (tick appropriately☑)	☐ Senior /Executive ☐ Middle ☐ Lower
4	How long have you been in the institution? (tick appropriately ☑)	☐ Less than 5 years ☐ 15 – 20 years ☐ 5 – 10 years ☐ Over 20 years ☐ 11 – 15 years
5	What is your highest level of education? (tick appropriately☑)	☐ No formal education ☐ Primary School ☐ Secondary School ☐ College ☐ University ☐ Other (please specify) - _____
6	Indicate your gender (tick appropriately☑)	☐ Female ☐ Male
7	Indicate your age (years) (tick appropriately ☑)	☐ 21-30 ☐ 41-50 ☐ 31-40 ☐ 51 – Above

PART II: Electronic Commerce (E-Commerce)

In a scale of 1-5 (1 the lowest and 5 the highest), to what extent have the following e-commerce practices been integrated in your organization?

E-commerce Practice	1	2	3	4	5
E-procurement					
E-billing and Payment					
E-customer clearance systems					
E-marketing					

What is your level of agreement with the following statements regarding E-Commerce? Use a scale of 1 to 5 where 1 = very low extent, 2 = low extent, 3 = moderate, 4 = high extent, 5 = very high extent

Measurement Aspect	1	2	3	4	5
E-procurement					
We have effectively integrated electronic procurement in our department to promote efficiency and effectiveness					
Integrity and accountability has been achieved in our agency as a result of use of e-procurement					
There has been full commitment by the management of our agency to integrate e-procurement					
E-billing and Payment gateways					
E-billing and payments have adequately been integrated in the agency					
Appropriate systems and personnel have been put in place to enhance adoption of e-billing and payments					

The adoption of E-billing has improved delivery of services in the agency					
E-marketing					
The agency carries out most of its marketing activities through electronic means					
Through e-marketing we are able to reach more people hence achieve the best results					
E-marketing has enabled our agency to create more awareness on the government projects					
E-custom Clearance Systems					
The agency has effectively adopted electronic based customer clearance systems					
Efficiency and effectiveness in custom clearance has increased with adoption of e-custom clearance systems					
Accuracy and transparency have been enhanced through adoption of e-custom clearance systems					

15 Please give any other important aspect of E-Commerce in your agency which has not been mentioned above

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16 Please propose ways in which the E-Commerce can be enhanced in your agency

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PART IV: Electronic Services (E-Services)

Please indicate the extent to which the following electronic services have been adopted in your agency. Use a scale of 1-5 where 1 is the lowest and 5 is the highest.

E-Services	1	2	3	4	5
One-stop service centres					
E-searching					
E-tax filing					
E-licensing					

What is your level of agreement with the following statements regarding E-Services? Use a scale of 1 = very low extent, 2 = low extent, 3 = moderate, 4 = high extent, 5 = very high extent

Measurement Aspect	1	2	3	4	5
One-stop service center					
We have embraced one-stop service centres in our agency to ensure effectiveness in service delivery					
The service centres are always available and with all the required information/services					
Through the one-stop service centres the service delivery in our agency has improved					
E-searching					
Searching of any information in our agency by the members of the public is electronic based					
We mainly give feedback to the clients through electronic means					
Satisfaction of the customers and efficiency in service delivery has been achieved through adoption of E-searching					
E-tax Filling					
Tax failing in our agency is mainly electronic based					
Through adoption of tax-filing in our agency there has been timelines and catch of deadlines					
E-tax filing has helped our agency to minimize fines and enhance tax compliance					
E-licensing					
Most of the licenses given in our agency are electronically generated					
E-licensing has enabled the agency to issue more licenses that when it was manually done					
Through e-licensing forgery and fraud has been reduced in our agency thus ensuring effective service delivery					

28 Please give any other important aspect of E- Services in your agency which has not been mentioned above

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29 Please propose ways in which the E- Services can be enhanced in your agency.

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PART V: Electronic Administration (E-Administration)

To what extent have the following e-administration practices bee adopted in your agency? (use a scale of 1-5 where 1 is the lowest and 5 the highest).

E-administration practice	1	2	3	4	5
Electronic Data Interchange					
Integrated Human Resources and Payroll Systems					
Integrated Financial Management Systems (IFMIS)					
Web-Based Collaborative Platforms					

What is your level of agreement with the following statements regarding E-Administration? Use a scale of 1 = very low extent, 2 = low extent, 3 = moderate, 4 = high extent, 5 = very high extent

Measurement Aspect	1	2	3	4	5
Electronic Data Interchange (EDI					
Our agency has effectively embraced Electronic data interchange in communicating with other agencies and organizations					
Through integration of EDI our agency has enhanced communication with other organization thus promoting learning and efficiency					
Information linkages and loss has been reduced as a result of adoption of EDI					
Integrated Human Resource and Payroll Systems					
Use of integrated human resource and payroll system is emphasized in our agency to promote efficiency and effectiveness					
Adoption of human resource systems has brought equity in motivation and rewarding systems					
Management of the workforce has been enhanced as a result of adoption of Integrated HR systems					
Integrated Financial Management Systems					
Our agency has fully embraced IFMIS in its financial proceedings and practices					
Accountability in our agency has been enhanced as a result of adoption of IFMIS					
Proper use of funds through application of IFMIs has seen enhanced service delivery in our agency					
Web-Based Collaborative Platforms					
There are adequate software and hardware inputs to facilitate integration of Web-Based Collaborative Platforms in our agency					

Most of the communications and information sharing in our agency are web-based					
Through adoption of web-based collaboration our agency has enhanced customer feedback and timeliness hence promoting service delivery					

39 Please give any other important aspect of E-Administration in your agency which has not been mentioned above

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40 Please propose ways in which the E-Administration can be enhanced in your agency.

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PART V: Electronic Participation (E-Participation)

In a scale of 1-5 (1=Lowest and 5=Highest), to what extent has you agency integrated the following e-participation practices?

E-Participation Practice	1	2	3	4	5
Open Data Initiatives					
Electronic Voting (E-Voting)					
Cyber Campaigns and Petitions					

Reputation systems					

What is your level of agreement with the following statements regarding E-Participation? Use a scale of 1 = very low extent, 2 = low extent, 3 = moderate, 4 = high extent, 5 = very high extent

Measurement Aspect	1	2	3	4	5
Open Data Initiatives					
Our agency has extensively adopted open-data initiatives in managing public participation of its activities					
The data collected from the members of the public and other stakeholders is readily and easily accessible through open data initiative					
Public participation and satisfaction has been enhanced through availing of the required data via open-data initiatives					
E-voting					
Electronic voting has been effectively adopted in our agency to promote transparency and reliability					
There are appropriate systems and training to facilitate e-voting in our agency					
The satisfaction of the voters and the aspirants in various positions in our agency has been enhanced as a result of e-voting					
Cyber Campaigns and Petitions					
Most of the campaigns in any voting session in our agency are done electronic through the available platforms					
As a result of cyber campaigns fewer resources and time are utilized during the campaigning period					

All petitions with regard to voting in our agency are done through electronic means					
Reputation Systems					
Reputation systems are effectively embraced in rating leaders in our agency					
Through use of reputation systems every member of the public has an opportunity to give their views and rating regarding any leader in the organization					
As a result of adopting reputation systems trust has been built between the members of the public and our agency					

50 Please give any other important aspect of E-Participation in your agency which has not been mentioned above

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51 Please propose ways in which the E-Participation can be enhanced in your agency.

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PART VI: Strategy Execution

This section examines how strategy execution moderates the relationship between E-Government strategies and public service delivery. Kindly respond with the response that

matches your opinion. Use a scale of 1 to 5 where 1 = to strongly disagree and 5 = strongly agree

Measurement Aspect	1	2	3	4	5
Situational Analysis					
An all-inclusive strategic situation analysis is normally conducted as part of any E-Government strategy development					
The strategic issues identified via strategic situational analysis are used to formulate the strategies and plans					
Information is sought from both customers, employees and any other stakeholder during situational analysis process					
Strategy Formulation					
During the strategy formulation process an assessment of strategic options is carried out, strategic plan developed or revised and well documented					
The views of all the stakeholders are considered during formulation of any strategy in our agency					
Strategy Implementation					
The strategy implementation/realization plan is in place, widely circulated and communicated among employees and other stakeholders					
There is effective leadership, change management and resource allocation to enhance implementation of the strategy					
Every phase of implementing strategies in our agency is keenly undertaken to minimize mistakes and ensure success of the strategy					
Strategy Evaluation					

There are adequate mainstreams and systems set aside to facilitate evaluation and monitoring of the implemented strategies					
Strategy evaluation audits frameworks are frequently and effectively carried out within the agency					
As a result of the evaluation audits carried out, some of the strategies, systems, policies, and goals were revised in line with approved remedial and corrective actions					

59 Please give any other important strategy execution practice(s) in your agency which has not been mentioned above

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60 Please highlight ways in which strategy execution practices can be improved in your organization

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PART VII: Public Service Delivery

 The statements below highlight various indicators of public service delivery. Indicate the extent to which you agree or disagree with the public service delivery indicators in respect to Kenyan public service: Use rating scales as (1) poor, (2) fair, (3) average, (4) good, (5) very good. (Tick appropriately☑)

No.	Indicator of Public Service Delivery	1	2	3	4	5
Transparency						
61	Access to information and feedback					
62	Improved financial transparency					
63	Improved clarity and openness in decision making					
Customer satisfaction						
64	Reduced Turnaround time (TAT) – (Processing duration)					
65	Rate of new products/services development					
66	Customer satisfaction through provision of value-adding services or products					
Accountability						
67	Performance Contracting rating					
68	Administrative costs					
69	Efficiency in allocation of institutional resources					
Cost Efficiency						
70	Co-ordination and control of institutional activities					
71	Offering timely goods and services					
72	Effective communication					

73 According to your opinion, which choice best describes your agency' public service delivery in comparison to its peers? (Tick appropriately☑)

☐ Poor	☐ Good	☐ Not Sure	☐ Fair	☐ Excellent

74 Indicate the number of public complaints received within the past two years (Tick appropriately☑)

☐ None	☐ Less than 500	☐ 500 - 2500	☐ 2500 - 5000	☐ More than 5000

Indicate the number of new products and services deployed within the past two years (Tick appropriately☑)

☐ None	☐ Less than 5	☐ 5-10	☐ 10-15	☐ More than 15

In your opinion, in a scale of 1 to 5 (1 the lowest and 5 the highest), to what extent do you think the following aspects have played a role in enhancing the service delivery in your agency?

Aspect	1	2	3	4	5
Electronic Commerce					
Electronic Services					
Electronic Administration					
Electronic Participation					

75 Are there any other comments you would like to make:

Thank you for completing this questionnaire. Your responses will be treated in confidence

Appendix III: Secondary Data Collection Template

Service Delivery Indicator / Year	2013	2014	2015	2016	2017	2018
Customer Satisfaction Rating						
Absorption of Allocated Funds (%)						
Application of Service Delivery Innovations (No)						

Appendix IV: Operationalization of Variables

Variables	Type	Operationalization
Public Service Delivery	Dependent	Customer Satisfaction Accountability Cost efficiency Transparency
E-Commerce	Independent	E-Procurement E-Billing and Payment Gateways E-Marketing E-Custom Clearance Systems
E-Services	Independent	One-Stop Service Centers E-Searching and Information Provision Electronic Tax Filing (E-Filing) Electronic Licensing (E-Licensing)
E-Administration	Independent	Electronic Data Interchange (EDI) Integrated Human Resources and Payroll Systems Integrated Financial Management Systems Web-Based Collaborative Platforms
E-Participation	Independent	Open Data Initiatives E-Voting Cyber Campaigns and Petitions Reputation systems
Strategy Execution	Moderating	Situational Analysis Strategy Formulation Strategy Implementation Strategy Evaluation Audits

Appendix V: List of State Agencies Incorporated Outside the Mainstream Civil

No	Classification	State Agencies	Sector	Senior Management
1	Executive Agencies	Biashara Kenya (After merging Small and Micro enterprises Authority, Women Fund, Uwezo Fund and Youth Enterprises Development Authority)	Industrialization & Enterprise Development	
2		Internal Revenue Service (After transfer of Customs department from KRA)	National Treasury	
3		Kenya Intellectual Property Service (After merging Kenya Copyright Board, Kenya Industrial Property Institute, and Anti-Counterfeit Agency	Industrialization & Enterprise Development	
4		Kenya Investment Promotion Service (After merging KTB, EPC, Brand Kenya Board & KenInvest)	Foreign Affairs & International Trade	
5		Konza Technopolis Authority	Information, Communication & Technology	
6		Bomas of Kenya	East African, Commerce & Tourism	
7		Water Services Trust Fund	Environment, Water & Natural Resources	
8		Leather Development Council	Industrialization and Enterprise Development	
9		Agricultural Development Corporation	Agriculture, Livestock & Fisheries	
10		Anti-Female Genital Mutilation Board	Devolution & Planning	

11		Constituency Development Fund	Devolution & Planning	
12		Crops Development and Promotion Service (new)	Agriculture, Livestock & Fisheries	
13		Customs and Boarder Security Service (successor to the Kenya Citizens and Foreign Nationals Management Service)	Interior and Coordination of National Government	
14		Drought Management Authority	Devolution & Planning	
15		Export Processing Zones Authority (EPZA)	Industrialization & Enterprise Development	
16		Financial Reporting Centre	National Treasury	
17		Fisheries Development and Promotion Service (new)	Agriculture, Livestock & Fisheries	
18		Higher Education Loans Board	Education, Science & Technology	
19		Information and Communications Technology Authority	Information, Communication & Technology	
20		Investor Compensation Fund Board	National Treasury	
21		Kenya Academy of Sports	Sports, Culture & The Arts	
22		Kenya Accountants & Secretaries National Examination Board	National Treasury	
23		Kenya Deposit Protection Authority	National Treasury	
24		Kenya Ferry Services Ltd (KFS)	Transport & Infrastructure	
25		Kenya Film Development Service	Sports, Culture &	

			The Arts Technology	
26		Kenya Institute of Curriculum Development	Education, Science & Technology	
27		Kenya Law Reform Commission	Office of The Attorney General & Department Of Justice	
28		Kenya Medical Supplies Authority	Health	
29		Kenya National Bureau of Statistics	Devolution & Planning	
30		Kenya National Examination Council (KNEC)	Education, Science & Technology	
31		Kenya National Highways Authority (KeNHA)	Transport & Infrastructure	
32		Kenya National Innovation Agency	Education Science and Technology	
33		Kenya Ordnance Factories Corporation	Defense	
34		Kenya Roads Board (KRB)	Transport & Infrastructure	
35		Kenya Trade Network Agency	National Treasury	
36		Kenya Wildlife and Forestry Conservation Service	Environment, Water & Natural Resources	
37		Kenyatta National Hospital	Health	
38		LAPSSET Corridor Development Authority	Executive Office of the President	
39		Livestock Development and Promotion Service (new)	Agriculture, Livestock & Fisheries	
40		Local Authorities Provident Fund	National Treasury	
41		Moi Teaching and Referral Hospital	Health	
42		Nairobi Centre for International Arbitration	Office of The Attorney General	

			& Department of Justice	
43		National Aids Control Council	Health	
44		National Cancer Institute of Kenya	Health	
45		National Coordinating Agency for Population & Development	Devolution & Planning	
46		National Council for Law Reporting	Office of The Attorney General & Department Of Justice	
47		National Council for Persons with Disabilities	Labour, & Social Security Services	
48		National Hospital Insurance Fund	Health	
49		National Industrial Training Authority	Labour, & Social Security Services	
50		National Irrigation Board	Agriculture, Livestock & Fisheries	
51		National Museums of Kenya	Sports, Culture & The Arts	
52		National Quality Control Laboratories	Health	
53		National Social Security Fund Board of Trustees	Labour, & Social Security Services	
54		National Youth Council	Sports, Culture & The Arts	
55		Nuclear Electricity Board	Energy and Petroleum	
56		Policy Holders Compensation Fund	National Treasury	
57		Sports Kenya	Sports, Culture & The Arts	
58		The Kenya Cultural Center	Sports, Culture & The Arts	

59		Tourism Fund	East African Affairs, Commerce & Tourism	
60		Unclaimed Financial Assets Authority	National Treasury	
61		Water Resources Management Authority	Environment, Water & Natural Resources	
62		National Campaign Against Drug Abuse Authority	Interior & Coordination Of National Government	
63	Independent Regulatory Agencies	Agricultural, Fisheries and Food Authority	Agriculture, Livestock & Fisheries	
64		Commission for University Education	Education, Science & Technology	
65		Communications Authority	Information, Communication & Technology	
66		Competition Authority	National Treasury	
67		Council for Legal Education	Office of The Attorney General & Department Of Justice	
68		Energy Regulatory Commission	Energy & Petroleum	
69		Health Services Regulatory Authority	Health	
70		Kenya Bureau of Standard (KBS)	Industrialization &	

			Enterprise Development	
71		Kenya Civil Aviation Authority (KCAA)	Transport & Infrastructure	
72		Kenya Film Regulatory Service	Sports, Culture & The Arts	
73		Kenya Maritime Authority	Transport & Infrastructure	
74		Kenya National Accreditation Service	Industrialization & Enterprise Development	
75		Kenya Plant and Animal Health Inspectorate Service (After taking over functions of National Biosafety Authority)	Agriculture, Livestock & Fisheries	
76		Livestock Regulatory Authority	Agriculture, Livestock & Fisheries	
77		National Commission for Science, Technology and Innovations	Education, Science & Technology	
78		National Construction Authority	Lands Housing & Urban Development	
79		National Environmental Management Authority (NEMA)	Environment, Water & Natural Resources	
80		National Land Transport & Safety Authority	Transport & Infrastructure	
81		Public Benefits Organizations Regulatory Authority	Devolution & Planning	
82		Public Procurement Oversight Authority	National Treasury	
83		Technical and Vocational Education and Training Authority	Education, Science & Technology	
84		Tourism Regulatory Authority	East African Affairs,	

			Commerce & Tourism	
85		Water Services Regulatory Board	Environment, Water & Natural Resources	
86		Financial Supervisory Council (After merger of Capital Markets Authority, Insurance Regulatory Authority, Retirement Benefits Authority, and SACCO Societies Regulatory Authority)	National Treasury	
87		Mining and Oil Exploration Regulatory Service	Mining	
88	Research Institutions, Public Universities, Tertiary Education and Training Institutions	Bukura Agricultural College	Agriculture, Livestock & Fisheries	
89		Chuka University	Education, Science & Technology	
90		Cooperative University College	Education, Science & Technology	
91		Dedan Kimathi University	Education, Science & Technology	
92		Egerton University	Education, Science & Technology	
93		Embu University College	Education, Science & Technology	
94		Garissa University College	Education, Science & Technology	
95		Jaramogi Oginga Odinga University of Science and Technology	Education, Science & Technology	
96		Jomo Kenyatta University of Agriculture and Technology	Education, Science & Technology	
97		Karatina University	Education, Science & Technology	
98		Kenya Agricultural and Livestock Research Organization	Agriculture, Livestock & Fisheries	
99		Kenya Forestry Research Institute	Environment, Water & Natural Resources	

100		Kenya Industrial Research & Development Institute	Industrialization & Enterprise Development	
101		Kenya Institute of Mass Communication	Information, Communication & Technology	
102		Kenya Institute of Public Policy Research & Analysis (KIPPRA)	Devolution & Planning	
103		Kenya Marine and Fisheries Research Institute	Agriculture, Livestock & Fisheries	
104		Kenya Medical Research Institute (KEMRI)	Health	
105		Kenya Medical Training College (KMTC)	Health	
106		Kenya Multi-Media University	Education, Science & Technology	
107		Kenya School of Government	Devolution & Planning	
108		Kenya School of Law	Office of The Attorney General & Department Of Justice	
109		Kenya Utalii College (KUC)	East African Affairs, Commerce & Tourism	
110		Kenya Water Institute	Environment, Water & Natural Resources	
111		Kenyatta University	Education, Science & Technology	
112		Kibabii University College	Education, Science & Technology	
113		Kirinyaga University College	Education, Science & Technology	
114		Kisii University	Education, Science & Technology	

115		Laikipia University	Education, Science & Technology	
116		Maasai Mara University	Education, Science & Technology	
117		Machakos University College	Education, Science & Technology	
118		Maseno University	Education, Science & Technology	
119		Masinde Muliro University of Science and Technology	Education, Science & Technology	
120		Meru University of Science and Technology	Education, Science & Technology	
121		Moi University	Education, Science & Technology	
122		Murang'a University College	Education, Science & Technology	
123		National Crime Research Center	Office of The Attorney General & Department Of Justice	
124		Pwani University	Education, Science & Technology	
125		Rongo University College	Education, Science & Technology	
126		South Eastern Education, Science and Technology Kenya University	Education, Science & Technology	
127		Taita Taveta University College	Education, Science & Technology	
128		Technical University of Mombasa	Education, Science & Technology	
129		The Technical University of Kenya	Education, Science & Technology	
130		University of Eldoret	Education, Science & Technology	
131		University of Kabianga	Education, Science & Technology	
132		University of Nairobi	Education, Science & Technology	

Appendix VI: Research Permit- NACOSTI

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Ref No: **738623**

Date of Issue: **09/August/2019**

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