

**E-GOVERNANCE ADOPTION ON EMPLOYMENT OF GRADUATES: A CASE
OF SELECTED GOVERNMENT INSTITUTIONS, NAIROBI COUNTY**

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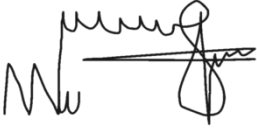
**Thesis Submitted in Partial Fulfilment of the Requirements for the Award of the
Degree of Master of Science Governance, Peace and Security Studies in the
Department of Governance, Peace and Security and the School of Humanities and
Social Sciences of Africa Nazarene University**

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DECLARATION

I declare that this document and the research that it describes are my original work and have not been presented in any other university for academic work.

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This research will be conducted under our supervision and is submitted with our approval as university supervisors.

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DEDICATION

I would like to dedicate this work to my parents Maj.(Rtd) G.L Waweru, Mary Ngonyo Waweru and to my siblings who have supported me throughout my studies.

ACKNOWLEDGEMENTS

I thank the Almighty God for guiding me to the completion of this thesis. I deeply appreciate Dr. Emily Okuto, Dr. Joseph Mutungi, Dr. Simon Muthomi and all my lecturers from the Department of Governance, Peace and Security Studies at Africa Nazarene University, for their support and dedication in ensuring that this thesis becomes successful. Without their encouragement and patience, it would have been difficult to bring it this far. I also appreciate my family, friends and colleagues for their moral and financial support. I am also humbled by the psychological and social support provided by my classmates and lecturers at Africa Nazarene University's School of Humanities and Social Sciences. Lastly, Dr. Eric Osoro and Dr. Antony Odek, my supervisors, deserve thanks for their constant guidance, support, and prompt remarks on this thesis.

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ABSTRACT

Effects of e-governance adoption in developing countries remains phenomenal, for instance, in Kenya; the government has invested heavily in e-infrastructure seeking to reward value creation, employment generation especially among graduates, and excellent enterprise, but there is no literature to explore the translation of these huge investments in e-infrastructure into long-term socioeconomic development, especially in terms of its contribution to employment creation among graduates. The purpose of this study was to establish the effect of e-governance adoption on employment levels of graduates: a case of selected government institutions, Nairobi County. Specifically, the study sought to evaluate and explore the possible contribution of e-governance adoption as an emerging phenomenon on the employment levels of graduates in Kenya with particular interest to essential e-governance aspects such as graduate knowledge on e-governance; e-governance technology; facilitating conditions of e-governance and government measures in enhancing e-governance. This study was anchored in two theories: Unified Theory of Acceptance and Use of Technology and Theory of Change. The study employed descriptive research design. The target population of study was 536 participants including ICT graduates at KNBS, Ministry of ICT, Public Service Commission headquarters, and Ministry of Labour. The sample size of the study was 114 respondents comprising of graduates and their seniors. The respondents were chosen using a stratified random sampling technique by the researcher. Likert questionnaires were used to collect primary data. The drop-and-pick method was used to administer the Likert questionnaires. The study established that adoption of e-governance technology has a significant positive effect on graduate employability and deployability occasioned by the provision of e-infrastructure and affordable data. However, the lack of technologically sound political leadership, motivation and self-efficacy of implementing bureaucrats, impedes the innovative adoption of e-governance that can translate to comprehensive employment creation. The study recommends administrative reforms to align e-governance with vision 2030 through capacity development. Further studies be carried out based on factors and variables other than the ones used in this study which might establish in-depth analysis on the e-governance adoption in relation to employment creation especially among the graduates.

OPERATIONALIZATION OF TERMS

E-governance technology: It is operationalized in this study as performance expectancy in alignment with the UTAUT model (Venkatesh et al., 2015) and redefined as ‘the extent of a graduate believes that the technology system contributes to improved productivity’ in terms of graduate employment creation. It is the use of information technology to support government operations, tools, policies, processes, engage citizens, and provide government service and provision of investment in e-infrastructure for employment creation among the graduates

E-governance: This is the rendering of government services and information to the public done using electronic means

Facilitation conditions: An UTAUT model component operationalized in this study as the degree to which there exist mechanisms such a government support, technical infrastructure, transparency, moral support, adequate financial resources among others, to support their use of e-governance system (Venkatesh et al., 2015), in relation to graduate employment creation.

Graduate: An individual who has successfully fulfilled the requirements of a certain training or course of study (Roelofs,2019). This study operationalized an ICT graduate as a government employee who has successfully completed ICT training in line with e-governance requirements.

Graduate ease use of e-governance: It is operationalized in this study as effort expectancy in alignment with the UTAUT model (Venkatesh et al., 2015), and redefined as “the degree of ease associated with the graduate use of the system”

ABBREVIATIONS/ACRONYMS

AfDB	African Development Bank
AU	African Union
BPO	Business Process Outsourcing
DFID	Department for International Development
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross Domestic Product
HIV	Human Immunodeficiency Virus
ICT	Information Communication Technology
IILS	International Institute for Labour Studies
ILO	International Labour Organization
ITU	International Telecommunication Union
KEN	Kenya
KEPSA	Kenya Private Sector Alliance
KIBHS	Kenya Integrated Household Budget Survey
KNBS	Kenya National Bureau of Statistics
MSF	Medecins sans Frontieres
NEAIMS	National Employment Authority Integrated Management Systems
SSA	Sub-Sahara Africa
TVET	Technical and Vocational Education and Training
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
UNESCO	Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
UTAUT	Unified Theory of Acceptance and Use of Technology

CHAPTER ONE

INTRODUCTION AND BACKGROUND OF THE STUDY

1.1 Introduction

The introductory chapter of this thesis proposal presents the background of the study, statement of the problem, purpose, objectives, associated research questions and significance of the study, outlines the scope, pinpoint delimitations, limitations and give assumptions, not forgetting the theoretical framework and conceptual framework of the study.

1.2 Background of the Study

The World Bank (2014) describes e-governance as using government institutions to change the partnerships with people, delivering companies, facilities and other aspects of government to the general population, by using information technology (e.g. widescreen networks, internet and mobile computing). E-governance means the way government programs and documents are provided to the public by electronic means (Nkwe, 2011). E-government is a functionality framework of e-governance (Lango, 2019). There is global recognition that successful multi-stakeholder collaborations can have a demonstrable and concrete impact on improved citizen engagement and quality of life (Adejuwon, 2012).

E-government is important for strengthening good governance, democratic processes as well as promoting access to information, freedom of expression, greater equality, success, competitiveness, development and social inclusion (4th African Forum for Development, 2004; Nkwe, 2012). Overview obtained from previous research such as the USAID study (2015), shows that 36% of the total population is among Kenyan

graduates. A large proportion of these graduates live in urban areas and about 2.5 millions of these graduates are unemployed (Alfayo, 2015; French, 2015). The overall population of Kenya is 80 percent literate, according to UNFPA (2013). The growth of groups and cultures will have a huge effect on these graduates in society (Hope, 2012; Alfayo, 2015). Therefore, to solve the problem of unemployment more opportunities have to be created (KNBS, 2010).

Oloo (2014) says that the Kenyan Government and other non-governmental organizations have developed programs and processes for young people to enrich themselves and contribute to the growth of society in order to equip the young people with the skills and the tools they need(Alfayo, 2015). Despite this initiative, Kenyans remain the largest unemployed, most of whom lack the requisite skills and tools to participate in national growth in ways that improve their lives and those in society (Alfayo, 2015).The analysis by the International Labor Organization (2015) indicates that levels of schooling are significant in the search for employment in developed as well as in emerging economies. Around the same time, the skills learned must be matched to real job needs, ensuring that people have skills that help to do work. Different skills have become a consistent and rising theme in graduate labor markets. Long-term unemployment resulted in capability obsolescence and an obsolete learning, especially given technical dynamism (Alfayo, 2015). Emphasizing youth empowerment, graduates are increasingly seen as societal assets and resources, and their participation in the socioeconomic, civic and political affairs of the community is increasingly demanding.

Kenya has also taken e-government as one of the top government priorities for meeting national development goals and targets of wealth and employment creation

(Khaemba, Muketha, & Matoke, 2017). Kenya has also seen tremendous improvement in terms of improved connectivity, price reductions, corruption minimization and assistance and increased access for under-served communities, through e-Governance and ICT initiatives. Millions of young people aged 18-35 benefited from programs in the field of e-government. It has helped to increase access to information and resources by offering opportunities for economic and social development, promoting participation and communication in policy and decision-making processes and encouraging vulnerable people in the economy.

Importantly, the role of young graduates in governance and accountability must be very clearly defined especially through their active participation. It will enhance the capacity of ICT graduates to be accountable at national level (Kurebwa & Dodo, 2019) which local governments, and will increase graduates' active engagement in using the work opportunities offered by e-governance. The awareness of e-government and the impact on your employability among graduate youth is not only significant, but also timely.

One of the new technology's most enticing facets is that when the architecture is in place, integration will take place gradually, increasing the expectations of quickly bridging divisions between digital systems and reducing the gap between advanced and emerging economies. Although the ICT sector is limited (around 6% of OECD countries but somewhat less in developed countries), and ICT workers tend to demand higher skills and training, the ICT sector is one of the most vulnerable sectors that have the potential to contribute to growth in terms of creation of employment opportunities.

Improve accountability and transparency by accessible accessibility and public data, which in turn provide people and companies with necessary information, enhance public administration confidence and promote the promotion of new market opportunities (Ahn & Bretschneider, 2011).

Under the Education Ministry, the government has implemented numerous policies to improve the availability of services to provide quality training (Mwangi, 2015). The main initiative is the laptop project that aims to integrate laptops in the public primary school system as teaching and learning tools. The initiative consists of the release of computers, the digitalization of school curriculums and the creation of new curricula to all students. The government's aim is to implement ICT to promote and increase the achievement of curriculum goals, improve relevant skills, such as qualifications, expertise, attitudes and values, and successfully and efficiently administer education at all levels. The objective is to create a highly focused education system aimed at creating comfortable and active people in high-tech environments (Denvir et al., 2014; Mwangi, 2015). This research aims at assessing and examining the potential contribution of e-governance adoption as an emerging phenomenon on the employment and deployment of the ICT graduates among selected government institutions. The study is limited to ICT graduates in government institutions because they are within established structures and systems, hence ease of evaluation.

1.3 Statement of the Problem

Despite Kenya having invested heavily in the e-infrastructure with the aim of rewarding value creation, employment generation, and excellent enterprise, the contribution of e-governance adoption in line with development priorities outlined in the

Economic Recovery Strategy for Wealth and Employment Creation (2003-2007), remains a phenomenon.

For instance ICT Incubation Program was funded \$1.6 million from the International Development Association of the World Bank, and the \$4 million for Tandaa Digital Content Initiatives (IST-Africa Initiative, 2017), and even the most recent improved e-government service delivery ICT platform—the Kenya’s e-Citizen , but little is known about their contribution to the employment creation and deployment. As much as the present systems such as Kenya’s e-Citizen speak of e-governance, they are limited to the efficiency and effectiveness of the systems in terms of service delivery. So far there is no empirical literature, to explain how this massive e-infrastructure investment has translated into long-term socio-economic growth, especially in terms of its contribution to job creation. Thousands of youngsters graduating every year from different higher institutions of learning, with the expectation that they will have a new job in this e-governance technology, has remained a mirage and an increasingly elusive pursuit both in public and private sector.

Ahn and Bretschneider (2011) conducted an innovative e-governance experiment to ascertain the Gangnam’s position in the Korean e-government applications using interviews. They discovered that the local government leadership at Gangnam strategically employed the use of e-government applications to effectively manage, not only political control and its associated bureaucracy in service delivery, but also the enhancement of transparency and accountability.

However, as much as their findings are plausible in terms of their contribution on the adoption and application significance of e-governance, they used different variables such as citizen-centered society, accountability, reactivity, public confidence, corruption reduction and misuse of influence. According to Oloo (2014), the Kenyan government and other NGOs have established programs and processes to enable young people to become self-sufficient in skills and capital and to contribute to the growth of society (Alfayo, 2015). Despite these efforts, Kenyan graduates continue to be the largest unemployed group in the world, most of whom lack the requisite skills and tools to help better their lives and the lives of others in the country (UEFPA, 2013; Alfayo, 2015).

According to Njiru (2011), e-government has important implications for public policy, such as openness and accountability, fair access to public records, decreased corruption and favoritism, improved productivity and performance, increased political engagement and democracy. In a study which relied heavily on the extent of ICT infrastructure, digital (digital) inclusion (digital village), and Business Process Outsourcing (BPO), in the area of job development in various sectors, the IST-Africa initiative (2017), concluded that there was a significant positive relationship between the e-infrastructure development and employment creation. However, none of the aforementioned studies conducted an evaluation on the contribution of e-governance adoption on the employment creation, especially among the ICT graduates. Strands of recent academic studies show that a great deal of consideration has been given to implementing e-governance networks and programs in terms of their service delivery quality to the detriment of their job growth affectivity.

This calls for more study, which will concentrate on other key facets of e-governance such as awareness of e-governance adoption for employability and deployability of our graduate people; the impact of e-governance technology; the extent of facilitating conditions of e-governance, and find out how government e-government policies influence graduates job levels. This research aims to bridge this gap by presenting results about the impact of e-governance on graduates, a less-studied demographic.

1.4 Purpose of the Study

The purpose of this study is to establish the effect of e-governance adoption on employment levels of graduates: a case of selected government institutions in Nairobi County.

1.5 Objectives of the Study

The study will be guided by the following objectives:

- i. To determine the extent of graduate ease use of e-governance for employability
- ii. To examine effects of e-governance technology on employment levels of graduates
- iii. To establish the effect of facilitating conditions for e-governance on employment levels of graduates
- iv. To find out how government measures enhancing e-governance affect employment levels of graduates.

1.6 Research Questions

The study will seek to answer the following questions:

- i. To what extent does graduate ease use of e-governance affect graduates' employability?

- ii. In what ways does e-governance technology influence employment levels of graduates?
- iii. To what extent do facilitating conditions for e-governance affect employment levels of graduates?
- iv. How do government measures in enhancing e-governance affect employment levels of graduates?

1.7 Significance of the Study

Significance of the study outlines the importance and potential benefits of the study to relevant stakeholders. This study specifically focuses on the effects of e-governance on employment levels of graduate youth within Nairobi County, therefore the leadership and the management of the ministry of ICT, Innovation and youth affairs and National Employment Authority Integrated Management Systems (NEAIMS), in conjunction with all stakeholders (government, opinion leaders, employers, youth and legislators), may use the findings from this research to formulate and develop pro-youth employment-creation policies for sustainable socio-economic development and peaceful co-existence. The policies and regulation may contribute to the graduate's empowerment on e-governance through enhanced intern training and possible exposure to potential employers. If the e-governance adoption in Kenyan institutions becomes attractive in terms of efficiency and effectiveness, it may be a guarantee of returns to investment hence attracting investors and partners. To the academicians, this study will pioneer the match towards shading light into the grey areas in the e-governance practices of various institutions in developing countries.

1.8 Scope of the Study

The scope of the study is limited to the effects of e-governance on employment levels of graduates with particular focus on Nairobi County. The study duration is limited to six months from August -January 2022. A sample size of 114 respondents was deemed representative enough for attaining the objectives of the study.

1.9 Delimitations of the Study

The study confines itself to its objectives: e-governance adoption; efficacy of its policy implementation; and the political support needed to enhance the creation of employment levels of graduates in Kenya. Because of the need to maximise on the outcomes of e-governance beyond the current benchmarks of efficiency and effectiveness of service delivery, the delimitation in the choice of variables is informed by the challenges they pose on the very effectiveness of e-governance. Further, this study is demographically delimited to graduate youth with the exclusion of the graduates that are not in the age bracket of 18-35 years, because investing and creating employment levels for these trained and skilled groups might ensure for the attainment of sustainable development goals and in line with vision 2030.

1.10 Limitations of the Study

The study seeks to explore the effect of e-governance on employment levels of graduates in Kenya. Consequently, generalization of the study findings may face the following limitations: The reluctance of the select group in this study to provide any information may be due to a fear of being intimidated or having the information they seek printed in a negative light. The introduction letter will absolutely guarantee respondents that the information they provide will be handled with care and used solely for academic

purposes. The study's findings will be constrained by respondents' willingness to provide accurate, unbiased, and trustworthy information.

The study will examine the accuracy and reliability of the information gathered. Another potential statistical challenge to this study may be that the very people most targeted, the graduate youth, may not be available at their designated areas due to Covid-19 health protocols. The graduates on training and awaiting deployment at selected government institutions will be easier to contact and follow-up. The heterogeneous nature of the sample was therefore compromised in favour of the graduates at selected government institutions in this case. In an effort to minimize these determinant issues, about 144 questionnaires were distributed to the respondents at selected government institutions. The distribution was done mostly at evening when the graduates and their seniors were free from work any engagement. This enabled the study to meet with potential respondents, clarify the ethical issues, and persuade them to participate and to arrange the means and times of collecting the completed surveys. This effectively improved the chances of retention.

1.11 Assumptions of the Study

In carrying out the present study on the effect of e-governance on employment levels of graduate in Kenya, the following assumptions were made, that: respondents would have adequate capacity and knowledge, and would be willing to provide information required by the study; there was a positive correlation between the effects of e-governance and employment levels of graduates; and that, adoption of e-governance in delivery of services in public sector organizations had enhanced efficiency and effectiveness in delivery of services consequently affecting the employment levels of

graduates. Furthermore, by inclusion of both close-ended and open-ended Likert Scale responses in the survey, the study assumed that this might make some respondents more willing to take and complete the questionnaire.

1.12 Theoretical Framework

By presenting an overarching structure to their studies, theory provides researchers with a framework for making sense of their observations. Data that may appear unimportant or unrelated at first can be identified, explained, or related to other data in meaningful ways using a theoretical framework (Maxwell, 2012; Yamauchi, Ponte, Ratliffe & Traynor, 2017). This study used a model and a theory: the UTAUT model and the theory of change (Toc). These two were used on complementary basis rather than competing in exploring the effects of e-governance adoption in relation to the employment levels of graduates. The UTAUT model was used in the study specifically in examining the extent of e-governance adoption in tandem with e-infrastructure development whether it has had a tangible contribution to the creation of employment opportunities among graduate in the society

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

Unified Acceptance and Use of Technology (UTAUT) model as the name suggests, is a comprehensive technology acceptance model that Venkatesh, Morris, Davis, & Davis (2003), synthesized from a variety of fundamentals of the eight behavioral intention models employed previously in technology acceptance contexts. According to Venkatesh et al. (2003), the UTAUT model comprises of four essential determining components: effort expectancy, performance expectancy, facilitating conditions, and social influence. Effort expectancy as a crucial predictor of technology

acceptance refers to “the degree of ease associated with the use of the system”. Effort expectancy component helped the study in exploring the extent of graduate ease use of e-governance, that is, the graduate beliefs in regard to ease utility of e-governance for employment creation. Performance expectancy in the UTAUT model has reference to “the extent of an individual believes that the technology system contributes to improved productivity”. Performance expectancy component helped this study in exploring the extent of e-governance technology, that is, graduate beliefs in regard to whether the utility of e-governance technology enhances their productivity.

Facilitating conditions the use of e-governance is defined as the degree to which mechanisms exist such as government support, technical infrastructure, accounting, moral support and sufficient financial services, etc (Venkatesh et al., 2003). Performance expectancy component helped this study in exploring the extent of e-governance technology, that is, graduate beliefs in regard to whether the utility of e-governance technology enhances their productivity. Facilitating conditions the use of e-governance is defined as the degree to which mechanisms exist such as government support, technical infrastructure, accounting, moral support and sufficient financial services, etc (Venkatesh et al., 2003). The social influence component of UTAUT model helped this study in evaluating government measures in enhancing e-governance in relation to graduate employment creation. Li (2020), likewise raised concerns over the achievement of high R^2 in the UTAUT model especially in the use of moderators, which this study omitted, as unnecessary and impractical in the understanding of technology acceptance. The purpose of this research was to evaluate the impact of e-governance on employment levels of

graduates using the Unified Acceptance and Use of Technology (UTAUT) model (Venkatesh et al., 2015).

Efficiency, efficiency and consistency of e-governance services are part of the success expectation. The research was designed to use success expectations to investigate the impact of e-government technologies on graduate employment levels. This theory was significant for the study especially for theoretically putting into the perspective critical variables that assisted in the exploring of the adoption of e-governance technology phenomenon especially, in terms of its contribution to the creation of employment for graduates.

1.12.2 Theory of Change

Theory of Change is the work of Serrat (2017). Theory of Change is a systemic paradigm for how a plan, procedure, initiative or initiative leads to the final outcome through an early and intermediate sequence of results. Shift explanations help shape social changes complexity. The theory of change offers a strategic analysis of several approaches needed for early and intermediate outcomes, which are essential for long-term change. The strength of causal pathways shows the findings needed: hypotheses can be checked and calculated. This encourages organizations to think more about their work through the Theory of Change approach. If an outcome is identified, the outcome mechanism should be drawn up to illustrate how it is done, thereby supporting a shift theory using multiple logic models. Serrat (2017), states that the theory of change will aid in: building common awareness of measures and discrepancies on the surface; initiatives emphasis, transparency and efficiency by better placing the justification, means and ends of interventions; developing strong action strategies, clarifying roles.

In addition, to encouraging stakeholders to be more involved and engaging in multi-stakeholder and collective experiential learning, recognizing and tracking opportunities, reorganization of customers, members of the audience and supporters and constructive dialogue. These benefits, of course, depend on a philosophy of change: the importance of the long-term result to be achieved is worthwhile; plain facts and common sense indicate that the interventions when applied contribute to a long-term outcome; doable capital, such as financial resources, human resources, institutions, expertise, policies, expertise, technologies and time, are used. De Silva et al, (2014), conducted their study to determine a theory-driven approach that can be used to enhance the Medical Research Council's framework for complex interventions and evaluations using the theory of change. They did this for three research projects and found that there was a strong positive significance between Toc and the strengthening of the main stages of the MRC framework. In addition, they found that Toc played a significant role especially in the feasibility and piloting stage of the MRC framework by enabling the systematic identification of knowledge gaps to generate research questions that strengthened intervention design and evaluations. So far, the huge government investment in e-infrastructure in its current traditional set up cannot account for either short-term or long-term outcomes from among policy makers, the government bureaucrats, the technocrats and the affected graduates.

This theory was critical for the study especially in evaluating the outcomes of this e-governance phenomenon especially, in examining whether there are clear structures and well-documented procedures and systems to monitor, control and evaluate contribution of e-governance technology to the desired graduate employment creation.

1.13 Conceptual Framework

In order to show how the research structure advises and promotes research and its principles, goals, values and conclusions, and its fundamental role in research design, this thesis will use this conceptual structure (Robson, 2011; Yamauchi, Ponte, Ratliffe & Traynor, 2017) The logical structure shows how these factors are diagrammatically interconnected.

Independent Variable

Dependent variable

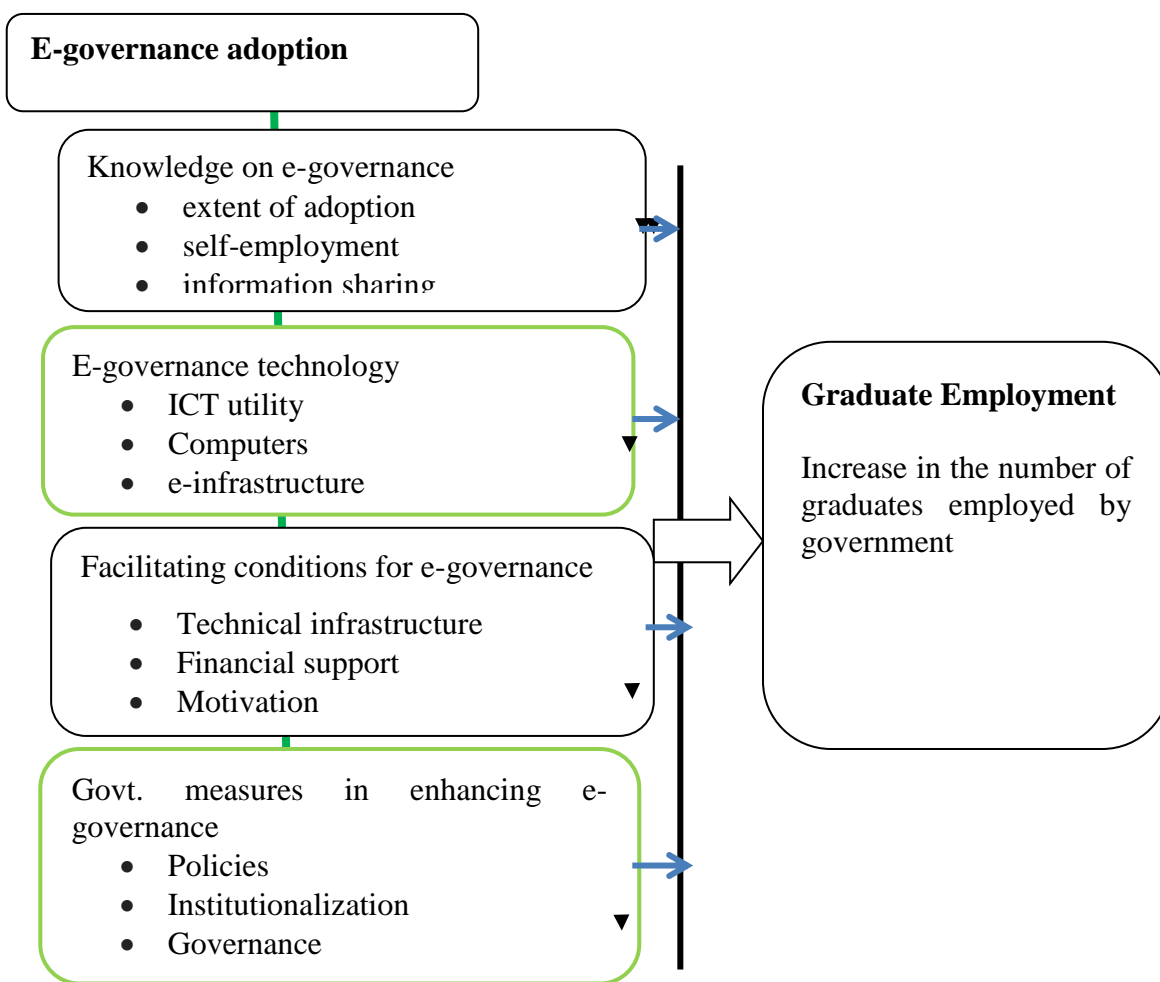


Figure 1: Conceptual Framework: Waweru, 2021

The conceptual structure shows a linear connection between the research variables. Independent variables of impact of adopting ego governance as operationalized

in: graduate e-governance awareness for employability; e-governance technology; and e-governance facilitation and how the government enhances e-governance interventions that would have a positive or negative impact on the dependent variable. Positive results are the implementation of best practices on e-governance in terms of productivity and efficiency to improve value production, job generation and empower graduate employability in the short term, inclusive socio-economic growth and peaceful coexistence.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The study aimed at determining the impact of adopting e-governance on jobs of graduates among selected government institutions in Nairobi County. This research was based on theoretical and empirical studies by other researchers on the impact of adoption of e-governance on the job level of graduates. Firstly, the chapter focused on review of literature of e-governance, and the associated empirical studies on the contribution of e-governance adoption and the employment creation: graduate knowledge on e-governance; e-governance technology; facilitating conditions of e-governance; and the government measures in enhancing e-governance for graduate employability and deployability. Finally, the summary of literature review and research gaps were highlighted.

2.2 Review of Literature

Engaging ICT graduates in national and global governance is critical: the world now has the largest generation aged 15-30 in history, making up a quarter of the world's population (Pereznieto; Harding, 2013). Globally, there has been a paradigm shift from traditional way of offering government services; that is, moving away from situations where citizens have to physically visit government offices and queuing for services, to e-governance where government services are offered through ICT platforms. In a study conducted by Barua (2012) in India on the adoption of e governance revealed that the public sector benefits immensely when government services are placed online for citizens to access. The study examined the factors that led to the adoption of e-governance in India. Of particular interest was how automation of business registration and business

permits enhanced delivery of services to the Indian people. In the Kenyan context, several studies have been done on e-governance. For instance, a study by Asiligwa, 2016) on the other hand examined ICT platforms for e-governance, where he found a strong relationship between investment in ICT platforms, and adoption of e-governance.

Equally, Muraya (2015) focused on factors effecting successful adoption of e-governance in the public sector however; his focus was on e-governance from a centralized government perspective, and not from an employment creation perspective. There is need for more study, which will concentrate on other key facets of e-governance such as awareness of e-governance adoption for employability and deployability of our graduate people; the impact of e-governance technology; the extent of facilitating conditions of e-governance, and find out how government e-government policies influence graduates job levels.

This research aims to bridge this gap by presenting results about the impact of e-governance on graduates, a less-studied demographic. The study sought to explore the contribution of e-governance adoption on employment creation, especially among ICT graduates in selected government institutions in Nairobi County, using the Unified Acceptance and Use of Technology (UTAUT) model (Venkatesh et al., 2015) in conjunction with the Serrat's (2017), Theory of Change (TOC). According to Venkatesh et al. (2015), the UTAUT model comprises of four essential determining components of technology acceptance, namely: effort expectancy, performance expectancy, facilitating conditions, and social influence.

This review of literature is underpinned by the above mentioned four essential determining components of the UTAUT model in terms of their applicability and contribution to socio-economic transformation.

2.2.1 Graduate Ease Use of E-Governance and Employability

According to Venkatesh et al. (2003), effort expectancy as a crucial predictor of technology acceptance in the UTAUT model, has reference to “the degree of ease associated with the use of the system”. This study as earlier stated operationalized “the degree of ease associated with the use of the system” as graduate ease use of e-governance. Effort expectancy component is critical in exploring the extent of graduate ease use of e-governance, that is, the graduate beliefs in regard to ease utility of e-governance for employment creation. Murgor (2017) has investigated TVET technicians' teaching in soft skills as a nostrum for self-employment in Kenya. The soft variables analyzed in the research included realistic time management, problem solving, independent functioning, organizational skills, leadership skills, decision-making, creativity/innovation and self-employment adaptability among TVET graduates. He found that that the content of soft skills appropriate to self-employment survival was not protected by the TVET institutions. Regression results further demonstrated that the capacity to resolve challenges, to function independently, to leadership abilities, adaptability and creativity and to innovate had a strong and significant effect on self-employment (Murgor, 2017). This underlines the need to strengthen the capabilities of graduates with a range of skills for digital jobs (IST-Africa Initiative, 2017).

Graduates with knowledge of e-Government can concentrate on integrating innovative ways beyond basic machine and interactive literature, such as e-learning and information on similar learning sites such as massive online courses (MOOCs). This

suggestion is consistent with Byungura, Hansson, Masengesho, and Karunaratne (2016) who articulated that a clearly defined ICT capacity building strategies from national to some institutional policies, planning for motivation and provision of incentives to both innovators and implementers is a key to effective technology integration.

The IST-Africa Initiative (2017) states that these programs are intended to increase the employability of young people and to enable them to establish their own ICT companies. These services rely on the logic that job seekers' credentials and abilities are not balanced (employer requirements). They include the Kenya Youth Enhancement Project, which provides youth training and internships in various fields such as ICT, government ICT graduates internships, the African Center for Women in ICT, and NairobiBits. For example, between 2011 and 2016, the Kenya Youth Empowerment Project (KYEP) was initiated by the Government of Kenya as a pilot project in Nairobi, Mombasa and Kisumu, with World Bank funding of US\$ 15, 62 million. The aim of a government-Kenya Private Sector Alliance (KEPSA) Public private partnership was to boost employability for youth and inclusion into workplaces through training and internships. A record of 20,384 (47%) young women earned training and 13,289 (49%) young women took internships successfully. This was compared to the goal for training and internships of 15,000 and 10,000 youth by 2016. In Mombasa and Nairobi, the project also contributed to the development of youths who worked for wages, increasing respectively to 0.70 and 0.78 percent. In this respect, on average 75 percent of the interns participating in the project were employed (wage or self-employed) and the remaining 10 percent were still trained.

According to the impact assessment of the initiative, 80% of the youth who have benefited from the program reported being paid 14 months after their internship, compared with 69% in the control group (Honorati, 2015; UNESCAP, 2017). This substantial empirical data clearly show that young e-government expertise is important to their employability and subsequent socio-economic growth. Other similar programs aimed at empowering graduate youth to employ e-governance include tech developments designed to improve the computing and production skills of youth, such as Chipuka Software Development Certification, and coding boot camps, such as AkiraChix (IST-Africa Initiative, 2017).

Gbedomon (2016) has observed that AkiraChix takes 30 brilliant and talented young women from low-income areas every year and takes them through an intense one-year curriculum in programming and design, aiming at offering women technology and entrepreneurial skills that enable them to serve and lead their communities. AkiraChix provides training, mentoring and outreach programs to address poverty, unemployment and gender inequalities in the access and use of ICT, in order to enhance the number and the beneficial effects of educated people on technology. For instance, AkiraChix has taken 61 young people through its proven intensive IT and entrepreneurial diploma course since 2010. These young women have taken on internships, jobs, promotion or start-ups. While there remains a significant ICT gender gap in Africa, considering the rapid increase in ICT penetration (GSMA Intelligence 2015; Nyirenda-Jere and Biru 2015; Gbedomon, 2016; Gbunityon, 2016). As part of the (ICT) Master Plan, the Kenya Presidential Digital Talent Program was set up to enhance ICT leadership and the relevance of ICT for enterprise and service principles.

The program gives ICT and engineering graduates, who are mentored in private and public institutions, an internship of one year. According to the IST-Africa Initiative (2017), the program has successfully moved young people to work, with 100 students graduating in March 2016, 400 graduating in November 2017 and 400 in August 2018 in 3rd cohort. These graduates' first task was to help the digitalization of documents at the Ministry of State, support the introduction of the digital learning programme, support ICT for the examination board and help to provide the government services as they moved to full jobs (IST-Africa Initiative, 2017). The report (2013) lauded ICTs for job growth and concluded that the ICT sector is the most attractive source of quality employment for young people in Kenya (IST-Africa Initiative, 2017). In addition, the digital economy is able to lead to economic development by generating structured jobs for marginalized youth. Due to the optimism around this opportunity, a range of interventions have attempted to exploit the possible commitment of ICTs to work growth. There are organizations that offer incubation services to IT start-ups (such as working spaces and business support). Among them are the Nairobi Incubation Lab (Nailab), iHub and KIRDI ICT incubation. In Kenya, Universities have set up business incubation centers which focus on a variety of areas, including ICTs (e.g. Chandaria Business Innovation and Incubation Centre, ilabafrika, DeHUB, C4DLab and the NTIP) (IST-Africa Initiative, 2017). An analysis by iHub shows that ICT companies hire an average of four employees and have a low growth rate and a limited job creating potential and mainly allow job creation rather than job creation (IST-Africa Initiative, 2017). ICT-enabled programs using web portals, apps and matching tools have been incubated. Examples of ICT agrobusiness people who use ICTs to increase information access, finance and markets in the

agricultural value chain are M-Shamba, Farm Drive, Mkulima Young, and Agritech Solutions.

For example, Mkulima Young, an online portal that has enabled more than 60,000 people to enter agricultural markets while others such as Sunrise Monitoring and East African Data Handlers, use ICT applications in other industries to improve graduate youth employment (IST-Africa Initiative, 2017). While it has been seen that approximately 80 per cent of Kenya's total population is literate (UNFPA, 2013), little is known about the impact of young knowledge on e-government in relation to rising employment levels of graduate youth. A new generation of ICT graduate awareness of employment-friendly e-governance studies could emerge from the public sector if this type of bursary is to be promoted.

Capacity building can assist young people in defining and improving their capacity and making use of their current assets to gain power and affect their lives and their social conditions. By concentrating on capacity building, young people will be motivated by trust, optimism and inspiration for change (Elaine, 2008; Alfayo, 2015). Therefore, the impact of young experience on e-government in relation to their employability must be extrapolated.

2.2.2 E-governance Technology and Graduate Employment Levels

According to Venkatesh et al. (2003), performance expectancy in the UTAUT model has reference to “the extent of individual beliefs that the technology system contributes to improved productivity”. This study as earlier stated operationalized “the extent of an individual beliefs that the technology system contributes to improved productivity”, as e-governance technology.

Performance expectancy component of the UTAUT model helps this study in exploring the extent of e-governance technology, that is, graduate beliefs in regard to whether the utility of e-governance technology enhances their productivity, both in getting employment and creating employment. A body of current ICT literature provides empirical data supporting job growth and subsequent advancement, not only for ICT graduates, but for the contributions of the industry to GDP (ICT Industry Development, 2017). The BPO business, for example, had created more than 7000 jobs by 2012, including customer service officers, data entry clerks, transcriptions and online researchers. Other programs that promote digital employment and educate graduates on this are the Niko Work, digital integration projects like digital villages or pasha centres, and the Wezesha Initiative (IST-Africa Initiative, 2017). The agri-food industry remains essential to the livelihoods and employment of people.

According to Kenya National Bureau of Statistics (2019), economic survey report, there are about 150,771 people employed in ICT and e-governance technology related fields such as computer science, logic, mathematics, statistics actuarial biometry biostatistics social statistics and system sciences. According to Lowder et al. (2016), there are more than 570 million small farmers worldwide, and 28 percent of the global population employs agriculture and food manufacturing. Kobe (2014) aims to assess the effect of ICT on youth participation in the production of pigeon pea; determines to what extent young people can use communication channels used to disseminate agriculture information; and determines whether youth's access and ownership to and from ICTs has a relationship to their use of pigeon pea. This was driven by the realization that there were few young people involved in agriculture.

While the use of ICT raises graduate's interest in pigeon pea development and access, graduate ownership of ICT has little impacts on the use of pigeon pea production (Kobe, 2014). Despite the conflicting results on the relationship between the use of ICT by graduates and their increased engagement, findings on the relationship between the use of ICT by graduates and their greater involvement are a key incentive for the implementation and use of e-government technology for employability.

The goal of this study was to investigate the connection between e-governance technologies and employment rates for graduates. According to an IST-Africa (2015) report the implementation of e-government services in Kenya is one of government top priorities to meet national development goals and objectives for Kenya Vision 2030 for wealth and employment creation. Repeated private sector surveys in developing countries have shown that IT expenditure will contribute to increasing production and economic growth, dispelling previous concerns about the productivity paradox (OECD 2016, Dedrick and Kraemer, 2003).

In Kenya's National Development plans and policy documents ICTs are being used to promote desirable logistics service provision, are considered a growth enabler and are considered to be a profitable market. In accordance with the country's long-term development agenda, Vision 2030, ICTs and Business Process Outsourcing (BPA) are important factors for economic growth and job creation. (Saint-Jean, 2016). The Vision 2030 represented the Business Process Outsourcing (BP) as a core pillar and catalyst for social and economic changes by creating employment and wealth, according to IST-Africa initiative (2017). Kenya's government has created a plan to make Kenya the favorite outsourcing destination for Africa by taking advantage of its special geographical

location and its well-developed ICT human resources base. The 2006 Kenya ICT strategy, along with the Vision 2030 development plan, laid the foundation for Kenya to focus on global outsourcing for young people and capital creation for local entrepreneurs and investors (IST-Africa Initiative, 2017), via the financing of United Kingdom (USAID), McKinsey & Corporation, the Swedish International Development Agency (Sida), the IKEA Foundation, the Safaricom Foundation and the Partnership, Generation Kenya (2019) educated more than 18,000 candidates (France.generation.org, 2016). As a result, BPO has had an impact on work prospects as one of the governments' e-governance initiatives. Over the last 30 years, Wong (2002) has found empirically different growth effects of ICT development and the use of ICT for capital contributions by Eastern Asian countries. The study shows that growth of ICT goods has helped these economies even more than ICT capital adoption (Yousefi, 2011). In order to improve company performance, certain forms of ICT resources are more important than others. In the context of this study and from the government employees' perspective, AT is the pivotal variable in the intention to use new ICT systems for e-government transformation. This supports the argument that individuals perform behaviors toward which they have a positive affect (Ajzen and Fishbein, 1980; Ajzen, 1991; Davis, 1989), especially in the use of new ICT systems in government (Nam, 2012; Hung et al., 2013; Rana et al., 2015). In particular, computer networks that allow deeper integration of businesses around the value chain lead to the so-called "spillover effect" and improve overall productivity (Yousefi, 2011). In the United States the relationship between labor efficiency and computer networks (EDI as well as the Internet) is favorable, according to Atrostic and Nguyen (2002). Computer networks are expected to increase job performance by about

5%. Similar results for Japan and Germany have also been published (Yousefi, 2011). As much as the literature above supports the efficiency of e-government technology in terms of labor productivity, the literature pays great attention not only to productivity in other countries but also to Kenya in general, and these studies do not discuss the effects of e-governance technology in connection with the levels of employment of graduates. This study aims to overcome this gap by establishing the connection between technology for e-governance and graduate jobs.

2.2.3 Facilitating Conditions for E- governance and Graduate Employment Levels

According to Venkatesh et al. (2015), conditions set for facilitating the use of e-governance are defined as the degree to which mechanisms exist such as government support, technical infrastructure, accounting, moral support and sufficient financial services, etc (Venkatesh et al., 2015). This study operationalized ‘the degree to which mechanisms exist such as government support, technical infrastructure, accounting, moral support and sufficient financial services, among many others’ ,as facilitating conditions for the adoption and acceptance of e-governance among the graduates. In exploring the facilitating conditions of e-governance in relation to graduate employment creation, the study focuses on the need for openness as far as political will is concerned, accountability, and government funding. According to McGee (2010), openness and responsibility have become a key alternative in the last decade to fix both growth and political deficits. In the context of development, McGee (2010) maintains that with greater responsibility, the boring vacuums of corruption and systemic inefficiency will be fixed, therefore the grants and support will be more effectively channeled, and

development initiatives such as digital villages will in turn produce more and more visible results, to the creation of employment opportunities.

A host of public openness and accountability mechanisms have been suggested for Lollar (2006): tender records, new work details, price information, grievance and allegation package. This perspective finds support in Loogma et al. (2012) suggestion who found that leadership and self-efficacy, especially in the arena of technology, had a positive significant play effect and played an important role in motivating innovative behavior to organizational productivity.

However, Laudon and Laudon (2010) argued that significant investment into technology such as ICT may not necessarily guarantee an increased productivity that translates to job creation. Thus, with technologically sound political leadership and self-efficacy of the implementing bureaucrats, facilitating conditions for e-governance in the existing e-infrastructure can transform the socio-economic status of Kenyans, especially the graduates. A Latin American analysis used a broad index survey of four distinct knowledge dimensions: material (macroeconomic, social, financial and budgetary), features, electronic formats and access (Diaz, et al., 2012). The study concluded that ICT technology is essential for the development of the e-government platform system. The report, however, did not analyze the effect of e-government on graduates work. In general, ICTs do not promote financial disclosure but the Internet has made findings and accessing official documents and transactions simpler for citizens over and above legal requirements. In addition, with ICT staff well educated as well as better paid, their improved revenues fuel employment growth throughout the economy. In one analysis using US data 4.9 new workers in each new ICT worker in other sectors were created

(Moretti & Thulin, 2013). However, its results on general employment growth due to ICT have been limited and the impact of ICT on the creation of specific jobs, particularly between graduate and government initiatives in relation to openness and accountability in facilitating them, has not been addressed. The role of ICT to build jobs and opportunities for self-employment to alleviate poverty has a dramatic impact through growth within the ICT sector and ICT industries, particularly telecommunications services for development countries and ICT production and IT services in a limited number of developed countries (Roberts, 2011). Byungura, Hansson, Masengesho, and Karunaratne (2016) conducted analysis on strategies for building ICT capacities and found that among 25 components of ICT capacity building used, the ones related to human capacity are not plainly described. Additionally, neither national nor institutional policy documents included the creation of financial schemes for students to acquire ICT tools whilst learners are key stakeholders. Although there is some translation of ICT capacity building strategies from national to some institutional policies, planning for motivation and provision of incentives to innovators were not stated in any of the institutional policies and this was a key to effective technology integration.

Studies by Deressa and Zeru (2019), Skudiene and Auruskeviciene (2012) have shown that efficiency is adversely affected by the lack of enthusiasm within an organization. Although the organization offers a stable environment and job security, executives have a great role to play in motivating staff. Performance is related by the manager to praise, promotions and good work, especially in the field of technology. The failure of managers to consider, reward or acknowledge the success of ICT champions will reduce their morale. In his analysis of the public policy impacts and the technical

adopted challenges of e-government in Kenya, Njiru (2011) found that e-governance had significant public policy ramifications including openness and accountability, fair access to information for the public, reduction of corruption and advantages, enhanced productivity and efficiency, better democratic involvement and democracy. However, none of the previous studies centered on the effects of e-governance adoption, in particular on conditions to facilitate graduate's jobs. This research aimed at addressing the void by including results on the contribution of e-governance in terms of creating employment opportunities for the graduates.

2.2.4 Government Measures in Enhancing E-governance and Graduate Employment Levels

The social influence component of UTAUT model helped this study in evaluating government measures in enhancing e-governance in relation to graduate employment creation (Venkatesh et al., 2015). This study examined how public policies to improve e-governance impact on ICT infrastructure jobs, digital integration (digital villages), and the outsourcing of business processes (BPO). Ahn and Bretschneider (2011) commissioned an enquiry on the status of Korea's applications to e-government through a series of interviews that examined dimensions such as citizens' history, transparency, reactivity, citizens' faith, reducing corruption and abusing control. Results indicate that 46.2% of respondents agreed mildly that e-government requests increased transparency (20.1% firmly agreed) and 41.5% agreed that e-government requests greatly reduced corruption (18.8 strongly agreed). The expansion of ICT networks to make access to government facilities in the urban and rural areas possible for residents E-governance (Carter & Belanger, 2012).

Electronic management ICT connectivity covers radio, fiber and network cables. E-government needs ICT technology that makes it possible for citizens to access the government and governance processes (Monga, 2008). In 2010, the government launched an effort to spread ICT expertise to rural and impoverished areas to address geographic inequities, where businesses operating in digital villages receive affordable loans, which they reimburse over time. Pasha Center is the hub for offering a range of services to the public through Internet-connected computers or other ICT-enabled applications and their marketing (IST-Africa Initiative, 2017). Pasha Centers are ICT centers that are established to address ICT disparities in urban and rural areas. This digital villages are governmental efforts to ensure digital accessibility for all residents, including marginalized groups and university graduates. The government is providing online services for people in the marginalized areas in order to improve the quality of life; provides online services through computers linked to the Internet and other ICT applications; provides work for eligible rural youth; and develops business skills and expertise so that local businesses can respond more effectively (ICT authority, 2011). These services include e-mail, internet access, bank agency, e-banking, for example, cash transfer services like Post Pay, e-government (abstract forms of policy, tax returns, and applications on driving licenses), e-business (franchised courier and postal services), e-learning, e-health, e-markets (prices and exchange for agricultural commodities) and e-monitoring-reality time (IST-Africa Initiative, 2017). The key objective of the 61 centers is to ensure that the general public has access to internet and e-government resources through public-private collaborations funded by the Revolving Fund for Digital Villages. As a result, the digital village has had an effect on graduate youth job rates as one of the government's e-government initiatives.

World Bank, (2016), estimates that 70% of the poorest 20% in developed countries now have access to cell telephones, and it is estimated to come from mostly rural areas during the coming cycle of growth in mobile links.

Moreover, more than 40% of the world's population has Internet access and significant projects are ongoing to link remote populations (Trendov, Varas, & Zeng, 2019). However, there are a few questions to remember in the 'digitalization' of agriculture and the food supply chain. Transformation must be undertaken so that the "internet gap" between countries and industries and between those with different degrees of capacity to embrace emerging technology is not broadened (OECD, 2016). According to Baumüller (2015), the use of mobile apps will minimize market distortions and allow farmers to schedule production processes, as seen in the Kenya M-Farm application which has led farmers to change crop patterns, as well as some to report that higher prices are received on the market (Baumüller 2015). While, Ahn and Bretschneider, 2011, conducted a study to investigate the role of Gangnam's applications for e-government in Korea through a series of interviews that examined the dimensions of citizens' culture, transparency, responsiveness, citizens' trust, corruption and power abuse.

The International Society for Tourism (IST-Africa Initiative (2017) has produced a study report which highlights the scale of ICT infrastructure, digital inclusion (digital villages) and business procedure outsourcing (BPO) in relation to job development in different sectors, but has still not studied how government e-governance initiatives affect graduate youth employment levels. In order to bridge the divide, this research aims to broaden the information base by presenting results about how government actions to enhance e-government impact graduate youth jobs.

2.3 Summary of Review of Literature and Research Gap(s)

This research examines how public policies to improve e-government impact ICT infrastructure jobs, digital integration (digital villages), and the outsourcing of business processes (BPO). Ahn and Bretschneider (2011) commissioned an enquiry on the status of Korea's applications to e-government through a series of interviews that examined dimensions such as citizens' history, transparency, reactivity, citizens' faith, reducing corruption and abusing control. Results indicate that 46.2% of respondents agreed mildly that e-government requests increased transparency (20.1% firmly agreed) and 41.5% agreed that e-government requests greatly reduced corruption (18.8 strongly agreed).

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CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlined the methods for gathering information on the study's topic. The research methodology used in carrying out the study was also outlined in this chapter. The research design, research site, target population, study sample, study sample size, sampling procedure, data collection, data analysis, and legal and ethical considerations were all covered in this chapter.

3.2 Research Design

The ultimate method of systematically and objectively integrating the individual components is called research design (Creswell & Poth, 2016). The study employed a descriptive research design. The descriptive research design was ideal for determining the characteristics of human populations, estimating and predicting the percentage of individuals with special characteristics. This descriptive research design entailed the collection of data using both quantitative and qualitative methods to evaluate the effect of e-governance adoption on graduates' employment levels among selected government institutions within Nairobi County.

3.3 Research Site

The research was performed in key government institutions located within the Nairobi County, especially within the NCBD area and its environs. The Ministry of ICT, Ministry of Labour, Kenya National Bureau of Statistics and Public Service Commission headquarters were important to the research as it contained critical data for the purpose of

the study. The geographical proximity of these research sites gave this evaluation the practical benefit and eased the research budget.

3.4 Target Population

The population objective is described as the whole category of individuals, units or items that the investigators want to use to generalize the results (DuGoff, Schuler, & Stuart, 2014). In this analysis, the target population was 536 participants, including ICT graduates and their seniors in selected government institutions in Nairobi County as seen in Table 3.1.

Table 3.1 Target Population

Category	Sub-Category	Target Population
ICT Graduates	Ministry of Labour	98
	Kenya National Bureau of Statistics	154
	Public Service Commission	127
	Ministry of ICT	129
	Sub-total	507
Senior Management	Ministry of Labour	5
	Kenya National Bureau of Statistics	9
	Public Service Commission	7
	Ministry of ICT	8
	Sub-total	29
Total		536

3.5 Study Sample

3.5.1 Study Sampling Procedure

Sampling is a conscious choosing of a variety of products that would be requested to include the findings of a study into a broad group of items (Leavy, 2017). The sample of this research involves choosing a group of ICT graduates and their respective senior management to estimate the characteristics of the participants. The collection of current subgroups (ICT graduates and their respective senior management) in the population would be more or less reflected in the survey in random surveys of stratification (Yin, 2017).

3.5.2 Study Sample Size

A survey is a representative population interest selected randomly (Wang, 2015). The sample size is 95% certainty and an error of 0.05 using the formula Nassiuma (2000), using a reference population of 536 as shown

$$n = \frac{N(Cv^2)}{Cv^2 + Cv^2(N-1)e^2}$$

Where n=size of sample

N = individuals (536)

Cv= Variance coefficient (0.6)

e= desired degree of trust resistance (take 0.05) at 95% confidence)

$$n = \frac{536(0.6^2)}{0.6^2 + 0.6^2(536-1)0.05^2}$$

n = 113.5 (Rounded off to 114)

The sample volume is 114. The sample ratio is determined to determine how the sample is divided among targeted people, including ICT graduates and their respective senior management, and then multiplied by the target population for the targeted group. The ratio is $114/536 = 0.212$, as seen in Table 3.2.

Table 3.2: Sampling Frame

Category	Sub-Category	Target Population	Ratio	Sample size
ICT Graduates	Ministry of Labour	98	0.212	21
	Kenya National Bureau of Statistics	154	0.212	33
	Public Service Commission	127	0.212	27
	Ministry of ICT	129	0.212	27
	Sub-total	507	0.212	108
Senior Management	Ministry of Labour	5	0.212	1
Management	Kenya National Bureau of Statistics	9	0.212	2
	Public Service Commission	7	0.212	1
	Ministry of ICT	8	0.212	2
	Sub-total	29	0.212	6
Total		536	0.212	114

3.6 Data Collection

Data collection consists of the systematic collection and measurement of information on variables of concern to address and assess test conclusions, theories and outcomes (Flick 2017). This section includes data collection tools as well as pilot flight analysis tools.

3.6.1 Data Collection Questionnaire

The researcher used questionnaires to gather primary data. The questionnaire contained questions that were both open and closed. The questions opened to respondents were encouraged to answer in detail and sensitively without feeling obliged to give details, while the questions closed cause respondents to respond only to the options offered. According to Rahi (2017), open or unstructured questions allow respondents to provide more detailed answers, while closed or organized questions can be easily evaluated. Since the questionnaires can be used immediately, they save time and resources by making interpretation easier. The questionnaire had two parts of which Part (I) had questions on demographics of participants, while Part (II) had questions on the impact of e-governance adoption on graduates jobs, divided into four sections based on the purpose of the study: Section A: Graduate ease use of e-governance and employability; Section B: E-government technologies and levels of graduate employment; Section C: Facilitating e-governance and graduate levels of employment ; Section D: Government e-governance and graduate level employment initiatives.

3.6.2 Pilot Testing of Research Instruments

In order to ensure that the instruments components are explicitly stated and that all respondents interpret the same context, a pilot study would test a dependent variable between participants. The aim of the data tool is to ensure that all objects in the instrument are clearly marked and meaningful (In, 2017). According to Connelly, existing literature indicates that a pilot study should be 10 percent of the expected sample of the major parent study (2008). Hertzog (2008) warns, on the other hand, that this is not an easy or clear problem to address, since many variables affect these types of research. Isaac and Michael (1995) did, however, suggest a scale of 10 to 30.

Pilot testing of study tools will take place for pilot survey respondents with 22 randomly picked questionnaires, representing 20% of the sample of National Employment Authority Integrated Management Systems (NEAIMS) respondents. The length of time between the first and second pilot test was three days in which the same subjects were asked to respond without warning to the same questionnaires in order to assess modifications to the first and second test answers. If the first findings compare favorably with the second, the test instrument would be accurate and reliable.

3.6.3 Instrument Reliability

The extent to which it is partial, maintaining accurate calculation over time and over different elements of the instrument, is known as reliability (Plichta, Schwarz, Grimm, Morgen, Mier, Haddad & Meyer-Lindenberg, 2012). A test sample of 22 randomly-selected respondents from the target population were given the questionnaire and their answers were used to evaluate the tool's reliability.

The reliability of the data collection instrument is determined using Spearman Brown correlation formulas and the partition-half procedure for obtaining overall test reliability. The researchers want the two halves to correlate perfectly so that the sum scale is entirely accurate. A 0.7 or higher composite reliability coefficient is considered suitable for all structures for this analysis (Rahi, 2017).

3.6.4 Instrument Validity

Validity is the correctness and importance of the findings depending on the test results (Creswell & Creswell, 2017). This research adhered to the validity of the criteria, primarily postdictive validity, to the degree that one measure is linked to the previously identified values (Taherdoost, 2016). For authenticity, the first pilot test, carried out on testing tools to randomly pick 22 questionnaires for pilot survey respondents, serves as a criterion for the second pilot test. Then, after three days, the same participants were asked to respond without warning to the same questionnaires in order to detect any improvements in the first and second test answers. The analysis tool would then be accurate and effective if the first findings compare favorably with the second and can be reproduced. The research used a drop-and-pick approach to conduct questionnaires. The researcher included the questionnaire and sent to the respondent for a period of three days before the analysis was collected. The researcher therefore ensured that the material supplied by participants was strictly secret. Before conducting the questionnaires, the researcher arranged an appointment with graduates and their senior managers with busy schedules.

3.6.5 Data Collection Procedure

The researchers then conducted and organized the questionnaires with the appointed officials and ensured they have time to complete the questionnaires. This created a favorable atmosphere for the delivery and administration of the questionnaire. The questionnaire was conducted in accordance with the approved timetable.

3.7 Data Analysis and presentation

In the course of the study both qualitative and quantitative data were generated. Quantitative data was analyzed using Social Science Statistical Package (SPSS release 25.0). Qualitative data was analyzed using thematic content analysis. Quantitative data was presented using statistical techniques such as pie charts, bar graphs, tables, frequencies, percentages, medium and standard deviation. The qualitative data from the questions were analyzed and presented in a narrative form using thematic content analysis.

3.8 Legal and Ethical Considerations

Mugenda (2011) emboldens this critical aspect of ethical considerations I the management of a given research process which entails planning, collection of data and its associated analysis. The researcher observed fundamental clauses in social research ethics. Confidentiality was guaranteed for all respondents verbally and in writing and they were instructed not to write their names in the questionnaire. Gatara (2010) emphasized on the principle of participating voluntarily in any given research, especially after verbal consent, as critical to the upholding of ethical standards. The researcher endeavored to abide by the ethical and legal principles of conducting research as the research was purely for academic purpose. Permission was sought from Africa Nazarene

University, National Commission for Science, Technology and Innovation (NACOSTI) and from the leadership and management of the selected government institutions in Nairobi County before commencement of actual data collection. To protect the dignity and privacy of the respondents, the researcher informed the respondents not to write their names and contacts on the questionnaire.

CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter discussed the findings obtained from the primary instrument used in the study. It discussed the characteristics of the respondents and their perspectives on the evaluation of e-governance adoption on employment levels of graduates, especially among those in selected government institutions in Nairobi County. The researcher provided tables that summarized the collective reactions of the respondents.

4.2 Characteristics of the Respondents

This section required the respondents to indicate their response rate and general information including gender, designation, how long they have worked in their respective designation, highest level of education and age bracket. This information would be used to ascertain the eligibility of the respondents to participate in data collection of the study. The study also determined how reliable and valid was the information given by the respondent.

4.2.1 Response Rate

Questionnaires that the researcher administered were 114 out of which only 90 fully filled questionnaires were returned. This gave a response rate of 79% which was within what Creswell and Poth (2016) prescribed as a significant response rate for statistical analysis and established at a minimal value of 50%

Table 4. 1: Response Rate

Item		Response Rate
Response	90	79%
Non-response	24	21%
Total	114	100

4.2.2 Gender of the Respondent

The respondents were requested to indicate their gender. It is for this reason why respondents came from both genders. The findings were as shown in Table 4.2.

Table 4. 2 Gender of the Respondents

Item	Frequency	Percent
Male	71	79%
Female	19	21%
Total	90	100

From the findings, majority 79 % of the respondents were male while the rest were female as shown by 21%. This shows that the study considered all respondents irrespective of their gender to collect reliable information. This consistent apathy among female ICT graduates has its roots in educational stereotypes embedded in ICT and IT training choices, and limited female ICT graduates role models to champion this worth course. However, the female percentage given was deemed representative enough for achieving the purpose of this study.

4.2.3 Respondent's place of work

The respondents were asked to indicate their place of work. The findings for this are illustrated in Table 4.3.

Table 4. 3-Respondents Designation

Item	Frequ ency	Perce nt
KNBS	20	22.20
Ministry of ICT	23	25.53
Ministry of Labour	22	24.42
Public Service Commission	25	27.76
Total	90	100

From the findings, the respondents indicated their places of work to be a KNBS as shown by 22.20 %, Ministry of ICT as shown by 25.53%, Ministry of Labour as shown by 24.42%, and Public Service Commission as indicated by 27.76%. This is an indication that the data was collected from all the respondents as it covered all places of work. Respondent designation enhanced the authenticity of the source of primary data and their ability to by provide reliable information.

4.2.4 Period Working in the Current Designation

The respondents were asked to indicate how long they had worked in their respective designation. The findings are illustrated in Table 4.4.

Table 4. 4 Period Working in the Current Designation

Item	Frequency	Percent
Less than 3 years	7	7.9
3 to 9 years	21	23.6
9 to 12 years	34	37.1
More than 12 years	28	31.5
Total	90	100

From the findings, the respondents indicated that they had worked in their respective designation for a period of 9 to 12 years as shown by 37.1%, more than 12 years as shown by 31.5%, 3 to 9 years as shown by 23.6% and less than 3 years as shown by 7.9%. This shows that most of the respondents had worked in their respective place of work long enough to be able to provide information on subject under study. The more experienced were in a better position to answer questions regarding the initial adoption of e-governance systems and the challenges experienced during this technological transition, hence buttressing the findings.

4.2.5 Highest Level of Education

The respondents were asked to indicate their highest level of education. The findings were presented in Table 4.5.

Table 4. 5-Respondents Level of Education

Item	Frequency	Percent
Certificate	59	66.3
Diploma	15	15.7
Degree	6	6.7
Masters	6	6.7
PhD	4	4.5
Total	90	100

From the findings, majority of the respondents had certificate as shown by 66.3%. Others indicated to have a diploma as shown by 15.7%, degree as shown by 6.7%, masters as shown by 6.78% and PhD as shown by 4.5%. This is an indication that majority of the respondents had the required knowledge to respond to the questions in the research tool correctly.

4.2.6 Age Bracket of the Respondent

The respondents were further asked to indicate the age bracket to which they belong. The findings were as shown in Table 4.6.

Table 4. 6 Age of the Respondent

Item	Frequency	Percent
30-40 years	42	46.1
41-50 years	32	36
51-60 years	9	10.1
More than 60 years	7	7.9
Total	90	100

From the findings, majority of the respondents indicated that their age was between 30 and 40 years as shown by 46.1%, between 11 and 50 years as shown by 36%, between 11 and 60 years as shown by 10.1% and more than 60 years as shown by 7.9%. This shows that the study covered all age groups in collection of information on subject under study. This implies that age of the respondents affected their ability to provide reliable information regarding the study.

4.3 Presentation of Research Analysis, Findings and Interpretation

The purpose of this study was to evaluate the effect of e-governance adoption on employment levels of graduates in selected government institutions in Nairobi County. This section presents findings for extent of graduate ease use of e-governance for graduate employability; e-governance technology; facilitating conditions for e-governance, and how government measures in enhancing e-governance has affect employment levels of graduates in Kenya. The comparatively younger respondents the age bracket between 30 and 40 years had more information to share with the study in regard to the contribution of adoption of e-governance to employment creation among the graduates.

4.3.1 Graduate Ease Use of E-Governance and Graduate Employability

The study sought to determine the e-governance knowledge on employability of graduates. The respondents were asked to indicate whether graduate ease use of e-governance contributed to their current employment status. The findings are illustrated in Table 4.7

Table 4.7 whether graduate ease use of e-governance affects Employability

Item	Frequency	Percent
Yes	83	94.1
No	7	5.9
Total	90	100

From the findings, most of the respondents indicated that graduate ease use of e-governance had a significant positive effect on their employability as shown by 94.1%. Further, these respondents were also asked to indicate the extent to which graduate ease use of e-governance affect employability. The findings are illustrated in Table 4.8.

Table 4.8 Extent to Which Graduate Ease Use of E-Governance Affects Employability

Entry statement	Frequency	Percent
Low extent	12	13.1
Moderate extent	26	28.6
Great extent	34	38.1
Very great extent	18	20.2
Total	90	100

From the findings, most of the respondents indicated that graduate ease use of e-governance influences employability levels to a great extent as indicated by 38.1%, these findings were further supported by a moderate extent with a percentage of 28.6%, followed by very great extent of influence of graduate ease use of e-governance on employability levels at a percentage of 20.2% , with the voices of dissenting respondents on the contribution of graduate ease use of e-governance influence on employability levels at a paltry at 13.1%. This implies that ease use of e-governance on e-governance

influences employability levels to a significant great extent graduate ease use of e-governance as demonstrated by the majority of the respondents. The respondents were further asked to indicate their level of agreement with the various statements on influence of graduate ease use of e-governance on employability. The findings are illustrated in Table 4.9.

Table 4. 9 Agreement with Various Statements on graduate ease use of e-governance and employability

Entry statement	Mean	Std. Dev.
Graduate ease use of e-governance makes them employable	3.852	0.461
Graduates in my organization are technology savvy	4.337	0.673
Graduates in my organization easily adopt new ICT Systems deployed	3.190	0.807

From the findings, the respondents agreed that graduate ease use of e-governance had a significant positive effect on their employability levels as indicated by a mean of 3.852 and a standard deviation of 0.461. The respondents also agreed that graduates in their organization were technologically savvy. The respondents were however in disagreement in terms of ease adoption of the new ICT systems deployed as shown by a mean of 3.090 and a standard deviation of 0.807. Implicitly, these findings indicated that graduate ease use of e-governance has a significant positive effect on their employability levels, however, there are some reservations in terms of ease adoption of the new ICT systems occasioned by the fear of the unknown, bureaucratic mistrust, suspicion and high chances of being spied on while using the new system, especially by the less technologically savvy age group.

As one respondent stated that:

In highly bureaucratic systems, there are always some reservations in terms of ease adoption of the new ICT systems apparently occasioned by systemic mistrust, the suspicion of being spied on and the general fear of the unknown, especially among government appointees at the management level. Ideally, all e-governance systems should be periodically updated and the knowledge concerning their functionality shared to synchronize with the dynamic nature of technology if we are to create transparent and accessible systems for graduates to tap in and enhance their innovativeness. This will reduce the uncertainty that comes with the new and emerging ICT systems designed and aligned to revamped socio-economic policies for economic growth and subsequent graduate employment and deployment.

This discovery is a devastating technological and socio-economical impediment, especially to creation of employment opportunities for thousands of graduates who come out of tertiary and other institutions of higher learning. This suggestion is consistent with Byungura, Hansson, Masengesho, and Karunaratne (2016) who articulated that a clearly defined ICT capacity building strategies from national to some institutional policies, planning for motivation and provision of incentives to both innovators and implementers was key to effective technology integration and employment creation.

4.3.2 E-Governance Technology and Graduate Employment Levels

The study further sought to establish the significance of e-governance technology on graduate employment levels. The findings were tabulated as below in Table 4.10.

Table 4. 10-Percentage Extent to Which E-Governance Technology Influences Graduate Employment Levels

Item	Frequenc y	Percent
Yes	81	91.9

No	9	8.1
Total	90	100

The findings as tabulated above indicated that most of the respondents were in agreement that the availability of e-governance technology significantly and positively influenced graduate employment levels as shown by 91.9%, with a paltry eight percent in disagreement. This finding highlighted the significance of e-governance for both employability and deployability, especially among the graduates. To further buttress this finding, respondents were also asked to indicate the extent to which e-governance technology influenced their employment levels. The findings were as tabulated in Table 4.11.

Table 4.11-Percentage Extent to Which E-Governance Technology Affect Graduate Employment Levels

Item	Frequenc y	Percen t
Low extent	19	22.1
Moderate extent	16	16.9
Great extent	42	49.1
Very great extent	14	12.8
Total	90	100

From the findings, most of the respondents indicated that e-governance technology affect graduate employment levels to a great extent as shown by 49.1%, low

extent as shown by 22.2%, moderate extent as shown by 16.9% and very great extent as shown by 12.8%. With almost a half of the respondents in affirmation of the fact that e-governance technology affects graduate employment levels, the implication is that e-governance technology plays a crucial role especially in preparing the graduates and subsequently determining their employment and deployment status. The respondents were further asked to indicate their level of agreement with the various statements in terms of the influence of e-governance technology on graduate employment levels. The findings are illustrated in Table 4.12

Table 4.12 Agreement with Various Statements on E-Governance Technology and Graduate Employment Levels

Entry statement	Mean	Std. Dvn.
ICT systems deployed have improved graduate's productivity	4.1100	0.3875
The ICT systems in my organization are easy for graduates to use in performing their duties	3.4645	0.63722
Graduates in the organization easily adopt new ICT Systems deployed	3.4786	0.83903
The use of technology has boosted my competence, trust and reliability to run a business	3.3667	3.3667

From the findings, the respondents agreed that ICT systems deployed have improved graduates' productivity as indicated by a mean of 4.1100 and a standard deviation of 0.3875. The respondents were further in agreement that the ICT systems in

their organization were made available for graduates to use in performing their duties as shown by a mean of 3.4645 and a standard deviation of 0.63722. In addition, the respondents confirmed that the use of technology had boosted their competence, trust and reliability to run a business at a mean of 3.4645 and a standard deviation of 0.63722. However, ease adoption of the new ICT Systems deployed, once again as indicated a negative significant by a mean of 3.4786 and a standard deviation of 0.9012

Implicitly, these findings indicated that e-governance technology significantly and positively influenced graduate employment levels, despite some reservations in terms of ease adoption of the new ICT systems apparently occasioned by systemic mistrust, the suspicion of being spied on and the general fear of the unknown. As one senior interviewee in the ministry of ICT stated that:

Since the inception of e-governance technology, there has been no single monitoring and evaluation in terms of efficiency and effectiveness that has linked the effect of technology to employment creation. Consequently, the specific data on ICT in relation to employment creation was not given its due attention as a standalone item in the last Kenya National Bureau of Statistics, economic survey report. In addition, the data on technology is not integrated as each government institution focuses on its ICT needs.

If Kenya's National Development plans and policy documents in ICTs are being used to promote desirable logistics service provision, are considered a growth enabler, and are highly regarded to be a profitable market, then the country's long-term development agenda, Vision 2030, ICTs and Business Process Outsourcing (BPA), are critical and significant factors for economic growth and job creation (Saint-Jean, 2016).

4.3.3 Facilitating Conditions for E- Governance

The study sought to evaluate the utilization of facilitating conditions for e-

governance on graduate employment levels. The respondents therefore were asked to indicate whether utilization of facilitating conditions for e- governance had any substantial effect on graduate employment levels. The findings are illustrated in Table 4.13.

Table 4.13. Whether Facilitating Conditions For E- Governance Affects Graduate Employment Levels

Item	Frequency	Percent
Yes	86	96.6
No	4	3.4
Total	90	100

From the findings, most of the respondents indicated that facilitating conditions for e-governance affects graduate employment levels as shown by 96.6%. Further, these respondents were also asked to indicate the extent to which facilitating conditions for e-governance affects graduate employment levels. The findings are illustrated in Table 4.14.

Table 4.14 Percentage Extent to Which Facilitating Conditions for E- Governance Affects Graduate Employment Levels

Item	Frequency	Percent
Low extent	14	15.1
Moderate extent	22	24.4
Great extent	38	43
Very great extent	16	17.4
Total	90	100

From the observation tabulated above, most of the respondents indicated that facilitating conditions for e- governance had a substantial effect on graduate employment levels to a great extent as shown by 43%, moderate extent as shown by 24.4%, low extent as shown by 15.1%, and very great extent as shown by 17.4%. This implies that facilitating conditions for e- governance affects graduate employment levels to a great extent. The respondents were further asked to indicate their level of agreement with the various statements on how facilitating conditions for e-governance affects graduate employment levels. The findings are illustrated in Table 4.15.

Table 4.15: Agreement with Various Statements on Facilitating Conditions for E-Governance and Graduate Employment Levels

Entry statement	Mean	Std. Dvn
Managements encourages ICT champions and reward graduates who use ICT to solve business problems	3.8500	0.8596
Managements have adequate knowledge and skills in ICT usage	3.6332	0.9112
Online technical support significantly influences my intention to use ICT	3.6750	0.9717
My organization has a set ICT budget and ICT projects are readily funded	3.1000	0.81147
ICT System compatibility enables me to solve business problems fast	3.4645	0.3972

From the findings, the respondents were neutral on whether managements encourage ICT champions and reward graduates who use ICT to solve business problems as indicated by a mean of 3.8500 and a standard deviation of 0.8596. In terms of whether the management in respective government institutions had adequate knowledge and skills in ICT usage, the respondents disagreed by a mean of 3.6332 and a standard deviation of

0.9112. In addition, the respondents disagreed on the existence of online technical support significantly influences the intention to use ICT as indicated by a mean of 3.6750 and a standard deviation of 0.9717. Moreover, the respondents were further categorical that there was no clear set ICT budget and that ICT projects were not readily funded at a mean of 3.1000 and a standard deviation of 0.81147. However, the respondents confirmed that the use of technology had boosted their competence, trust and reliability to run a business at a mean of 3.4645 and a standard deviation of 0.3972.

Implicitly, these findings indicated a clear lack of motivation from the implementing bureaucrats to encourage ICT champions and reward ICT graduates in finding solution to the existing socio-economic problems of which runaway unemployment among graduates is key. In addition, the functional digital illiteracy among most of the employees at the managerial level of government institution has impeded the much-needed efficiency and the effectiveness in adoption and implementation of the e-governance technology that could spur more job opportunities. This could be attributed to deliberate lack of political will since most of those in top government management, who are usually political appointees with a desire to perpetuate corruption through the status quo and entertain certain quarters for political expediency.

As one respondent stated that:

Rampant duplicity in the management of the ICT and IT in government institution for creation of political positions is choking this noble endeavor. Take for instance the isolation of ICT Authority and the digital villages from the Ministry of ICT and Youth. These institutions have ended up with unclear budgets to motivate and incentivize adoption and use of available technology for enhanced production. In fact some of us who came in as ICT experts are busy with other managerial functions that are not related to collaborative innovation and knowledge sharing in technology for continued employment creation.

Thus, there is a significant negative effect of facilitating conditions for e-governance on graduate employment levels that is not technological but rather behavioral in nature. This findings augur well with Laudon and Laudon (2010) who argued that significant investment into technology such as ICT is not a guarantee to increased productivity. However, Loogma et al. (2012), are of contrary suggestion as they found that leadership and self-efficacy, had a positive significant play effect and played an important role in motivating innovative behavior to organizational productivity. Thus, with technologically sound political leadership and self-efficacy of the implementing bureaucrats, facilitating conditions for e-governance in the existing e-infrastructure can transform the socio-economic status of Kenyans, especially the graduates.

4.3.4 Government Measures in Enhancing E-Governance

The study sought to examine the influence of government measures in enhancing e-governance and graduate employment. The respondents therefore were asked to indicate whether government measures in enhancing e-governance influenced graduate employment levels. The findings are illustrated in Table 4.16.

Table 4. 16-Whether Government Measures In Enhancing E-Governance Influence Graduate Employment.

Item	Frequency	Percent
Yes	78	87
No	12	13
Total	90	100

From the findings, most of the respondents agreed that government measures in enhancing e-governance influenced graduate employment as shown by 90.6%.

Further, these respondents were also asked to indicate the extent to Government measures in enhancing e-governance influenced graduate employment levels. The findings are illustrated in Table 4.17

Table 4.17-Percentage Extent To Government Measures In Enhancing E-Governance Influence Graduate Employment.

Item	Frequency	Percent
Low extent	9	9.5
Moderate extent	28	32.1
Great extent	45	50
Very great extent	8	8.3
Total	90	100

From the findings, most of the respondents indicated that government measures in enhancing e-governance influence graduate employment to a great extent as shown by 42%, moderate extent as shown by 32.1%, low extent as shown by 09.5% and very great extent as shown by 8.3%. This implies that government measures in enhancing e-governance influence graduate employment to a great extent. The respondents were further asked to indicate their level of agreement with the various statements on how government measures in enhancing e-governance influence graduate employment.

Findings are illustrated in the Table 4.18 .

Table 4.18: Government measures in enhancing e- graduate employment

Entry statement	Mean	Std.Dvn
In general, the government has put in place support (infra-structure, policies etc.) for easy access to various	3.975	0.3717

technological platforms		
Partnerships between government and network providers	3.9023	0.3875
have enhanced my access to employment opportunities		
Government has in place enabling policies, conducive to	3.3102	0.9597
private sector investment		
The establishment of digital villages has improved my	3.4001	0.41147
creativity and innovativeness.		

From the findings, the respondents agreed that partnerships between government and network providers have enhanced their access to employment opportunities as indicated by a mean of 3.9023 and a standard deviation of 0.3875. The respondents were further in agreement that the government has put in place support (infra-structure, policies etc.) for easy access to various technological platforms by a mean of 3.975 and a standard deviation of 0.3717. In addition, the respondents confirmed that the establishment of digital villages had improved their creativity and innovativeness at a mean of 3.4001 and a standard deviation of 0.41147. However, there was disagreement on whether the government had in place enabling policies, conducive for private sector investment as indicated by a mean of 3.3102 and a standard deviation of 0.9597.

Implicitly, these findings indicate that the government in conjunction with various partnerships has done a commendable job by investing heavily in e-infrastructure seeking to reward value creation and employment opportunities for Kenyans. However, the study discovered that there were no adequate, clear and enabling policies conducive enough to spur private sector investment, economic growth and subsequent creation of employment

for high number of graduates from various institutions of learning that annually join the already crowded job market.

CHAPTER FIVE

DISCUSSIONS, SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This chapter presents discussion of findings, summary of main findings, conclusions and recommendations as per the objectives of the study. The purpose of this study was to evaluate the effect of e-governance adoption on employment levels of graduates, specifically among the selected government institutions in Nairobi County.

5.2 Discussion

This section presents the discussion of findings, where the findings for this study are compared with findings of other researches and literature review.

5.2.1 To determine the extent of graduate ease use of e-governance for employability

The study established that graduate knowledge on e-governance has a significant positive effect on graduate employability levels. The findings are consistent with Murgor (2017) who demonstrated that graduates with graduate ease use of e-governance have the capacity to resolve challenges, to function independently, to enhance their leadership abilities, adaptability and creativity as well as to innovatively have a strong and significant effect on self-employment (Murgor, 2017). Study found that majority of graduates in their organization was technologically savvy owing to training and empowerment either by the institution that employed them or by an established ICT hub facilitated by the government and its partners. These findings concur with IST-Africa Initiative (2017), who established that the efforts of the Kenya Youth Enhancement Project, government ICT graduates internships, the African Center for Women in ICT, and Nairobi between 2011 and 2016, as a pilot project in Nairobi, Mombasa and

Kisumu, with World Bank funding of US\$ 15, 62 million to boost employability for youth and inclusion into workplaces through training and internships , had a significant positive impact on creating graduates employability.

Graduates with ease use of e-governance can concentrate on integrating innovative ways beyond basic machine and interactive literature, such as e-learning and information on similar learning sites such as massive online courses. This discovery is consistent with Byungura, Hansson, Masengesho, and Karunaratne (2016) who articulated that a clearly defined ICT capacity building strategies from national to some institutional policies, planning for motivation and provision of incentives to both innovators and implementers is indispensable for effective technology integration and employment creation.

These findings are further buttressed by IST-Africa Initiative (2017), articulation that programs aimed at empowering graduate youth to employ e-governance include tech developments designed to improve the computing and production skills of youth, such as Chipuka Software Development Certification, and coding boot camps, are critical to enhancing both short term and long term strategies geared towards employment creation. Similarly, the findings concurs with Gbedomon (2016), observation that the exemplary role taken by private entities such as AkiraChix who takes 30 brilliant and talented young women from low-income areas every year and takes them through an intense one-year curriculum in programming and design, aiming at offering women technology and entrepreneurial skills that enable them to serve and lead their communities. AkiraChix provides training, mentoring and outreach programs to address poverty, unemployment and gender inequalities in the access and use of ICT, in order to enhance the number and

the beneficial effects of educated people on technology. This plausible endeavour can motivate a new generation of ICT graduate awareness of employment-friendly e-governance studies that could emerge from the partnerships of both public and private sectors with substantive funding for massive roll out and promotion, to wider implication on graduate employability. Capacity building can assist young people, especially the majority who graduate from the TVET institutions, in defining and improving their capacity and making use of their current assets to gain power and affect their lives and their social conditions. By concentrating on capacity building, young people will be motivated by trust, optimism and inspiration for the desires social change (Elaine, 2008; Alfayo, 2015).

5.2.2 To examine effects of e-governance technology on employment levels of graduates

Study found that e-governance technology significantly and positively influences graduate employment levels. Study found that ICT systems deployed had improved graduates' productivity. In addition, the study found that the use of technology had boosted their competence, trust and reliability to run a business. This findings are in agreement with Wong (2002) who found certain forms of ICT resources are more important than others in particular, computer networks that allow deeper integration of businesses around the value chain lead to the so-called "spillover effect" and improved overall productivity while creating more jobs. The findings are also in line with IST-Africa (2015) report that implementation of e-government services in Kenya is one of government top priorities to meet national development goals and objectives for Kenya Vision 2030 for wealth and employment creation. Repeated private sector surveys in

developing countries have shown that IT expenditure will contribute to increasing production and economic growth, dispelling previous concerns about the productivity paradox (OECD 2016, Dedrick and Kraemer, 2003). These findings concur with Kenya National Bureau of Statistics (2019), economic survey report, that ICT and e-governance technology related fields such as computer science, logic, mathematics, statistics actuarial biometry biostatistics social statistics and system sciences, has contributed to employment and deployment of about 150,771 people in both private and public sector.

However, concerns were raised as to the lack of consolidated and centralized data on e-governance with clear statistics linking e-infrastructure development with employment creation. As the study discovered, neither of the critical research sites; The Ministry of ICT, Ministry of Labour, Kenya National Bureau of Statistics and Public Service Commission headquarters, nor the ICT authority could relate the huge investment in e-infrastructure with job creation. If Kenya's National Development plans and policy documents in ICTs are being used to promote desirable logistics service provision, are considered a growth enabler and are considered to be a profitable market, then the country's long-term development agenda, Vision 2030, ICTs and Business Process Outsourcing (BPO) are important factors for economic growth and job creation (Saint-Jean, 2016).

5.2.3 To establish the effect of facilitating conditions for e-governance on employment levels of graduates

Study established mixed findings concerning the extent facilitating conditions for e-governance affect employment levels of graduates. Study found that there was a deliberate mediocrity on the part of the top management in terms of encouraging ICT

champions and rewarding graduates who used ICT to solve business problems. In addition, the study found that the use of technology had boosted the competence, trust and reliability of employees to run a business.

However, the study discovered that there was no existence of online technical support to significantly influence the intention to use ICT and that there was no clear set ICT budget and ICT projects were not readily funded. Implicitly, these findings indicated a clear lack of motivation from the implementing bureaucrats to encourage ICT champions and reward ICT graduates in finding solution to the existing socio-economic problems of which runaway unemployment among graduates is key.

In addition, the functional digital illiteracy among most of those at the management level in government institutions has impeded the much-needed efficiency and the effectiveness in adoption and implementation of the e-governance technology that could spur more job opportunities. This could be attributed to deliberate lack of political will and motivation since most of those in top management are usually political appointees with a desire to perpetuate corruption through the status quo and entertain certain quarters for political expediency. This augurs well with studies conducted by Deressa and Zeru (2019), Skudiene and Auruskeviciene (2012) who articulated that efficiency is adversely affected by the lack of enthusiasm within an organization. Although the organization offers a stable environment and job security, executives have a great role to play in motivating staff, without fear or favour. Performance is related to and defined to the larger extent by the manager's ability to praise, give promotions, and reward pursuits of innovative excellence. The failure of managers to consider, reward or acknowledge the success of individual employees as well as teams of experts in a given technological area has been

found to have a negative effect on their morale in both adoption and implementation of e-governance technology for employment creation, especially among graduates.

5.2.4 To find out how government measures enhancing e-governance affect employment levels of graduates.

Since the objective of the study was to evaluate how government measures in enhancing e-governance had influenced graduate employment , the study found that the partnerships between government and network providers had significantly and positively enhanced access to employment opportunities. In addition, the study established that the government had put in place support (e-infrastructure, policies etc.) for easy access to various technological platforms to spur entrepreneurial innovativeness for job creation. The study further found that the establishment of digital villages had served as value addition to the employed, deployed and those seeking job opportunities in terms of creativity and innovativeness by giving them opportunities to hone their skills and adeptness.

However, the study discovered during the interview session that there were bureaucratic policy implementation gaps that impede ease adoption of new e-governance systems, and formulation of enabling policies conducive enough for private sector investment- key to employment creation among the graduates. This contradicts Hung et al. (2013), who argued that individuals perform behaviors toward which they have a positive affect especially in the use of new ICT systems in government. By and large , these findings are consistent with ICT authority(2011)and IST-Africa Initiative(2017) who articulated that through the Pasha Centers, the government is providing online services for people in the marginalized areas in order to improve the quality of life;

provides online services through computers linked to the Internet and other ICT applications; access online loans; provides work for eligible rural folk ; and develops business skills and expertise so that local businesses can respond more effectively. Consequently, the digital villages have had a significant positive effect on graduates' job rates as one of the government's e-government initiatives.

5.3 Summary of Main Findings

The study established that graduate knowledge on e-governance has a significant positive effect on graduate employability levels. The findings are consistent with Murgor (2017) who demonstrated that graduates with knowledge on e- governance have the capacity to resolve challenges, to function independently, to enhance their leadership abilities, adaptability and creativity while innovatively developing a strong and significant effect on self-employment (Murgor, 2017). The study further found that majority of graduates in their organization were technologically savvy owing to consistent capacity building and empowerment either by the government institution that employed them or by an established ICT hub supported by the government in conjunction with partners in respond to the needs of the fast changing technological environment.

In terms of e-governance technology in relation to its impact on graduate employment creation, the study found a significantly positive influence of e-governance technology on graduate employment levels. In addition, study found that ICT systems deployed had improved graduates' productivity. Moreover, the study found that the use of technology had boosted their competence, trust and reliability to run a business. Study established mixed findings concerning the extent facilitating conditions for e -governance affect employment levels of graduates.

Study found that there was a deliberate mediocrity on the part of the top management in terms of encouraging ICT champions and rewarding graduates who used ICT to solve business problems. In addition, the study found that the use of technology had boosted the competence, trust and reliability of employees to run a business. However, the study discovered that there was not only no existence of online technical support to significantly influence the intention to use ICT, but also there was a serious yawning funding gap occasioned by a lack of a clear set ICT budget occasioned by the ICT projects not being readily funded.

The study found that government measures in enhancing e-governance had significantly and positively influenced graduate employment levels, especially the partnerships between government and network providers which enhanced access to employment opportunities through provision of e-infrastructure and affordable data. The study found that government measures in enhancing e-governance had significantly and positively influenced graduate employment levels, especially the partnerships between government and network providers which enhanced access to employment opportunities through provision of e-infrastructure and affordable data. The study further established that the creation and sustenance of Pasha Centers (digital villages) was critical to continuous empowerment of both the employed and the potential employees in the fast-changing business environment, if we are to be in line with vision 2030.

5.4 Conclusion

E-governance offers many benefits to the citizens as it has much potential to bring many dreams and goals of good governance into reality. The issues of illiteracy and lack of transparency in various ministries can be addressed by using skillful application of e-governance initiatives. Despite its enormous potentials, it was observed that the benefits

of e-governance are not duly reaped by the government institutions. E-governance can very positively turn a paradigm shift from traditional bureaucratic administration to a more responsive, accountable and effective administration which many government institutions in Kenya have been aspiring for a long time. However, the various government institutions should put in place transparent and accountable systems to motivate the adoption and implementation of e-governance as it is critical to employment creation.

5.5 Recommendations

The study recommends that:

1. There is a need to establish procedures and mechanisms for more capacity building on graduates both at work place and in the community geared towards increasing employability levels. The establishment of a joint task force is essential to purposefully, monitor and evaluate the adoption and the development of e-governance systems in relation to their contribution to the creation of opportunities for socio-economic development. It is critical in this sense therefore for the bureaucrats in government institutions to frequently share these important data on e-governance adoption and development for thorough analysis in line with government policies on employment creation. A joint task force should then work with the Ministry of ICT, Ministry of Labour, Kenya National Bureau of Statistics and Public Service Commission to enhance policy formulation with focus on the contribution of e-governance technology to the socio-economic development, especially in the area of employment creation for graduates.
2. The study recommends that capacity building on the significance of adoption e-governance in relation to social and economic transformation should be provided to all

levels of top management in government institutions. The study recommends that the government and all concerned stakeholders formulate and implement policies related to e-governance technology in relation to employment creation.

3. The study recommends that the government institutions should come up with workable and effective systems which can predict and manage e-governance adoption and increase its usage among the employees and clients. The e-governance adoption and utility within the government institutions requires proper management, technologically compliant tools with matching skills for efficiency and effectiveness in delivery of services. Therefore, the government institution should procure new communication channels and enforce viable and workable policies to control the usage of e-governance instruments. Despite the efforts of e-governance adoption among the government institutions, there are some shortcomings which are hindering this effort. There is need for political will on the part of the government of the day, especially when it comes to the political appointees at the managerial level to be thoroughly informed and equipped in regard to e-governance adoption in relation to implementing government policies.

4. Importantly, there is need for a fair tax regime to attract private sector to invest in e-governance technology and create more employment opportunities for graduates. These efforts will reduce the inherent systemic mistrust, the suspicion of being spied on and the general fear of the unknown especially among the technology developers and the implementers assigned the duty of improving and updating the e-governance systems with aim of increasing the potential of technological innovation while maximizing production for socio-economic growth. To counter these problems, the government institutions ought to carry out administrative reforms aimed at streamlining and aligning

the e-governance systems to the national vision of 2030 by investing in capacity building and appoint management to government institutions based on their expertise in their areas of jurisdiction.

5.6 Areas of Further Research

The study focused on major variables namely, graduate ease use of e-governance, e-governance technology, facilitating conditions of e-governance, and government measures in enhancing e-governance in relation to graduate employment levels. It is therefore recommended that further studies be carried out based on factors and variables other than the ones used in this study which might establish in-depth analysis on the e-governance adoption in relation to employment creation especially among the graduates. The study was also confined to Kenyan government ministries, but there was need to find out the level and state of e-government adoption in private and other sectors which play key role in development and economic growth of the country to help in finding further insight of the matter.

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APPENDICES

Appendix I: Questionnaires of Key Informants

This questionnaire will be used to gather information for scholarly purposes only. The title of my research is ‘**An Evaluation of E-Governance Adoption on Employment Levels of Graduates: A Case of Selected Government Institutions, Nairobi County**’

All details will be kept fully secret. On this questionnaire, do not write your name or any other identifying detail. Fill in the blanks or check the box next to the alternative that applies to all of the questions.

SECTION A: Socio-Demographic Information

1) Please indicate your gender:

Female [] Male []

2) Kindly indicate your place of work

Ministry of Labour [] Ministry of ICT [] KNBS [] PSC []

3) For how long have you been in this designation?

Less than 3 months [] 3 to 9 years []

9 to 12 years [] More than 12 years []

4) What is your highest educational level

Certificate [] Diploma [] Degree [] Masters [] PhD

5) What is your age bracket

30-40 years [] 41-50 years []

51-60 years [] More than 60 years []

SECTION B:

Graduate ease use of e-governance and Employability

6. Do you think graduate ease use of e-governance can affect graduate employment levels?

Yes No

Please specify your level of agreement with the statements below on the degree of graduate knowledge on e-governance for graduate employability using a 5 Likert scale where 1 is strongly disagree 2 is disagree, 3 is neutral, 4 is agree and 5 is strongly agree

	Entry statement	1	2	3	4	5
7.	Graduate ease use of e-governance makes them employable					
8.	Graduates in the organization easily adopt new ICT Systems deployed					
9	Graduates in my organization are technology savvy					
10	Graduates in my organization easily adopt new ICT Systems deployed					
11	The electronic information resources that can be accessed motivates me to access job opportunities					

SECTION C: E-Governance Technology and Graduate Employment Levels

12. Do you think e-governance technology can affect graduate employment levels?

Yes No

13. To what extent does e-governance technology affect graduate employment levels?

Very low extent [1] Low extent [2] Moderate extent [3]

Great extent [4] Very great extent [5]

Please indicate your level of agreement with the following statements on effects of e-governance technology on employment levels of graduates using a 5 Likert scale where 1 is strongly disagree 2 is disagree, 3 is neutral, 4 is agree and 5 is strongly agree

	Entry statement	1	2	3	4	5
14	ICT systems deployed have improved graduates productivity					
15	The ICT systems in my organization are easy for young graduates to use in performing their duties					

16	The ICT systems in my organization are reliable. · Technology is used in this enterprise to guarantee trust and reliability Technology is used in this enterprise to guarantee trust and reliability Technology is used in this enterprise to guarantee trust and reliability					
17	Graduates in the organization easily adopt new ICT Systems · deployed					
18	The use of technology has boosted my competence ,trust and · reliability to run a business					

SECTION D: Facilitating conditions for e- governance and graduate employment levels

19. Do you think facilitating conditions for e- governance can have effect on graduate employment levels?

Yes [] No

20. If yes, to what extent does facilitating conditions for e- governance affect graduate employment levels?

Very low extent [1] Low extent [2] Moderate extent [3] Great extent [4] Very great extent [5]

Please indicate your level of agreement with the following statements effect of facilitating conditions for e governance on employment levels of graduates using a 5 Likert scale where 1 is strongly disagree 2 is disagree, 3 is neutral, 4 is agree and 5 is strongly agree

	Entry statement	1	2	3	4	5
21	Managements encourages ICT champions and reward · graduate students who use ICT to solve business problems					
22	My managers have adequate knowledge and skills in ICT · usage					

23	Online technical support significantly influences my intention to use ICT					
24	ICT System compatibility enables me to solve business problems fast					
25	My organization has a set ICT budget and ICT projects are readily funded					

SECTION E: Government measures in enhancing e-governance and graduate employment levels

Please indicate your level of agreement with the following statements on how government measures in enhancing e governance affect employment levels of graduates using a 5 Likert scale where 1 is strongly disagree 2 is disagree, 3 is neutral, 4 is agree and 5 is strongly agree.

	Entry statement	1	2	3	4	5
26	In general, the government has put in place support (infra structure, policies etc.) for easy access to various technological platforms					
27	I have the resources necessary to use e-Learning.					
28	Partnerships between government and network providers have enhanced my access to employment opportunities					
29	Government has in place enabling policies, conducive to private sector investment					
30	The establishment of digital villages has improved my creativity and innovativeness					

Appendix II: Interview Schedule for Senior Management of the Institutions

Introduction: Greetings. My name is NICHOLAS WAWERU, a Master of Science Governance, Peace and Security Studies student at Africa Nazarene University. I am carrying out a research study on ‘E-Governance Adoption on Employment of Graduates: A Case of Selected Government Institutions, Nairobi County’. Thank you for allowing me to do an interview with you. I want to reassure you that, as mentioned in my introduction letter, I will follow all ethical standards of ethics while conducting research.

Questions for the Interview:

1. What effect does exposure to and use of ICTs in school have on potential job opportunities?
2. How can analyses of the effect of ICTs on graduate employability be tracked and evaluated?
3. How do the different forms of learning styles facilitated by the use of ICTs influence the socioeconomic needs of graduate?
4. How can ICTs be utilized to attract and retain out-of-school and at-risk students (for example, through improved communication and provision of alternative modes of learning)?
5. How does having access to and using ICTs outside of school affect ICT usage and its effect on employability?
7. What models exist for the successful use of ICTs to promote educators' ongoing professional development?
10. How do we determine the results of facilitator's ICT use as a result of professional learning activities?
11. Which ICT usage models, and how, to provide the most appropriate and applicable support for career growth, including graduate employability?

Conclusion: Thank you for your time and I hope your responses to the questions will contribute a lot in fulfilling the objectives of this research.

Appendix III: Research Approvals and Letter

AFRICA NAZARENE
UNIVERSITY

15th April, 2021

RE: TO WHOM IT MAY CONCERN

Nicholas Waweru (**19J03EMGP007**) is a bonafide student at Africa Nazarene University, in the Governance, Peace and Conflict Studies Department. He has finished his course work and has defended his thesis proposal entitled: - **“An Evaluation of E-Governance Adoption on Employment Levels of Graduates: A Case of Selected Government Institutions, Nairobi County”**.

Any assistance accorded to him to facilitate data collection and finish his thesis is highly welcomed.


Regards,


Dr. Titus Mwanthi.

Ag. Deputy Vice Chancellor, Academics

Appendix IV: Research Permits


Appendix IV: Research Permits


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This is to Certify that Mr. Nicholas Njoroge Waweru of Africa Nazarene University, has been licensed to conduct research in Nairobi on the topic: AN EVALUATION OF E-GOVERNANCE ADOPTION AND EMPLOYMENT LEVELS OF GRADUATE YOUTH: THE CASE OF MINISTRY OF ICT, INNOVATION AND YOUTH AFFAIRS IN KENYA for the period ending : 06/May/2022.

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Appendix V: Map of Study Area

