

**THE EFFECTS OF INFORMATION COMMUNICATION TECHNOLOGY (ICT) ON
CITIZEN'S AWARENESS OF COUNTY AFFAIRS: A CASE STUDY OF THIKA
SUB-COUNTY, KIAMBU COUNTY**

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DECLARATION

This proposal is my original work and has not been submitted for an award of degree in any other institution.

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This project has been submitted with my approval as the University Supervisor.

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DEDICATION

I dedicate this project to my mother Christine Kamau and sisters, Ruth Kamau, Grace Kamau and Margaret Kamau. They have been my pillar and support through this journey. Secondly to my late father, Francis Kamau who always believed in me. That has been my anchor during the difficult times. I cannot forget Mr. and Mrs. Njue's family for always asking how far along I was. Finally to my friends Lawrence Kagira, Hottensiah Wangari, Kelvin Kamau, Kevin Kariuki, Cyril Kuria and Bill Kandia for your constant support. Thank you for always being available to help.

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List of Abbreviations and Acronyms

CAK:	Communication Authority of Kenya
COMESA:	Common Market for Eastern and Southern Africa
COMTEL:	COMESA Telecommunications Project
EACC:	Ethics and Anti-Corruption Commission
ICT:	Information Communication and Technology
IDP:	International Data Corporation
KNBS:	Kenya National Bureau of Statistics
KRA:	Kenya Revenue Authority
KPHC:	Kenya Population and Housing Census
KPLC:	Kenya Power and Lighting Company
MNC:	Multinational Corporation
MOICT:	Ministry of Information Communication and Technology
MODP:	Ministry of Devolution and Planning
NHIF:	National Hospital Insurance Fund
NOFBI:	National Fiber Optic Backbone Infrastructure
PSCU:	Presidential Strategic Communications Unit
USSD:	Unstructured Supplementary Service Data

DEFINITION OF TERMS

County Affairs –Operationally, county affairs refer to any issue relating to County plans policies, legislations, operational procedures and actions. This study defines County affairs as issues relating to Kiambu County government plans, policies, laws, procedures actions, and any other relevant issue which residents of Kiambu County generally, and Thika Sub-County specifically, who use the county Kiambu ICT platforms are expected to know.

Effectiveness- The operational definition of effectiveness is the degree to which something is successful in producing a desired result. The conceptual definition of effectiveness is the extent to which access to Kiambu ICT platforms alters or reduces the levels of awareness of Thika Sub-County residents of about Kiambu County affairs.

Facebook Usage – The operational definition of Facebook is a social networking web-based platform where users can post comments, share photographs and post news. This study defines Facebook usage as the extent to which Thika Sub-County residents use the County of Kiambu Facebook page to get information about county.

Levels of Awareness – The operational definition of level of awareness means how much you know about a certain subject. This study defines level of awareness as how much the residents of Thika, Sub-County know about Kiambu County affairs.

Twitter Usage – Twitter is a social media and digital news platform that consist of profiles and newsfeeds. This study defines Twitter Usage as the extent to which Thika Sub-County residents use the Kiambu County Twitter handle to get information about county affairs.

Usage of ICT- The operational definition of Usage of ICT is the ability to use ICT to get information. This study defines ICT Usage as the extent to which Thika Sub-County residents use Kiambu County Website, Facebook and Twitter to know about county affairs.

Website Usage– A website refers to a set of related web pages located under a single domain name. This study defines Website Usage as the extent to which Thika Sub-County residents use the Kiambu County Website to get information about county affairs.

ABSTRACT

This study aimed at understanding the effects of using ICT by the government on the level of awareness of its citizens. The study specifically explored the effect of using county government of Kiambu Website, Facebook page and Twitter handle on the levels of awareness of residents of Thika sub-county. The study took up a cross-sectional research design hence focusing on the 2017/2018 financial year. Data collection was done using the survey method. Thirty respondents were interviewed for this study. One questionnaire was developed to collect data needed for the study. The questionnaire was composed of both open ended question and closed ended questions. Data analysis was carried out using excel and R programme for statistical computing. The study found that the use of ICT had an effect on the awareness levels of the residents of Thika Sub-county. The study found out that the more residents used the county Website, Facebook page and Twitter the more they were aware of the county government affairs. This paper hopes shed light on the use of ICT by county government to increase public awareness on county affairs. This will help the county government by helping legitimize the policies and legislations they will adopt.

CHAPTER ONE

INTRODUCTION

1.1 Study Background

Access to information is a fundamental pillar for any democratic government. It is important to citizens as it enables them to keep government accountable in how they use taxpayer's money and in all their actions. Access to information also builds the confidence of citizens, therefore, increasing their voice in public policy. Access to government information is a right protected by most of the democratic governments in the world (Bertot et al 2009; Cuillier & Piotrowski, 2009). According to Shuler et al (2010), it also enhances trust for government, and it prevents corruption due to the openness of government. Government provision of information is useful to private and public companies, journalists, as the government provided accurate information that is used to make an informed decision. This information may include population figures and projections of the growth of the economy as well as policy information. Many scholars see access to information as a must because it enlightens all citizens and prevents discrimination and marginalization of some citizens who have to demand their rights. For there to be progress in governance due to access to information, the government has to be open and allow scrutiny by the citizens. The capacity of the citizens has to be at a certain level of awareness for them to be able to make the government accountable (Haider et al 2011).

Access to information is essential for citizens for them to enter into constructive conversation with the government about the decisions made on their behalf. Information on government activities has always been important because it strengthens democracy, enhances transparency and accountability of government and ensures better service delivery. Public participation is a new parameter to evaluate the government. For the citizens participate in public debate access to public information is important.

Many scholars have reached a consensus that public information increases the effectiveness of citizens participating in decision making (Hadden 1981). According to Hourdequin et al (2012), general information is a component of the success of a democratic government. One of the barriers of public participation in public policy according to Hartley and Wood (2005) and Wiklund (2011) is the lack of provision of information by the government to the public. Access

to public information enables the citizens to know policy objective and the alternatives that are disposable to them. They are aware of the process of implementation and the outcomes of the policy decision made. Therefore, they can monitor the government and keep it accountable if they do not follow through on public policy (Hourdequin et al 2012). Thus there is the need by the government to provide comprehensive information to the public to allow them to be involved in governance and to increase transparency (Kramer et al 2011).

Nevertheless, the government may post public information on its website, but that does not guarantee the public will access it. It might be so if the information is there, but the public is not aware of it, or the public does not have the knowledge or expertise to access it and understand it (Hourdequin et al 2012). Digital literacy is important to allow citizens to access information provided by government if ICT is to be effective. According to Parthasarathy (2010) government openness to provide information has to be followed by awareness campaign that teaches the citizens how to locate, understand and use the information.

According to article 35 (1a) of the Constitution of Kenya (2010), an individual has the right access information held by the government. Article 35 (3) outlines that “the state shall publish and publicize any important information affecting the nation.” Since the constitution 2010 established county government, the above articles also apply to the county governments. Under section 95 of the County Government Act (2012), “county governments are required to establish mechanisms to facilitate public communication and access to information. These mechanisms include television stations, information communication technology centers, websites, community radio stations, public meetings, traditional media, and new media.”

1.2 Problem Statement and Research Questions

According to Jaeger et al (2010), the bedrock of any democratic government all over the world is based on government information that is widely disseminated and accessible to citizens. The citizens must be aware of what the government does for them to participate effectively. The United States of America has stayed as a benchmark of democracy all over the world. It has placed great value on the importance of governments to provide information to citizens readily and also give access to media for them to broadcast this information (McDermott, 2008).

Participatory democracy is based on the values of transparency by the government and access to information by citizens. According to Cilbora (2005), the fundamental principle of democratic governance is for citizens to achieve their social, economic and political rights.

According to Cincotta (2008), democratic governments exist to serve people's interest. The best way to do this is to know citizen's interests. The government must provide channels through which citizens can communicate what they feel can improve their lives. The government must listen to the citizens and implement public policies that reflect what they want. Citizens must also be aware of information such as the amount of taxes the government collects to be able to hold them accountable. This information makes citizens effective in public participation.

The public record on the projects and policies that the government is implementing is important to citizens. This information is vital because citizens can challenge the government if they do not deliver. If the information on what the government provides service or good, its quality and the cost are not provided, then the citizens are not able to hold the government to account. In countries where there are two levels of governments, the national government has to keep the local or county government accountable by asking the county or local governments to provide information to them or the public (Khan et al 2008). Governments have to be responsible with taxpayer's money by making budgets and all government expenditure information available to the public. The governments should involve the public in budget making. With this in mind, it is essential for democratic governments to make citizens aware of what they are doing for them. At the same time, some of the things that the government does require citizen participation. For citizens to participate in these activities, they must have credible information. The only sources of reliable information on government plans or activities are the county or national government.

The mechanism used by the government to disseminate this information then becomes critical. The tool used to distribute information is vital because citizen will not have information concerning the services offered. A disconnect exists when this happens between the citizens and government. The citizens will not know what the government is doing, and they will not have the basis to determine if the government is doing the right thing and whether they should give the government another chance come to the next election or vote for another group of leaders. For

the above reasons, information becomes critical. Thus the information dissemination mechanism to vital in this process. Although there are many mechanisms, no systematic study seems to exist that allows us to identify which tool is most effective in disseminating government information.

The lack of a systematic study is understandable partly because it is a new phenomenon since we have just created county governments and we lack a clear understanding of which mechanism is more effective in disseminating government information to the public. Both information that require citizens to participate in the budgetary process, information regarding public legislation and general information that raise people's awareness of government policies and projects. John Dewey (1800) noted that the reason why citizens did not participate in public policy was that there was the barrier of the platforms to be used by the government to disseminate the information. The problem was not that the citizens could not be informed. The study seeks to identify which ICT platforms can the government use to distribute this information.

Therefore the emerging research question is: *How does the use of Information Communication Technology affect levels of awareness of county residents about county affairs?* There are various ICT platforms that county governments can use to disseminate information to residents. These include Website, USSD on mobile phones, Facebook, WhatsApp, and Twitter. This study used Website, Facebook and Twitter since they are popular and have the potential of reaching many people. Hence the specific research questions for this study are:

- (i) How does the usage of Kiambu County *Website* affect the levels of awareness of residents about county affairs?
- (ii) What is the effect of the using Kiambu County *Facebook* on the levels of awareness of county residents about county affairs?
- (iii) How does the usage of Kiambu County *Twitter* affect the levels of awareness of county residents about county affairs?

1.3 Study Objectives

1.3.1 General Objective

To find out the effect of Information Communication Technology on levels of awareness of county residents about county affairs.

1.3.2 Specific Objectives

- (i) To establish how Kiambu County ***Website Usage*** affects the levels of awareness of county residents about county affairs.
- (ii) To find out how Kiambu County ***Facebook Usage*** affects the levels of awareness of county residents about county affairs.
- (iii) To find out the effect of Kiambu County ***Twitter Usage*** on the levels of awareness of county residents about county affairs.

1.4 Justification

1.4.1 Theoretical/Academic Justification

This study is justified on both academic and policy grounds. On academics, the study represents a significant attempt to understand how ICT is a useful tool to enhance public awareness and engagement about county affairs. When people are aware of what the government is doing, then they can ensure that they are getting the services required. This information is then used by the citizens to ask questions about how their taxes are utilized and as a way of detecting any corrupt uses into which their taxes are put. This is critical because corruption is a big problem in Kenya today. Therefore, ICT is a useful tool to improve transparency and accountability in government. Hence, this study will add to the body of knowledge of existing strategies used to reduce and deter corruption in any country. With ICT citizens can report easily any corrupt public official.

The study will try to understand if the use of ICT improves public participation in all levels of government. This knowledge will be valuable in that citizens can keep their leaders on track by quickly engaging them using ICT, thereby, increasing governance. This study will also help to explore if ICT can be a tool to capture the interest of young voters so that they can take part in elections. Most young people aged 18-35 use ICT to communicate with each other and hence if the government uses ICT then probably the youth can be involved in the governance process.

1.4.2 Policy Justification

On policy grounds, this research is helpful to the County officials in the following ways. First, this study will be beneficial to the county government officials because they will know the most effective channel to disseminate information to county residents. The county government could enhance the turnout in this public participation meetings by using the medium that will reach the majority of their residents. Secondly, this study could enable the county government to increase their legitimacy. By providing information concerning the development projects, they are undertaking and also informing the citizens of the services they are offering will make citizens know they are working. Thirdly, since it's the information age, the county government cannot be left behind in using ICT as a tool to engage with citizens especially the youth who are the majority of the population. The youth above 18 years are eligible voters, and through ICT the elected county officials can be able to reach this category of voters by showing them what they are doing and probably these young people will vote for the next elections.

1.5 Scope and Limitation of the Study

This study was carried out in Kiambu County. Kiambu County is one of the forty-seven counties in the Republic of Kenya. It is one of the largest counties, having twelve sub-counties, hence suitable to understand the effects of ICT on level of awareness of Kiambu County residents. The Kenya Population and Housing Census (2009) projected the Kiambu County population to be 1,766,058 by the year 2012. According to Kenya National Bureau of Statistics (2017) Kiambu County is the richest county in Kenya and its one of the county's with the highest literacy levels. For an in-depth understanding, the study narrowed down to Thika Sub-County, which is one of the twelve Sub- county located in Kiambu.

Thika Sub - County was fit for the study as the same characteristics of the County are seen in the Sub-County. These characteristics include the high literacy levels due to the high education standards and endowment of its residents with financial resources. These literacy levels translated to the residents being able to use ICT and the high living standards enabled residents afford ICT gadgets and internet bundles. Moreover this sub-county once housed the county headquarters therefore the county government had setup the ICT infrastructure. Thika is also near to Nairobi which is the capital county, hence the sub county has a good network coverage.

The good network coverage enabled the residents of Thika to use mobile phone if they do not have computers. If the study used a sub-county in Turkana County then most residents would not use ICT because of poor network coverage.

The study will encounter the challenge of finances due to the high cost of materials and the cost of transport. The time allocated for the research is three months hence posing a time constraint that may limit the study in terms of the collection of information from the citizens. One of the challenges not foreseen before the study was getting respondents who used Facebook, Twitter, and Website to connect to the county government. On the field, I found it hard to get respondent who used either Facebook, Twitter or Website to connect to the county government. This prolonged the time taken to collect information. This study will be limited to only cover the county's Website, Facebook page, and Twitter handle as they are the most popular ICT tools (Evans-Cowley & Hollander, 2010; Williamson & Parolin, 2012).

1.6 Literature Review

In research there are two ways to address the literature review. The first is to have a broad overview of past research findings or have a specific overview in line with the study objectives. Due to the nature of this study the study took a broad approach to literature review. This is because much of literature in ICT is general and does not address the different ICT platform individually. The study was not able to find literature specific to Website, Facebook and Twitter hence the study looked at global perspective on government use of ICT then looked at the African perspective and finally looked at the Kenyan perspective.

1.6.1 Government use of ICT: A Global Perspective

Khan et al. (2008) observe in their study in Pakistan that for improved access to information by citizens, there should be a collaborative initiative between the non-governmental organizations and the state government. They noted that different NGO's were working in collaboration with local governments to organize forums where public servants, NGO's staffs and citizens would deliberate on ways to increase and improve public access to information. The authors looked at how to involve non-state actor in enhancing access to information, but they did not look at the channels used to disseminate government information. This study comes in, to look at the channels used to disseminate government information to enhance the levels of awareness of

residents. Their study looked at the local government in Pakistan, but this research will look at County governments in Kenya.

Bachstein (2015) argues that as far as the government wants to provide information to its citizens, it has to do so in a cost-effective way that does not expose the governments' secrets. He also argues that citizen awareness of what the government is doing is vital for them to trust the government and to participate effectively in governance. Bachstein notes that Information dissemination and understanding is no longer a top-down concept, and the government needs to know how their citizens want to communicate and interact with them. He observes that government tweets are worked on for its audience. Government tweets are usually funny or informative, or they are a retweet from another agency. Bachstein study was located in the United States of America, and he looked at the national government disseminating information. This research is different as it is located in Kenya and will look at the effects of ICT on the awareness levels of residents of county government.

Bertot et al (2012) observe that ICTs offer countries a new method to prevent corruption and increase transparency and accountability. Most states have linked their transparency laws with the implementation of E-government strategies. Bertot et al (2012) argue that ICT promotes good governance, and strengthens reform-oriented initiatives. ICT reduces corruption, and it allows the citizens to monitor government as it carries on its activities. They note that ICT is used by the government to control and monitor the behavior of its official. They emphasize that citizen's attitudes towards ICT can hinder it from being an effective tool to stop corruption. Bertot et al (2012) study looked at how ICT is a new and important strategy that promote integrity and transparency in the government. This study seeks to find out what how effective is ICT affect the awareness levels of residents in county government.

Magro (2012) argues the only way to understand how social media can be used effectively by the government is by looking at each government individually. When any government is using social media to disseminate information, they have to look first at their environment, their structures, and their citizens. Therefore there is no one way to implement social media as a tool to disseminate government information. Magro concludes that there has to be an overall change is

how the government has been handling information dissemination. The staffs are trained on how to operate the new modes of communication and move away from the normal responsibilities of enforcement and regulation. This study is different as it seeks to find out how effective is ICT when used by the government to disseminate information. This research will be carried out in Kenya and will focus on the effect of ICT on awareness levels of residents of Thika sub-county.

1.6.2 Government use of ICT: An Africa perspective

Ochara (2012) argues that for the sustainability of government use of ICT in Africa, the government should consider the capacity building of all public servants and the citizens at the grassroots. He explains that digital literacy should be packaged in local languages to improve acceptance. That ICT education should embrace digital literacy at all levels in the society. Ochara continues to argue that attaining digital literacy can be enhanced by including relevant content to instructors and in the education curriculum. The author emphasizes the actors or stakeholders electronic literacy but does not address the effectiveness of the channels used to disseminate government information. This research will fill this gap in finding out how effective are the channels used by the government disseminating government information and their effects on the awareness levels of residents. This study is different because it will be looking at the effects of ICT on the awareness levels of residents of Thika sub-county, Kiambu County. This study will use primary sources of data while the above study used secondary sources of data.

Vivier et al (2015) argue that understanding public preferences in South Africa will assist government to strengthen its communication approaches and broaden the reach and effect of its communication tools. They continue to argue that a differentiated approach, utilizing the full range of media options, is important for reaching a diverse populace, and for addressing issues and patterns of exclusion. Understanding the nuances of such differences enables more targeted campaigns tailored to the specific needs, interests, and capacities of particular cohorts (e.g., youth, urban or rural dwellers). The authors, however, have not looked at how effective are the tools the government used to disseminate information. This research comes in to fill the gap in how effective are the tools used by the government to disseminate information. The authors did their study in South Africa while this study will focus on the County governments in Kenya. This study will also look at the effects of ICT on the levels of awareness of residents of Thika.

Munyoro and Dick (2015) observe that there is a challenge encountered by the parliament of Zimbabwe when it comes to disseminating the information they have. They note that there is a need for diversification of channels used by parliament to disseminate information effectively. They also advocated for continuous promotion and awareness of the various channels that Parliament uses to disseminate information. Munyoro and Dick, however, do not look at how effective are the channels being used to disseminate this information. This study seeks to fill the gap in how effective are government information disseminating channels. Their research looked at how parliament disseminating information but this research will look at how county government disseminates information. The above study was based in Zimbabwe, and this research is based in Kenya. This study will also look at how the use of ICT affects the awareness levels of residents of Thika Sub-county in Kenya.

Twinomurinzie et al (2012) observe that ICT can create shared spaces and forums where citizens can interact with the government, but this can be effective if it's incorporated as an essential part of society. They noted that South Africans were still uneasy with interacting with the government because of the apartheid regime that existed in the past. Nevertheless, there was an improvement in South Africans attitude as they felt ICT gave them an avenue to express themselves freely and they felt their ideas were appreciated. Their study was carried out in South Africa, and it looked at how ICT was used by the government to engage with citizens. This research is different as its being done in Kenya and is looking at the effectiveness of channels used by the county government to disseminate government information. This study will focus on the effect of ICT on awareness levels of residents of Thika, Sub-county Kiambu County

Kariuki (2009) notes that with the emergence of Information Communication Technologies, new opportunities for communication with government are also emerging in South Africa. These range from municipal websites to mobile applications and social media platforms. Citizens and government have both increasingly started to use these tools to communicate and interact with one another. Government efforts to expand access to ICTs, and to market government services through ICTs, especially into rural areas, have largely taken the form of community centers called Thusong Service Centers (TSC) or Digital Community Hubs (DCHs). According to his

study, the hubs provide computers for people to access information related to business, government, education, banking and they are also expected to enhance the capacity of communities in utilizing ICTs. The above study looked at the opportunities that ICT has availed to the South African government, but this study will look at the efficacy of ICT in disseminating county government information. The above research was done in South Africa while this study will be carried out in Kenya. The research will look at the effects of using ICT on the levels of awareness of residents of county governments in Kenya, specifically in Thika sub-county.

1.6.3 Government use of ICT: A Kenyan perspective

Njuru (2011) notes that the government of Kenya has not initiated awareness campaigns on the use of E-government to its citizens. In her study on the government formulation and implementation of public policy, she notes that the government did not provide information on the services they were offering using technology. She observed that in Kenya, E-government is not popular because of lack of technological skills and apathy among citizens and government officials. She continues to argue that in Kenya there is a lack of accountability and transparency when it comes to how these resources are utilized. Njuru (2011) adds that there is an opportunity that can be used by Kenyans in diaspora to participate in public policy through E-government. This study seeks to add on the body of knowledge on how ICT can be used to enhance public participation in public policy. This research will look at the effects of ICT on the awareness level of Thika Sub-county residents and the effectiveness of ICT in disseminating county information.

Okong'o (2008) observes that there are key things that determine the effective implementation of E-government projects in Kenya. One of the factors is the commitment and leadership of the senior management of agencies. They provide the support and direction which other employees follow. The second factor is the budgetary allocation. All ICT projects require huge finances to establish because technology is not cheap. The third factor according to Okong'o (2008) is forging viable public-private partnerships which will increase the investments of the E-government projects. The fourth factor is providing a regulatory framework that will guide how these private-public partnerships are formed and run. The fifth factor is the recruitment and training of ICT staff. About this, the government should look at the remuneration and compensation of the ICT staff to prevent staff turnover. The sixth factor entails the government

adopting enabling legislation that will support and facilitate online businesses that can use online signatures. The last element is the monitoring and evaluation system. This system will allow the government to evaluate if the outcomes they intended to see have been accomplished and to see if there is an impact of the e-government project. The above study looks at the factors critical to the implementation of an E-government project while this study looks at the channels the government uses to disseminate information. The research was done at the national level, but this study will look at how ICT is used by county governments to disseminate information. Additionally, the study looks at how ICT usage affects the awareness levels of Thika residents.

Netchaeva (2002) cite transparency and accountability, improved efficiency and democracy as some of the benefits accrued by developing countries like Kenya when they are adopting E-government. E-government also lowers the cost of administration, and it increases the convenience of accessing government services. Netchaeva and Silcock argue that these benefits are realized because the citizens can engage with the government through ICT which improves the efficiency of delivering public services. Secondly, corruption is reduced because there is limited contact between the citizens and public officials. Thirdly there is equal opportunity for everyone. Due to regular monitoring of public officers, then transparency and accountability are also ensured. Fourthly, because ICT is used to deliver services, the red tape in government offices is reduced. The fifth benefit of E-government is that it allows government agencies to share information easily. When government agencies share information, they cut the operational cost, and they save time. This also improves the quality of service. This study is different from the above as it looks at ICT channels used by county government to disseminate information. The study will also look at the effect of ICT on levels of awareness Thika residents.

Gathugu and Mungai (2012) argue that there are contextual factors that affect the successful implementation of E-government strategies in Kenya. They argue that there is a need for sustainable organizational changes which would enhance the performance of the Kenyan public sector. Gathugu and Mungai note that there are great strides and good performance of the government regarding internet diffusion. However, the government has not yet successfully implementing the E-government initiatives. Therefore they argue that just having an E-government strategy does not guarantee successful implementation at the grassroots. Hence there

is a need for contextual changes in the entire public sector. Gathugu and Mungai look at how ICT is important in transforming the public sector in Kenya. This research seeks to add the existing body of knowledge as to which ICT channel is most effective in disseminating government information. This study looked at how county government disseminates information and what are the effects of using ICT on the awareness levels of residents of Thika Sub- County.

The Ministry of Information and Communication (2013), assert that ICT can help the economy to realize the aims of Vision 2030 in several ways. First by lowering transaction costs and improving efficiency which in turn will enhance Kenya's competitiveness on the global stage. Secondly, ICT will reduce corruption in government offices and will improve security through updated surveillance methods. Thirdly ICT will provide greater access for ordinary Kenyans to information from around the world, therefore, enhancing education methods and enhancing employment opportunities, particularly among young people. In striving to make Kenya globally competitive, the Ministry of Information and Communication (2013) contends that the aggressive introduction of ICT will serve to enhance efficiency and improve the levels of awareness of citizens, therefore, legitimizing public policy. This study is different in that it will look at the awareness levels of the residents of Thika Sub-county.

1.7 Theoretical Framework

A theoretical framework gives the context in which a research problem is to be investigated. It is the lenses through which you look at the research problem being investigated. This research used the Structuration Theory which was developed by Antony Giddens in 1976. It was adapted to aid in the study of ICT use in organizations by Orlikowski in 1992.

1.7.1 Major Assumption of Structuration Theory

According to Orlikowski (1992), Structuration encompasses the symbiotic interaction between human actors and organizations. One of the prepositions of this theory is structuration which refers to the ongoing, persistent and routine moments during which society and the individual are created and recreated during interaction. Second proponent is duality of technology which means that ICT is a creation of human actions and through its use it changes human interaction. The social structure has current ways of how people should behave is the third proponent. The system

has its way of ensuring stability. The expected way of behavior already present in the system, and an environment based on the respect of authority for each other provides order in the system. In the case of government usage of ICT, structuration is seen to involve the government, ICT and the citizens. The relationship between government and citizen is traditional, but with ICT this relationship is altered. The government is forced to change its structure to interact with its citizens adequately. The structures that the government changes include the laws and regulations it has, to accommodate ICT. The Government continues to feel the pressure to adjust and to accommodate ICT so that it can maintain a good relationship with its citizens. The reason the government does this is to maintain legitimacy in the eyes of its citizens (Layne and Lee, 2001). According to Dean (1999), the government will continue restructuring itself because technology is changing every day and the citizen's demands are still evolving. The government has to think of how to use new ICT platforms to get information out there to its citizens.

1.7.2 Application of Structuration Theory to the Study

Structuration theory is useful for this study in that it explains the relationship between the citizens and the government citizens which is altered by ICT. Government and in this case County government of Kiambu will continue to see the need to change its structures to maintain an essential relationship with its citizens. New regulations have to be adopted, and new structural changes are carried out in government to ensure that usage of ICT is successful. The theory helps explain the use of ICT in this case Website, Facebook and Twitter by the government to effectively deliver information to its citizens.

1.8 Study Hypothesis

1.8.1 General Hypothesis

The use of Information Communication Technology enhances the levels of awareness of the residence of Thika Sub-county.

1.8.2 Specific Hypothesis

- (i) The use of Kiambu County *Website* increases the levels of awareness of the residents of Thika sub-county.

- (ii) The use of Kiambu County *Facebook* raises the levels of awareness of the residents of Thika sub-county.
- (iii) The use of Kiambu County *Twitter* enhances the levels of awareness of the residents of Thika sub-county.

1.8.3 Operationalization of Independent and Dependent variables

This section operationalizes the independent and dependent variables derived from the hypothesis. Table 1.1 shows the variable types, variable names, specific variables and the observable indicators. The dependent variable for this study was the levels of awareness of County affairs and the independent variables were Website usage, Facebook usage and Twitter usage. The observable indicators for the dependent variable was awareness of county policy, legislation and public participation forums. The independent variables were the frequency of visiting the County Website, Facebook and Twitter.

Table 1.1: Operationalization of Independent and Dependent variables

Variable Types	Variable Names	Specific Variables	Observable Indicators
Dependent variable	Levels of awareness of county affairs	Levels of awareness of county affairs	Awareness of County government policy and legislation Awareness of County public participation forums
Independent variable	Usage of ICT	Website Usage	The frequency of visiting the county Website
		Facebook Usage	The frequency of visiting the county Facebook page
		Twitter Usage	The frequency of visiting the county Twitter handle

1.9 Methodology

1.9.1 Research Design

According to Tayie (2005), research design is the logical structure of inquiry or the logic to apply while doing research. The study used a cross-sectional research design because the study

had a larger scope. Cross-sectional research design allowed the study to be done in the allocated time which was the 2016 - 2018 financial years. The county governments started operations in 2013 hence by 2016 the ICT structures were fully in operation. The second reason why these years were selected was to capture the levels of awareness of residents before the election held in 2017 and after the election. This is because information about county affairs is important when choosing leaders of Thika Sub-county and overall Kiambu County.

1.9.2 Data Collecting Techniques

1.9.2.1 Study Area and Population.

In the Republic of Kenya, there are 47 counties and Kiambu County is one of them. It is one of the largest county having twelve sub-counties. The location was deemed ideal for the study due to the deliberate policy of the county to use information technology to disseminate government information. According to a recent study by the World Bank (2015), Kiambu county ranks as the richest county in the Republic of Kenya with a GDP per capita of \$1785 this translates to the majority of its citizens being able to access the internet. Kiambu county is neighboring the county of Nairobi, hence has the infrastructure needed for ICT to thrive. Kiambu County ranks high in levels of education as well as the economy. According to the Kenya National Bureau of Statistics (2013), 88% of the population in Kiambu County has formal education. The above statistics translate to higher literacy levels in the county. The same survey found that 75% of the population lives in cemented floor houses. The data indicates that most of the residence of Kiambu living above the poverty line. Therefore the number of people able to access the internet is fairly well distributed in the county. These features are shared by Thika Sub-county. Hence, the county is suitable for testing the effectiveness of ICT in disseminating county government information and how ICT usage affects levels of awareness of residents of Thika Sub- County.

1.9.2.2 Sampling Techniques and Sample Size.

In research, population refers to individuals in the universe who possess specific characteristics. The study population used was Thika sub-county. The study used purposive sampling to select the sample because it contained most characteristics and typical attributes of the population. Thika Sub County is one of the sub-counties with highest literacy levels, and it's the largest in Kiambu County (Kenya Population and Housing Census 1999).

Simple random sampling without replacement was utilized, to select three wards in Thika Sub County that were used to undertake the study. These wards were Kamenu ward, Hospital ward and Township ward. The study also used multiple stratified sampling. The first stage of multiple stratified sampling was to divide the sample size according to the three selected wards. The second stage of sampling was to divide the respondents according to the three ICT platform being tested. The final stage of sampling was to divide the sample size according to gender. Gender was important in this study because gender inclusivity and gender balance are issues that cannot be ignored in policy making in Kenya. Snowball sampling method was further used to get the respondents who used the website to get county government information. Thirty respondents were selected to take part in the study. They represented those people who used ICT to connect to the county government of Kiambu. One respondent was interviewed for one form of ICT.

The study used the survey method of data collection. A survey is important since it enables quantitative data to be collected in a standardized way so that the data are internally consistent and coherent for analysis. Data collection for this study was done using structured questionnaires. The questionnaire was used to get information from respondents for each ICT platform. The questionnaire included ten questions that evaluated levels of awareness of Thika residents. The questionnaires were administered through face-to-face interviews. The entire process of collection of data took place during the month of March 2018.

1.9.3 Data Analysis Techniques

Data analysis was done using quantitative methods of analysis. The collected data was cleaned, coded and analyzed quantitatively using both MS Excel (2013) and the R program for statistical computing. Ordinary Least Squares Regression was used to perform an in-depth analysis of the relationships between the dependent and each of the independent variables. The results from the questionnaires were analyzed to determine the respondent's views concerning study objectives and research questions. The research findings are presented using regression tables and a variety of graphical display of results including graphs, pie charts, *xy* plots and *Spine* plots.

1.9.4 Ethical Considerations in the study

This study took in to account various ethical considerations while carrying out the research. The first ethical consideration was to minimize the harm to respondents. The study ensured that the interviews were not done at the road side to prevent respondents from being ran over by vehicles. The research also did not ask any questions that would embarrass the respondents in any way (see appendix I). While collecting data respondents were assured that their responses were confidential and were to be used for the sought purpose. Anonymity as an option to withhold the identity of respondents was well clarified. When doing data analysis and presentation of the findings the anonymity of the respondents was maintained. The respondents were well informed of the option to withdraw at any moment of the interview if they felt the need to.

CHAPTER TWO

HISTORICAL AND CONTEXTUAL BACKGROUND TO THE STUDY

2.1 Introduction.

This chapter is divided into several sections. The first section will discuss the area of study which is the Thika Sub- County. In this section the location, demographics and population ,social economic features, literacy levels , administrative units and political units of Thika are discussed. The second section will discuss the use of ICT by the government to disseminate information to citizens to raise the awareness levels of citizens. This section discusses the evolution of government use of ICT and public awareness in Kenya and the policy and legal frameworks that guide the use of ICT by the government of Kenya.

2.2 The Dynamics of Thika Sub County

2.2.1 The Geographical Location of Thika Sub County

Thika Sub-County is one of the twelve Sub-Counties that form Kiambu County. It lies between latitudes 3° 53' and 1° 45' South of Equator and longitudes 36° 35' and 35° and 37° 25' east. It borders Nairobi County to the South, Kiambu Sub County to the West, Maragua Sub County to the North and Machakos County to the east. Thika Sub County has a total area of 453.6 KM². (Ministry of Devolution and Planning, 2013, See Appendix II).

2.2.2 Population and Demographics of Thika Sub County

According to the Kenya National Bureau of Statistics (2013), the population of Thika Sub-county is 159,979. According to World Population Review (2018) the population of Thika Sub County is projected to be 200,000. The above figures are influenced by the country's high population growth rate, which is at 2.81 percent and the influx of people working in Nairobi city who prefer to stay in Thika and its environs where there is less congestion and good infrastructure.

Table 2.1 Population and Demographics

Ward	Total population	Male	Female
Township	159,979	18,944	18,429
Kamenu	73,393	36,613	36,780
Hospital	23,770	11,519	12,251
Gatuanyaga	14,109	7,203	6,906
Ngoliba	11,334	5,922	5,412

Source: Kenya National Bureau of Statistics, 2013

2.2.3 Social - Economic Features of Thika Sub County

(i) Economic Features

Agriculture is the dominant economic activity in the county and contributes 17.4 percent of the county's income. It is the leading sector regarding employment, food security, income earnings and overall contribution to the socio-economic well-being of the people. The county is divided into four topographical zones, namely, Upper Highland (UH), Lower Highland (LH), Upper Midland (UM) and Lower Midland zones (LM). Annual rainfall varies between 600mm to about 2,000 mm while temperatures range from 70 C to 340 C in the Upper Highlands to the Lower Midlands. Majority of the people in the county depend on agriculture for their livelihood, with 304,449 directly or indirectly employed in the sector.

According to the World Bank (2015), Kiambu County is the richest county with a Gross Domestic Product (GDP) per capita of \$1,785. The survey also found that Kiambu is the second-largest contributor to the national wealth basket with 11.1 percent. Thika Sub County contributes largely to the wealth of Kiambu County. This is because it largely industrial and has a booming real estate sector that houses a significant portion of Nairobi's workers. Thika Sub county has the following economic industries; Farming, Food Processing, Manufacturing (Leather), Mining (Carbacid), Textile (Cotton), Motor Vehicle Assembly, Wholesale and Retail trade. Pineapples, Tea, Coffee, Wheat, Macadamia Nuts, Poultry, Horticulture, Dairy, and Fish The main storage facilities of the food crops in the sub-county, are the National Cereals and Produce Board silos, on-farm storage, granaries as well as in-house storage. According to the Kenya National Bureau

of Statistics (2017) 24.2% of the population in Kiambu lives below the poverty line. This means that the poverty levels for Thika are generally low compared to the rest of the country.

(ii) Literacy Levels

The literacy levels of the county are the highest in Kenya. According to Kenya National Bureau of Statistics (2017) 95.6 percent of the residence of Kiambu can read while 3.8 percent cannot read. The study also showed that 95.2 percent of the residents of Kiambu could write while 4.2 could not. Finally the study found out that 95.4 percent of the residents of Kiambu could read and write while 4.6 percent could not read and write. The high literacy levels are because of the constant investment in the education sector. Since the investment in education is in the whole of Kiambu County then the literacy of Thika are deemed to be also high.

2.2.4 Administrative and Political units

(i) Administrative units

Thika Sub County has four divisions, 9 locations, and 18 sub location. Table 2.2 shows the number of administrative units in Thika Sub County.

Table 2.2: Administrative units

Administrative Units	Number
Division	4
Locations	9
Sub location	18

Source: Kiambu County Integrated Development Plan, 2013

Table 2.2 shows the number of divisions, location, and sub-location that Thika sub-county has.

(ii) Political units

Thika Sub County has one constituency called Thika Town constituency. The constituency has four wards. The wards are namely Township Ward, Kamenu Ward, Hospital Ward, Ngoliba ward and Gatuanryaga Ward. Table 2.3 shows the wards in Thika Sub-County.

Table 2.3: Political units

Ward	Area (Km²)	Number of Registered Voters
Township Ward	38.30	42,807
Kamenu Ward	40.00	51,497
Hospital	12.80	32,284
Ngoliba Ward	44.40	9,273
Gatuanyaga Ward	82.10	11,462

Source: Kenya National Bureau of Statistics, 2013

2.3 Government use of ICT

2.3.1 Evolution of Government use of ICT and public awareness in Kenya

The government of Kenya formed the ICT authority in its plans to adopt ICT and offer digitized services. The ICT Authority is mandated with rationalizing and restructuring the management of all the government ICT functions (ICT Authority, 2013). The state corporation implements ICT principles in government and boosts the regulation of its electronic communication. The digital initiatives that the government has commenced include issuance of new generation digital identity cards. The identity card which are results of registering personal information with the government are linked to other government departments like the Kenya Revenue Authority and the immigration department (Mutegi, 2014). The cards are a strategy for security which is aimed at improving the process of identification and providing an accurate registration of person database. With the aim of rooting ghost workers who used to get double salaries from various ministries or get salaries from the civil service yet they no longer worked there, the government adopted biometric registration of workers (Obwocha, 2014). These strategies were aimed at saving the national and county government and reduce the huge wage bill.

The Kenya Revenue Authority launched iTax which is a fully integrated automated solution for the administration of domestic taxes. The web supported platform provides internet-based registration of taxpayers, filing of taxes, and status inquiries with immediate account monitoring (Kuria, 2015). The Kenyan government also launched an e-procurement system which is

expected to boost relationships with providers by providing easy admission to documentation and making the bidding process simpler while providing elaborate audit trails and identification of originator of all transactions (PSCU, 2014). The government's Huduma centers provide services and information from one-stop shops through integrated technology platforms. The public can get birth certificates, national identity cards, passports, registration of business names, and applications for marriage certificates, drivers' licenses, police abstracts, EACC clearance certificate, NHIF registration, NSSF member statements, and registration of welfare groups, status of pension claims, student loan application and other services (MyGov, 2015).

The Konza technology park is another initiative that shows that the government is keen on technology adoption. The technology city will be on a 5000-acre site, and it will host a business process outsourcing park, Science Park, convention center, mega malls, hotels, international schools, and world-class hospitals, Championships Golf Course, Financial District, High-Speed Mass Transportation, and Integrated Infrastructure. The park's primary objective is to promote the acquisition and usage of ICT and promote good ICT governance (Anthopoulos, 2015). To enhance security, the government of Kenya embarked on the installation of surveillance cameras in Nairobi and Mombasa. The project has led to setting up of a central command center, laying of network infrastructure and installation of 1800 CCTV cameras, 7600 new police phones and 600 vehicle mounted systems (Mulligan, 2011).

Under the ministry of education, the government has rolled out various initiatives to enhance service delivery in the provision of quality education. Key among them is the introduction of laptops as a teaching and learning tool in the public primary school system. The project involves the issuance of laptops to all class one children, digitizing the school curricula and training teachers on the new curricula. Through the project, the government seeks to incorporate ICT to support and enhance attainment of curriculum objectives, improve the appropriate competencies including skills, knowledge, attitudes, and values, and manage education effectively at all levels. The goal is to come up with an educational system that is strongly oriented towards producing citizens who are comfortable and productive in a hi-tech world (Denvir, 2014). In the health sector, the government has partnered with various institutions to roll out initiatives to improve access to healthcare. It has for instance partnered with Merck and kicked off e-diagnostic and

consultation clinics at Kenyatta National Hospital in Nairobi County and Machakos Level 5 Hospital in Machakos County. The e-health platform allows patients and healthcare providers in remote areas through the use of IP and video conferencing to interact with specialists at Kenyatta Hospital to extend healthcare reach to remote areas (Ogara and Odhiambo-Otieno, 2003).

2.3.2 Policy and Legal Framework on Government Use of ICT

Research that has been done in Kenya indicates the country that 10.2 million people are internet users in a population of 42 million (CAK 2012). Internet penetration in the country is still low. According to the Communication Authority Kenya, the low internet use is attributed to lack of infrastructure, lack of relevant content and low literacy levels. According to International Data Corporation, challenges hindering users from accessing internet include high cost of accessing the internet despite the government trying to foster an enabling environment for competition in the industry and the reduction in the cost of bandwidth and connection costs (Telecom, 2016).

The government of Kenya has come up with initiative meant to provide data to its citizens. This initiative is called Open Data Initiative. The other programmes involved in citizen's access to information include the Freedom of Information and Right to Information programmes. These programmes entails the citizen's action to get data from the government. Open Data Initiative by the Kenyan government entails the government providing the data to the citizens before they enquire for it. According to the Kenya ICT Board (2014), it encourages citizens to use data provided by the government which is more reliable. The Ministry of ICT and the Kenya ICT Board developed the Digital Villages project which aimed at promoting digital inclusion. The digital villages were connection and e-service delivery projects. The objectives of the villages were to enhance the type and quality of information and give to citizens, to improve connectivity of citizens to the internet, to enhance service delivery and transparency by government.

The government of Kenya has developed several policies and law that govern its ICT use. These include National ICT Policy and Strategy which is meant to promote economic growth and reduce poverty in Kenya. Others are Freedom of Information Policy, the Electronic Transactions Act and E-Government Strategy. This legislation emphasizes the importance of ICT to enable the government achieve Vision 2030. Kenya has over the years been referred to be Africa's ICT hub

by major Multinational Corporations (MNCs) outside South Africa. To strengthen public-private partnerships, the Kenyan Government has increased partnerships with the Kenya ICT Federation, institutions in the banking sector and Multinational Corporations (National ICT policy 2006).

ICT infrastructure has not been left behind with the commencing of the regional projects like the Eastern Africa Marine Cable System (TEAMS) and the EASSY cable. The National Fiber Optic Backbone Infrastructure (NOFBI) is one of the projects initiated in Kenya. These projects are funded by the World Bank, the Kenyan government, a consortium of international and local multinational corporations and the private sector (CAK, 2012). COMESA has embarked on an ICT project known as the COMESA Telecommunications Project (COMTEL). The project was aimed at improving the coverage of internet and reducing the cost of communication among the member states of COMESA (MOICT, 2013). ICT infrastructure projects are huge and capital - intensive hence the government of Kenya explores financing options like public-private partnership, bilateral financing from countries like United States and multilateral financing from the European Union. The government also accesses funds like the Digital Solidarity Fund and the Universal Access Fund. The government also promotes investment by liberalizing and licensing more operators (MOICT 2013).

According to Håndværksrådet, (2006), there are reasons that prevents the distribution of internet. These factors include high computer illiteracy and lack of access to capital for entrepreneurs willing to invest in the underserved areas. According to Kenya Power and Lighting Corporation (2007), lack of access to electricity hinders connectivity to man citizens in Kenya. These factors hinder the establishment of Internet infrastructure by the 78 licensed operators in Kenya. According to Muganda (2008) only 35 of the licensed operators are operating. The Kenyan government through CAK has been unable to come up with policies and strategies to remove the barriers the country experiences in the ICT sector. These hindrances have brought about an internet coverage favors urban settlements, while the rural areas and some portions of urban population continue isolated. According to Mitullah and Waema (2007) the uneven development in internet diffusion has been due to the lack of ICT being a priority agenda during the initial stages of internet commercialization. The bureaucratic structure of the Kenyan government is also a hindrance. The other major factor that hampers internet diffusion is the lack of the

Ministry of ICT and the Directorate of E -government not fostering a favorable environment for internet connectivity. The ministry of ICT is mandated in ensuring universal access to while the Directorate of E- government is tasked with integrating ICT in projects. The Kenyan citizens are also apathetic to universal internet connectivity hence they do not pressure the government to improve internet connectivity in the country.

CHAPTER THREE

STUDY FINDINGS AND DISCUSSIONS

3.1 Introduction

This section focuses on data analysis, interpretations, and presentation. The results are presented on the effect of the use of ICT on the levels of awareness of residents of Thika Sub-county. Specifically, the study sought to establish the impact of use of county website, county Facebook and county Twitter handle on the levels of awareness of Thika residents. The chapter covers the respondent's background information, and the findings based on the study specific objectives. The rest of the chapter is organized as follows. Sub-section 3.2 discusses the study response rate. This is followed by a discussion on respondents' demographics, notably gender, age and education. The next subsection provides univariate analysis of data relating to the dependent variable (Levels of awareness of county affairs). This is followed by univariate analysis of data relating to the independent variables (usage of county Website, county Facebook and county Twitter). What follows this are a series of correlation analysis seeking to establish the relationship between the dependent and independent variables outlined above. The Chapter ends by putting the findings together and drawing conclusions from the findings.

3.2 Response Rate

The study targeted 30 respondents from Thika sub-county. The study further stratified the respondents to two groups based on their gender. The study questionnaire was administered to fifteen males, and fifteen female's respondents and the outcomes are as indicated in Table 3.1.

Table 3.1: Response Rate

Respondent	No. of respondents
Targeted respondents	30
Actual respondents	30
Response rate	100%

Source: Research data, 2018

The response rate as shown on table 3.1 was 100% respondent. This was because the questionnaire was administered on the spot ensured that all respondents did not postpone answering the questionnaire. This also enabled the respondents to seek clarification on any issue they encountered while answering the questionnaire.

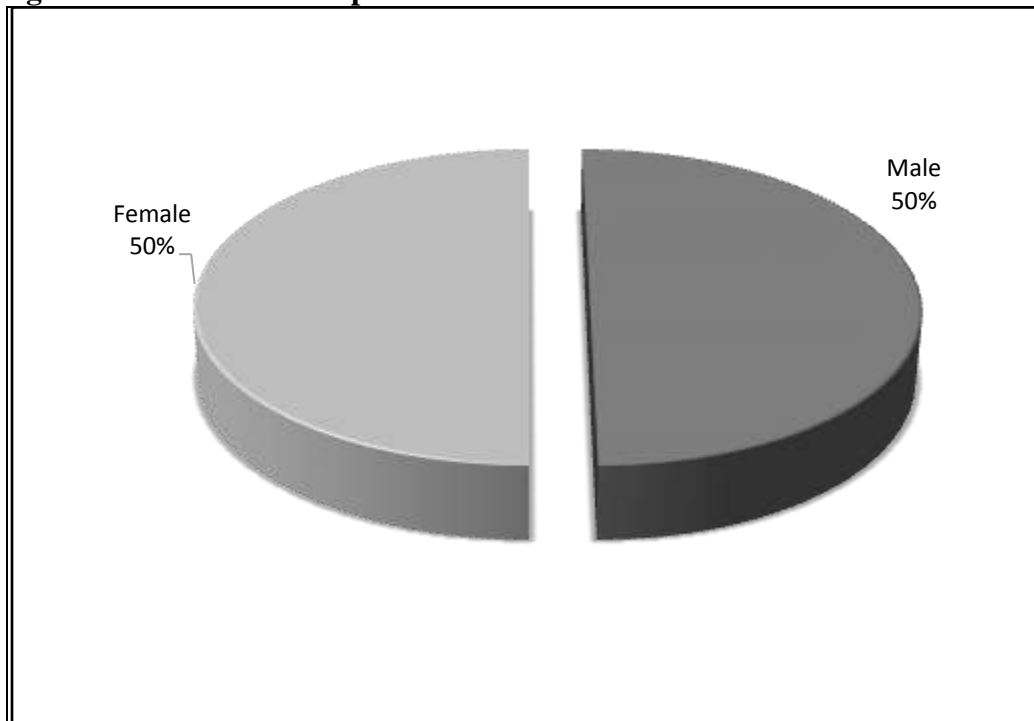
3.3 Respondent Demographics

The study sought the respondents' background data including; gender, age bracket, and education level. This was important because it enhanced the reliability of the information given and gave a basic understanding of the respondents.

3.3.1 Respondent Gender

The study sought to establish the gender of the respondents of the Thika sub-county. Figure 3.1 shows the findings of this study.

Figure 3.1: Gender of Respondent



Source: Research data, 2018

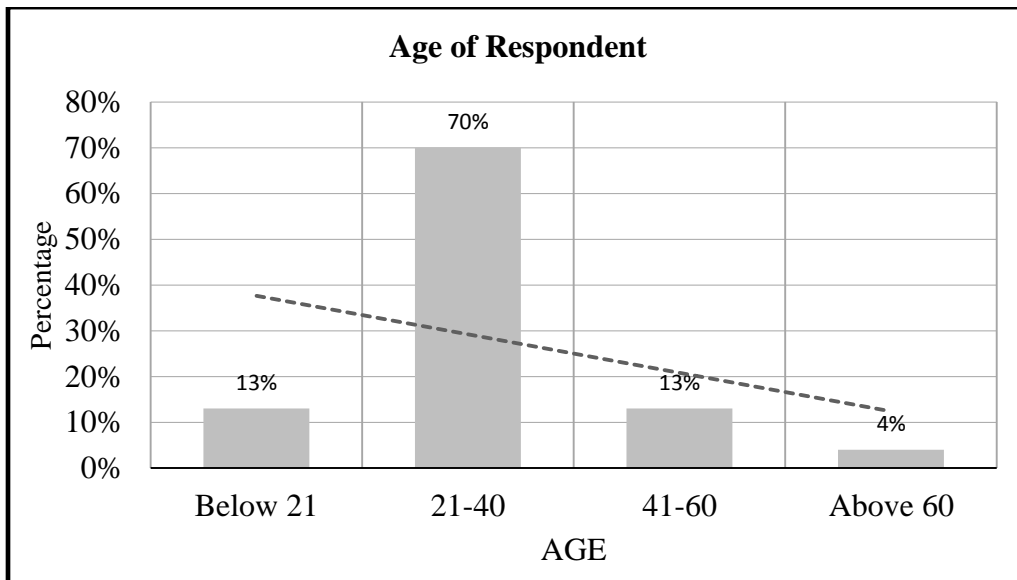
Figure 3.1 shows that 50% of the respondents were male and 50% were female. Gender balance and inclusivity are vital factors to consider during public participation. For active public

participation, both genders are expected to be equally represented to ensure that all interest and needs are heard. According to a World Bank (2003) women involvement in policy and politics has always been low therefore the interest in making sure that women participate in the study. The study wanted to find out if they get information on the county but choose not to participate, or they do not get information at all.

3.3.2 Respondent Age

The study sought to find out the age of the respondent. The researcher decided to divide the respondent's age into different reasonable ranges from below 21 to above 60 years. Figure 3.2 shows the findings of the study. Figure 3.2 shows normal bars for each age group as well as the trend line. The height of each normal bar shows the frequency with which that age group appears in the sample. The trend line shows the general direction in which the data seems to move. In this case there are more young people than older people and that is why the line is sloping downwards. This interpretation also applies to figures 3.3 and 3.4.

Figure 3.2: Age of Respondent



Source: Research data, 2018

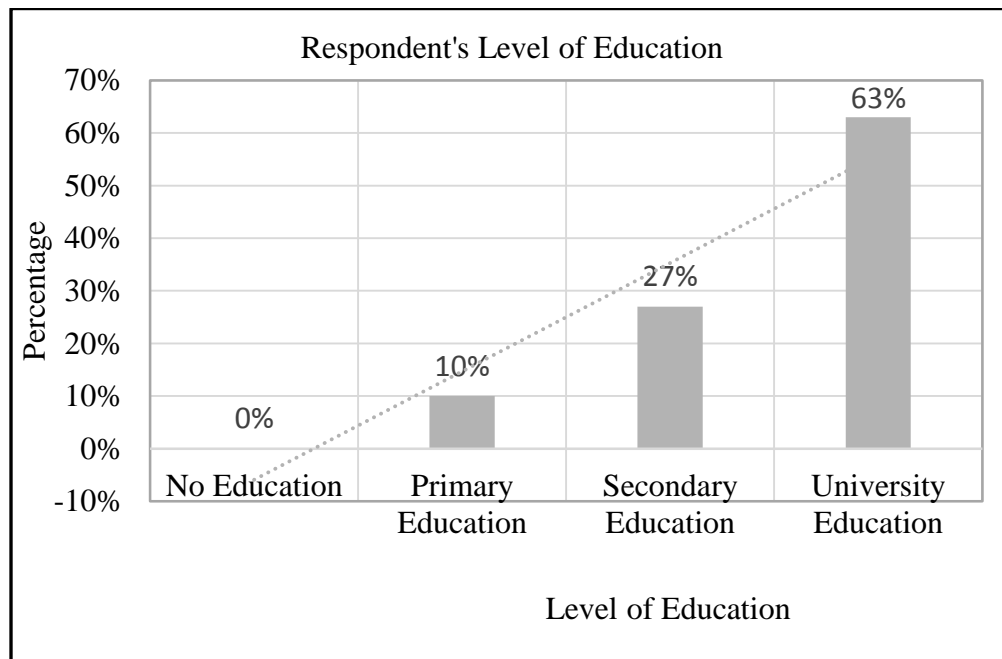
Figure 3.2 shows the respondents who were below 21 years were 13% and the respondents between the ages of 21-40 years with 70%. The respondents who were between the ages 41-60

were 13%, and the respondents above 60 were 4%. The majority of the respondents were between the ages of 21-40 with 70%. This might have been because the study objective was to determine how the use of county Facebook, Twitter, and Website affects levels of awareness of Thika sub-county residents. The youth are more likely to use ICT media to get information. For respondents who were below 21, they might not be interested in county affairs. The respondents between the ages of 41-60 might be using other forms of media like the newspaper to get the information they needed on county affairs. This might be the case also for respondents above 60 years old who might use the radio and television to get information on the county affairs.

3.3.3 Respondent Education

The study asked the respondent to reveal their level of education. Figure 3.3 shows the findings.

Figure 3.3 Level of Education of Respondent



Source: Research data, 2018

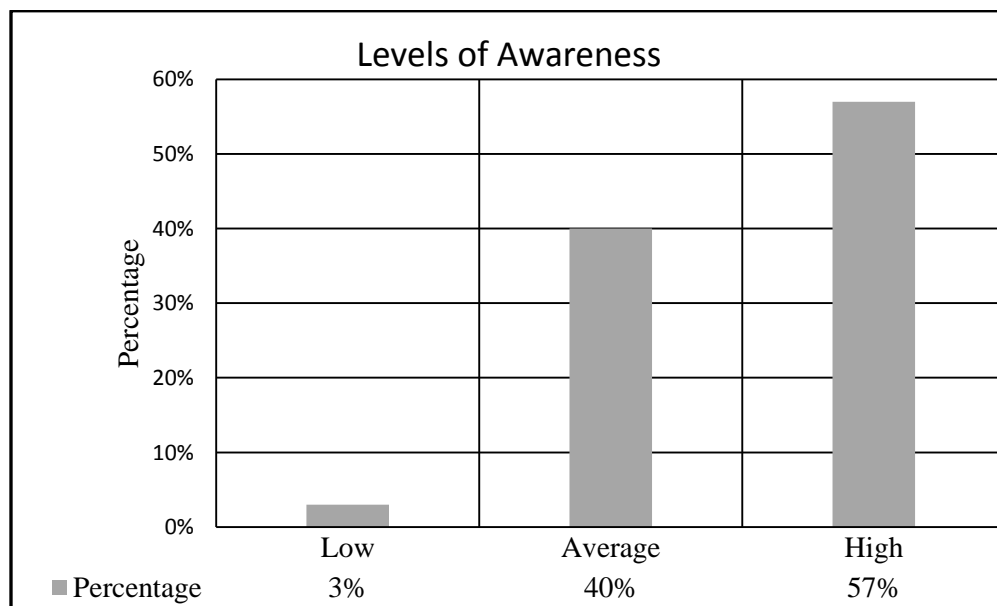
Figure 3.3 show that none of the respondent lacked basic education. It also shows that 10% of the respondents had primary education, 27% of the respondent had secondary education and 63% of the respondents had a university education. According to Kenya National Bureau of statistics (2017), Kiambu County has the highest levels of literacy levels compared to other counties. This

study confirmed this because all the respondent had basic education and the highest number of respondents had a university education.

3.4 The Dependent Variable: Level of Awareness of County Affairs

The objective of the study was to find out the effects of ICT on the levels of awareness of residents of Thika sub-county. The dependent variable for this study was the levels of awareness of the residents on county affairs. The levels of awareness of respondents were categorized as low, average and high. A score was used to categorize, where low was below a score of five. A score of five, six and seven was considered as average, while a score of eight and above was viewed to be high. Figure 3.4 shows the study findings.

Figure 3.4: General Levels of awareness of County Affairs



Source: Research data, 2018

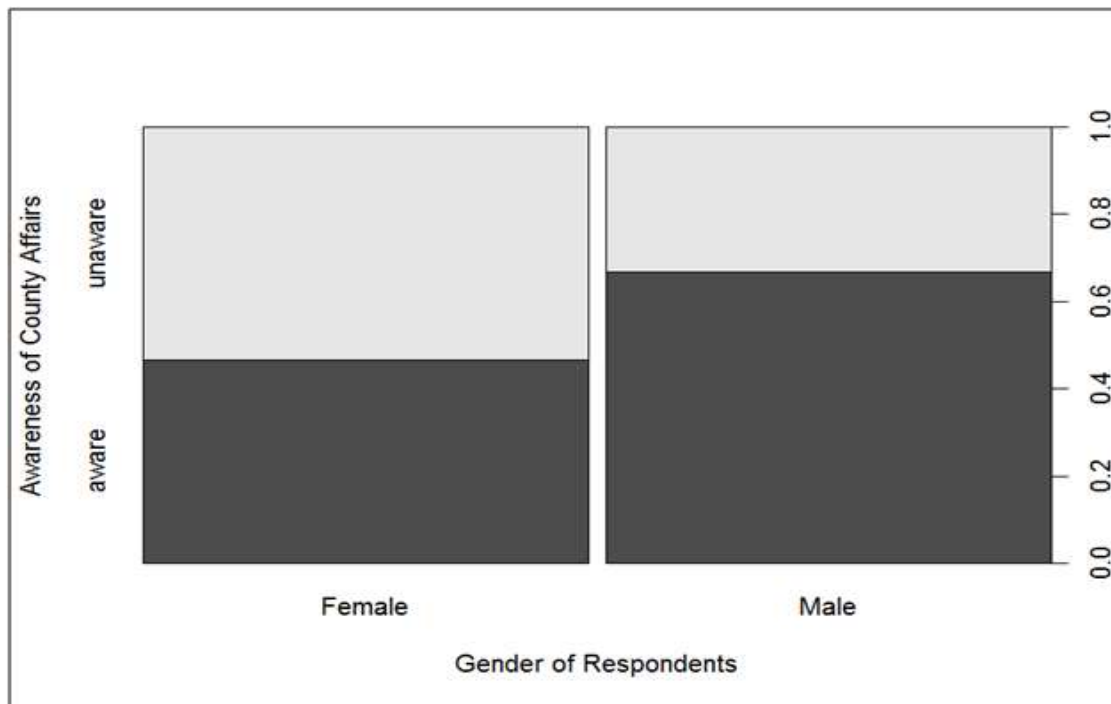
Figure 3.4 shows that 3% of the respondents had a low level of awareness, 40% of the respondents had an average level of awareness and 57% of the respondent had a high level of awareness. The study found out that those respondents who used county Website, Facebook and Twitter rarely to get county information had the lowest level of awareness. Those who used the county Website, Facebook and Twitter averagely to get information had an average level of

awareness. Lastly those respondents who used county Website, Facebook and Twitter regularly to get information had the highest level of awareness.

3.4.1 Levels of Awareness of County Affairs by Gender

The study wanted to find out the effects of gender on the levels of awareness of county affairs. The results are shown using a spine plot. The spine plot is a graphical representation of the relationship between two categorical variables, which in this case, are the levels of awareness of county affairs and respondents' gender. The width of a spine plots shows what proportion of the category in the sample used. The study measured levels of awareness as aware and unaware to draw the spine plot. The results are shown in figure 3.5.

Figure 3.5 Spine Plot of Awareness and Gender



Source: Research Data, 2018

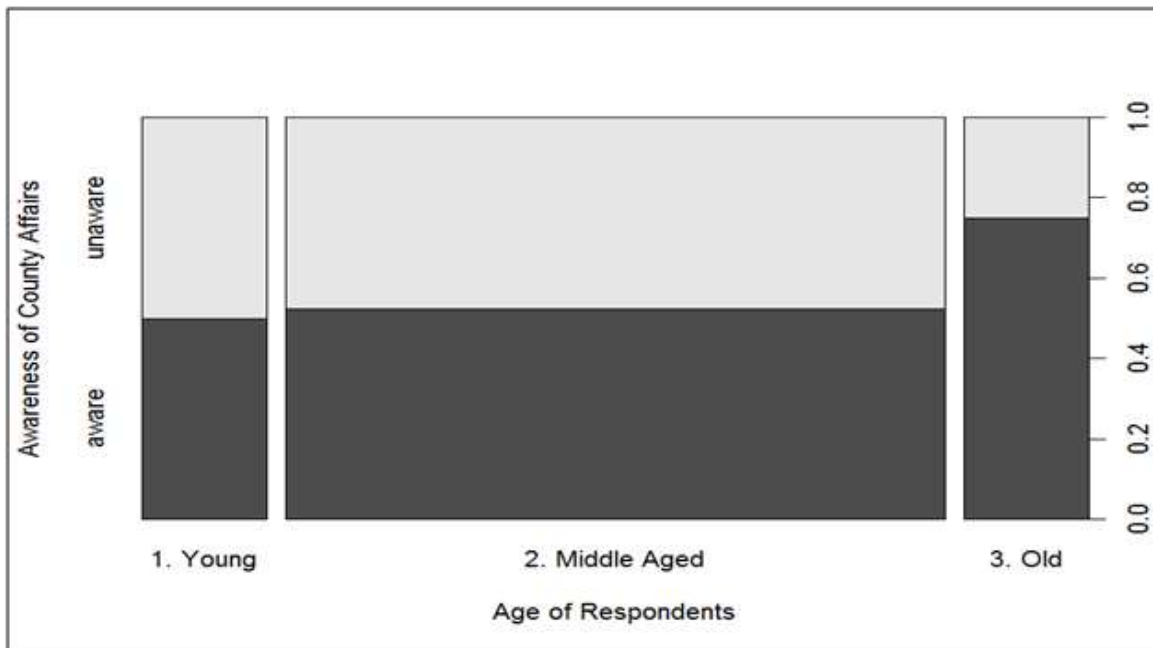
Figure 3.5 shows a spine plot of levels of awareness of county affairs and respondents gender. The findings show that men respondents who were aware of county affairs were more than those who were unaware of county affairs. The study further discovered that more women were unaware of County affairs than those who were aware. While comparing male and female

respondents, men were more aware of county affairs than to women in Thika Sub- County. The width of the spine plot show that the number of male and female respondents was equal.

3.4.2 Levels of Awareness of County Affairs by Age

The study sought to find out how levels of awareness of county affairs were affected by respondent age. The study measured age as young, middle aged and old. Awareness was measured as aware and unaware. The width of the Spine plot indicates the proportion of the category in the sample. The results are shown in figure 3.6

Figure 3.6 Spine Plot of Awareness and Age



Source: Research Data, 2018

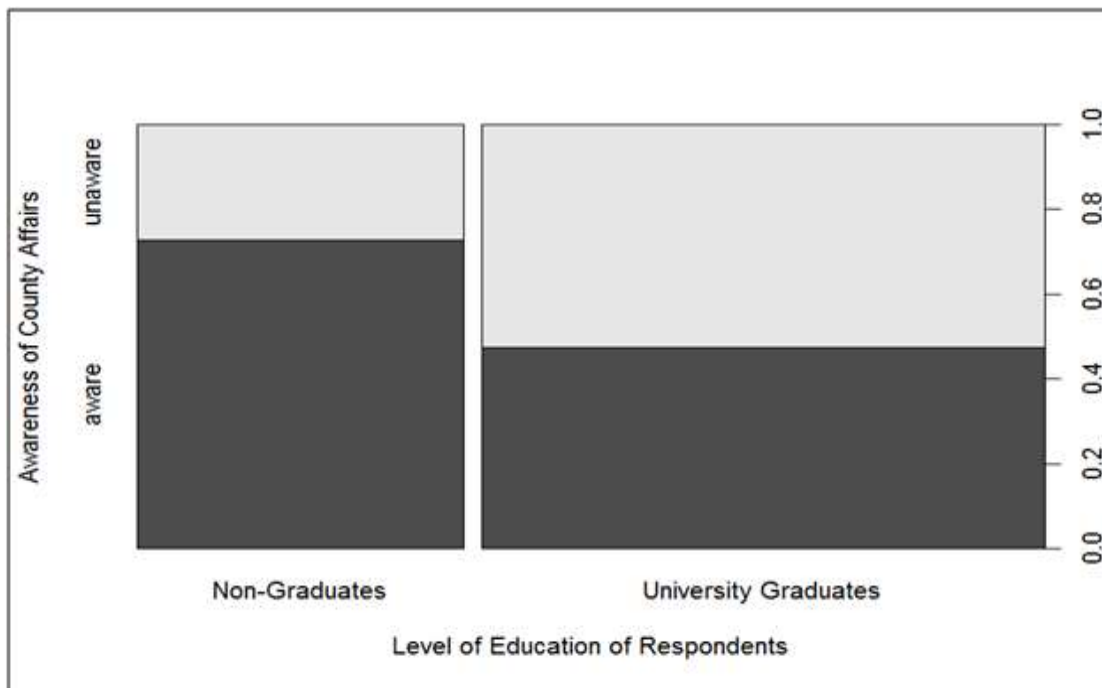
Figure 3.6 shows the majority of the respondents were middle aged because the width of the category is wider followed by the old and young category. The results also show that old respondents who were aware of county affairs were more than those who were unaware of county affairs. For the middle - aged respondents, the number of those who were aware and unaware were the same. The number of young respondent who were unaware of county affairs were slightly more than those who were aware of county affairs. The study findings also indicate that old respondents were more aware of county affairs compared to the middle - aged respondents and young respondents. This was a surprise finding because the middle - aged are

expected to be more aware of county affairs than the old. The results might be because the old are intentional in getting information about county affairs. This findings does not depict that the more you get older the more one is likely to be aware. The study might coincidentally encountered old respondents who were aware and they are few.

3.4.3 Levels of Awareness of County Affairs by Education Levels

The study explored the effects of levels of education on awareness of County affairs. The study measured awareness of county affairs as aware and unaware and levels of education as university graduates and non-graduates. The findings are displayed in figure 3.7.

Figure 3.7 Spine Plot of Awareness and Education Levels



Source: Research Data, 2018

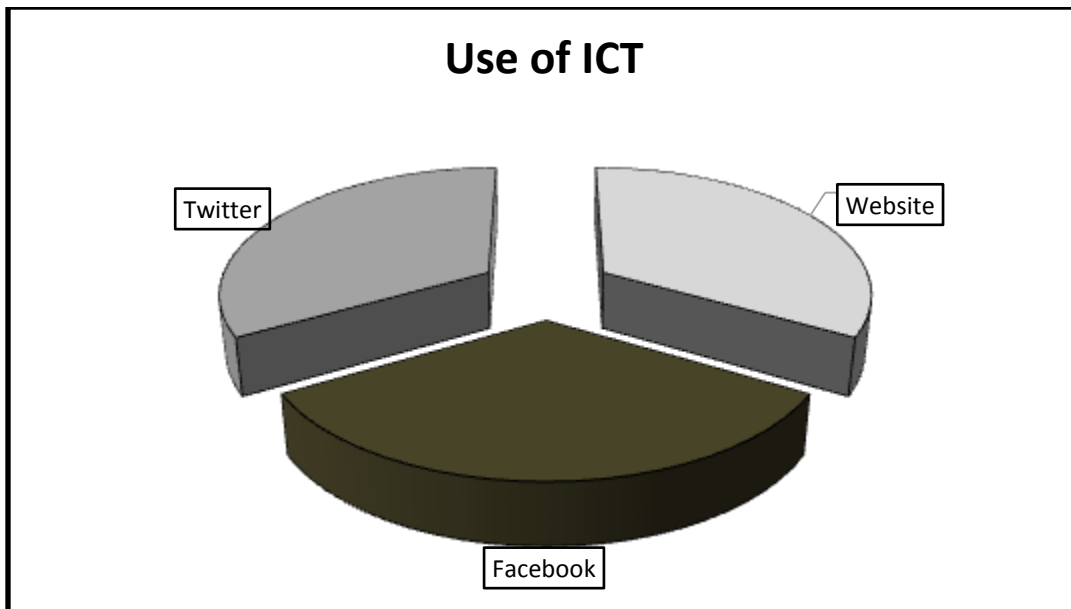
Figure 3.7 shows that the width of university graduates was wider than that of non-graduates. This shows that majority of respondents were university graduates. Figure 3.7 also shows that more graduates were unaware of county affairs than those who were aware. The spine plot shows that non-graduates who were aware of county affairs were more than those who were unaware of county affairs. The spine plot also shows that non-graduates were more aware of county affairs than to university graduates. This is a surprise because you would expect university graduates are

more aware than non- graduates. It might be that university graduates take things for granted because they are learned. It might also be because the university graduates were many therefore pushing the awareness levels down. The awareness levels for non- graduates might have been higher because they were few respondents.

3.5 Independent Variables: The Usage of ICT

The objective of this study was to find out the effects of the use of ICT on the awareness levels of residence of Thika. Specifically the study sought to establish how the use of county Website, Facebook page, Twitter handle affected the levels of awareness of the residents of Thika. The independent variables for this study was the use of ICT and specifically use of county Website, Facebook page, and Twitter handle. The findings of the study shown in figure 3.8.

Figure 3.8. Usage of ICT

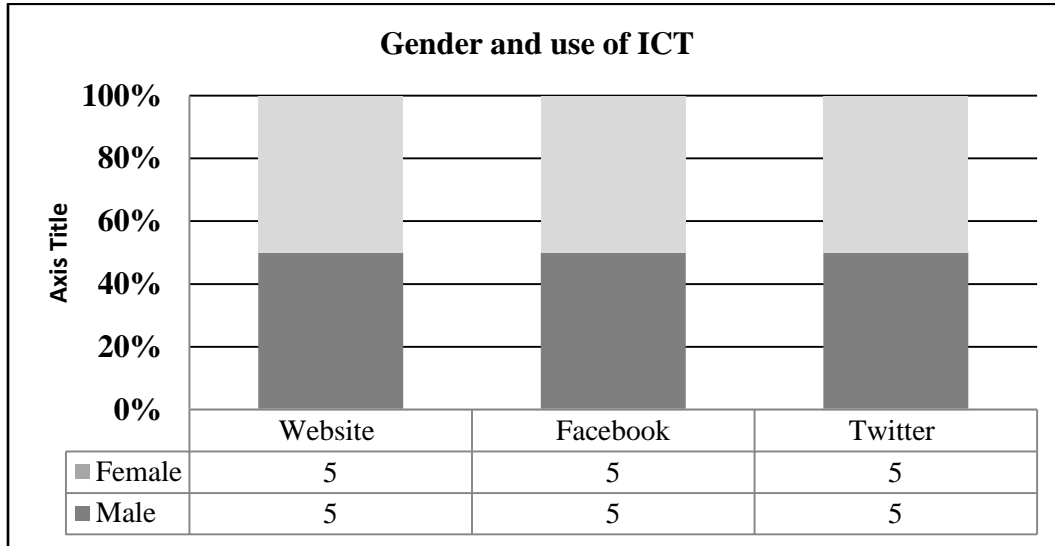


Source: Research data, 2018

Figure 3.8 shows that 33.3% of the respondent used the county Website, 33.3% of the respondents used the county Facebook page and 33.3% used the county Twitter page to access information about the county. Due to the nature of the study, the study stratified the population so that the number of respondents for each ICT was equal. This is because the study wanted to understand further which ICT platform was more effective in increasing the levels of awareness

of residents of Thika Sub-county. The study also stratified use of ICT according to gender. Figure 3.9 represent the finding of Gender and use of ICT.

Figure 3.9: Gender and the use of ICT



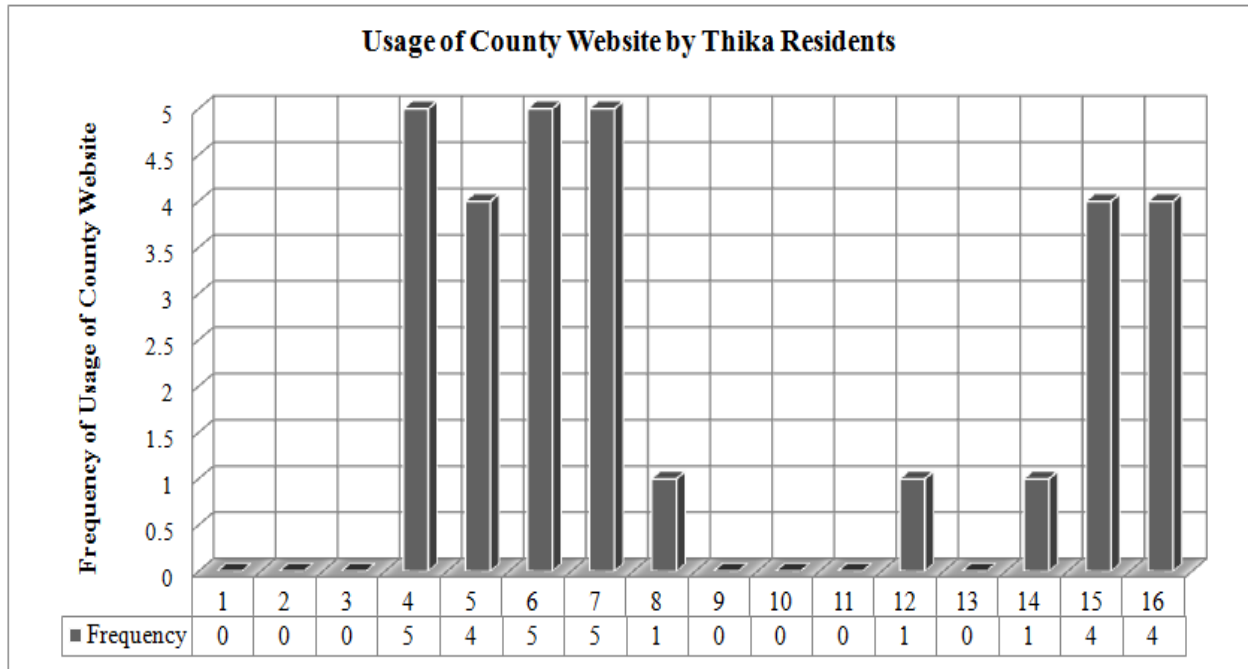
Source: Research data, 2018

Figure 3.9 shows that 50% of the respondents who used the County website, Facebook page and Twitter handle were male and 50% of the respondents were female. Gender balance and inclusivity are essential in the process of public participation. Therefore the study sought to understand how the use of the different ICT mediums affected the levels of awareness of the male and female. The findings show that both men and women used the ICT platforms used in the study to get county government information.

3.5.1 Extent of County Website Usage

The study wanted to find out the extent of use of County Website by residents of Thika. This information was important in understanding the effects of use of County Website on the levels of awareness of County residents. Figure 3:10 displays the results.

Figure 3.10: Extent of Usage of County Website.



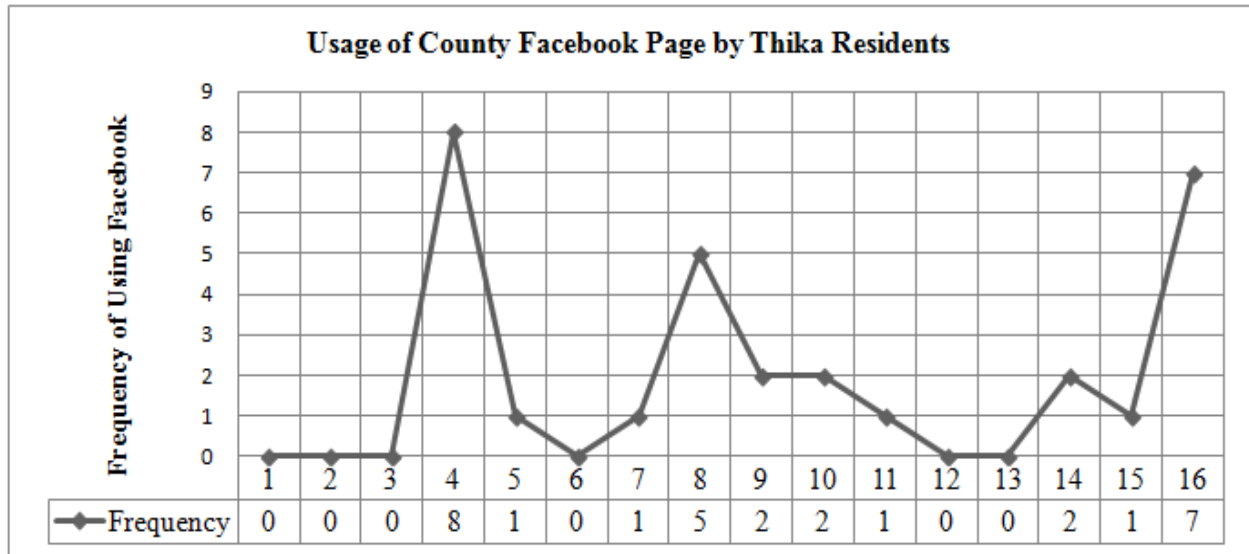
Source: Research Data, 2018

Figure 3:10 shows that majority of the respondents had a score between 4 and 8, while the minority of the respondents scored between 12 and 16. The means score of this distribution was 8.8 which is not a surprise since respondents score was not evenly distributed. The median for the extent of use of County Website was 7.0. This was expected due to the uneven distribution of the respondent score on extent of use of County Website.

3.5.2 Extent of County Facebook Usage

The study sought to find out the extent of use of County Facebook by the Thika Residents. This information was useful for the study, which aimed at understanding the effects of use of County Facebook on awareness levels of residents of Thika. The results are shown in Figure 3.11.

Figure 3:11: Extent of use of County Facebook Page



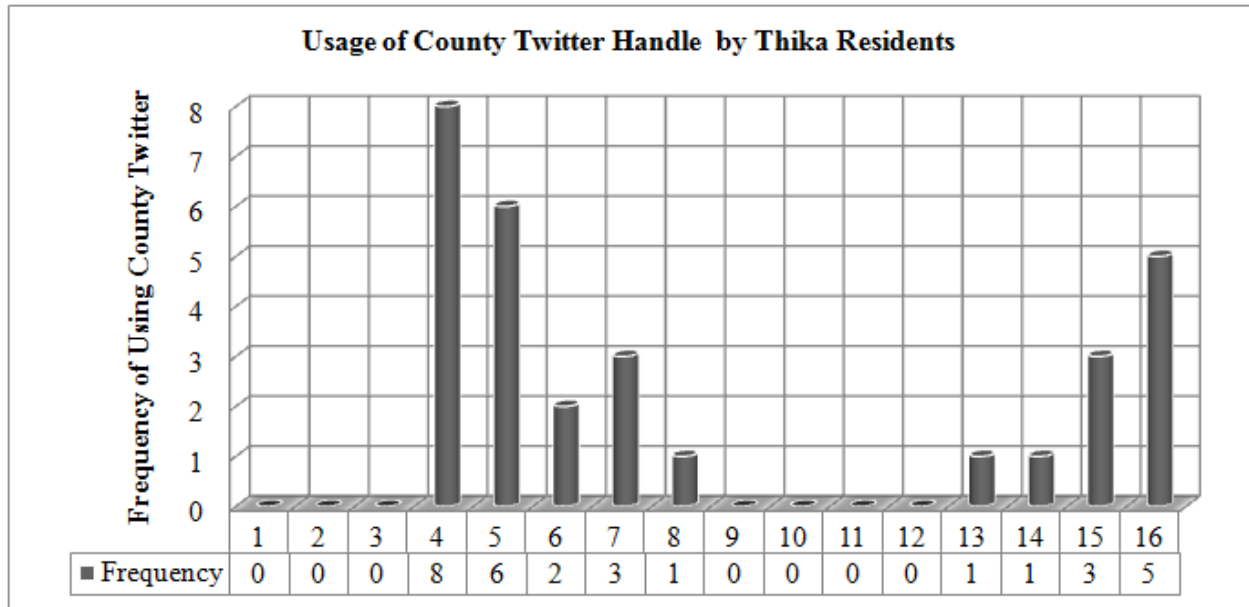
Source: Research Data, 2018

Figure 3:11 shows the extent of use of County Facebook page by residents of Kiambu. From the finding the extent of use of County Facebook page was evenly distributed among the respondents. The mean and medium for this distribution was 9.6 and 8.5 respectively. The mean and medium was not a surprise looking at the distribution of the data shown in figure 3:11.

3.5.3 Extent of County Twitter Handle Usage

This study also wanted to find out the extent of use of County Twitter by the residents of Thika. This information was important to the study, since it sought to find out the effect of County Twitter usage on levels of awareness of residents of Thika. The results are shown in Figure 3:12.

Figure 3:12: Extent of Use of County Twitter Handle



Source: Research Data, 2018

Figure 3:12 shows the extent of use of County Twitter by residents of Thika. The results shows that the extent of use of County Twitter handle was not evenly distributed. The mean score for this distribution was 8.5. This is not a surprise because the distribution was skewed on the middle lower score and the highest score. The median for the distribution was 6.0. This was due to the unevenly distribution of the response score.

3.5.4: Summary of Data Relating to the Independent Variables

This section discussed study independent variables which relate to ICT usage. The section also discusses the independent variables separately. Specifically the extent of use of County Website, Facebook page and Twitter handle. The summary of this section are represented in Table 3:2.

Table 3.2: Summary of the Independent Variables.

Variable	Mean	Median
Website Usage	8.8	7.0
Facebook Usage	9.6	8.5
Twitter Usage	8.5	6.0

Source: Research data, 2018

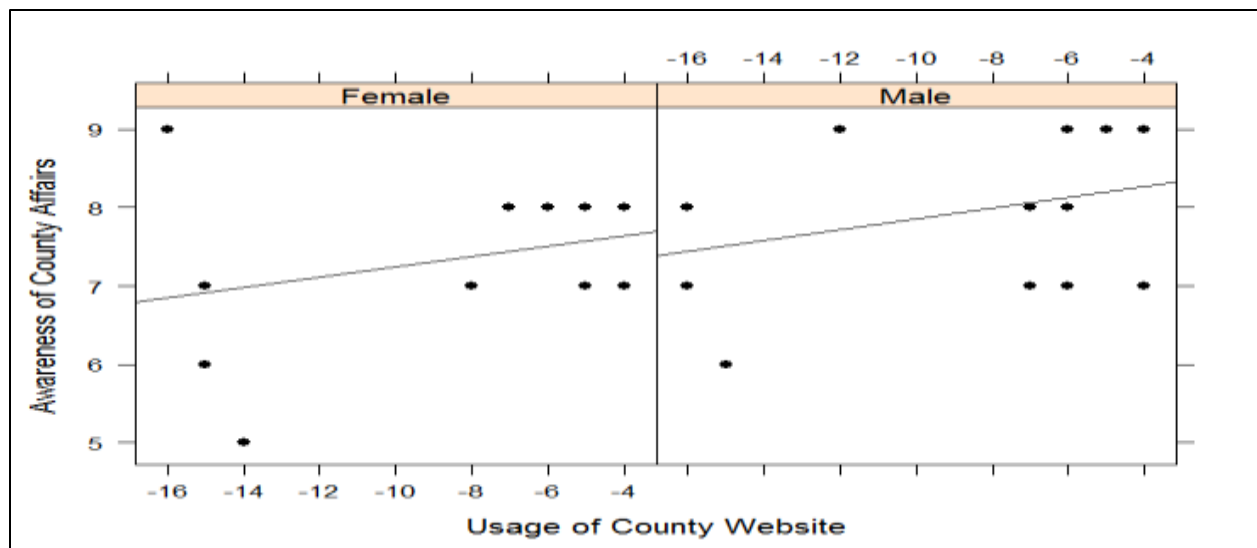
Table 3.2 shows the different mean and medium of extent of use of County Website, Facebook and Twitter. The findings show that County Facebook had the highest usage with a mean of 9.6, followed by County Website with a mean of 8.8 and lastly by County Twitter with a mean of 8.5. This might be because among the three platforms, Facebook is the most popular. (Williamson &Parolin, 2012). The median also depicted the same results as County Facebook had a higher median of 8.5, followed by County Website with a median of 7.0 and lastly by County Twitter with a median of 6.0. According to Bachstein (2015), governments should seek to understand what platforms citizens prefer when getting information from the government. This study found out that county Facebook was the most used platform residents of Thika.

3.6 Correlating Dependent Variable and Independent Variables

3.6.1 The Usage of County Website and Levels of Awareness

The study sought to find out how the use of county website affects the level of awareness of the residence of Kiambu County. The findings are shown in Figure 3.10, which is a *xy* plot. The *xy* plot shows the relationship between two numerical variables conditioned by one categorical variable. The *xy* plot in figure 3.10 shows the relationship between usage of County Website and the level of awareness of residents about county affairs conditioned by gender. The *xy* plot gives a visual impression of the relationship between the levels of awareness about county affairs, and the use of county website conditioned by gender. The results are represented in figure 3.13.

Figure 3.13: *xy* Plot of Awareness on County Affairs, Use of County Website and Gender



Source: Research data, 2018

Figure 3.13 shows that the gradient line of the xy plot for both male and female are positive. This means that for both men and women, the more they used the County Website their level of awareness increased. From an eyeball view, the gradient for male and female is almost the same therefore the effects of usage of County Website on the levels of awareness of men and women is almost the same. From figure 3.13 the usage of County Website and levels of awareness is not affected by gender. To explore this further, the study ran an ordinary least square regression analysis. Table 3.3 shows an ordinary least square regression analysis. The regression model only include gender but omitted the other demographic variables namely age and education because the three were strongly correlated with each other, hence using them would the problem of collinearity. The use of age and education would have reduced the power of the independent variable in this case, usage of ICT in predicting the changes in levels of awareness which is the dependent variable. This also applies to table 3.4 and table 3.5.

Variables	Coefficients
Website Usage	0.068*** (0.023)
Gender: Female	-0.614* (0.307)
Intercept	8.534*** (0.408)
R ²	0.567
Observations	30

Entries are Ordinary Least Squares Regression Coefficients with Standard Errors in brackets.
Significance. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05

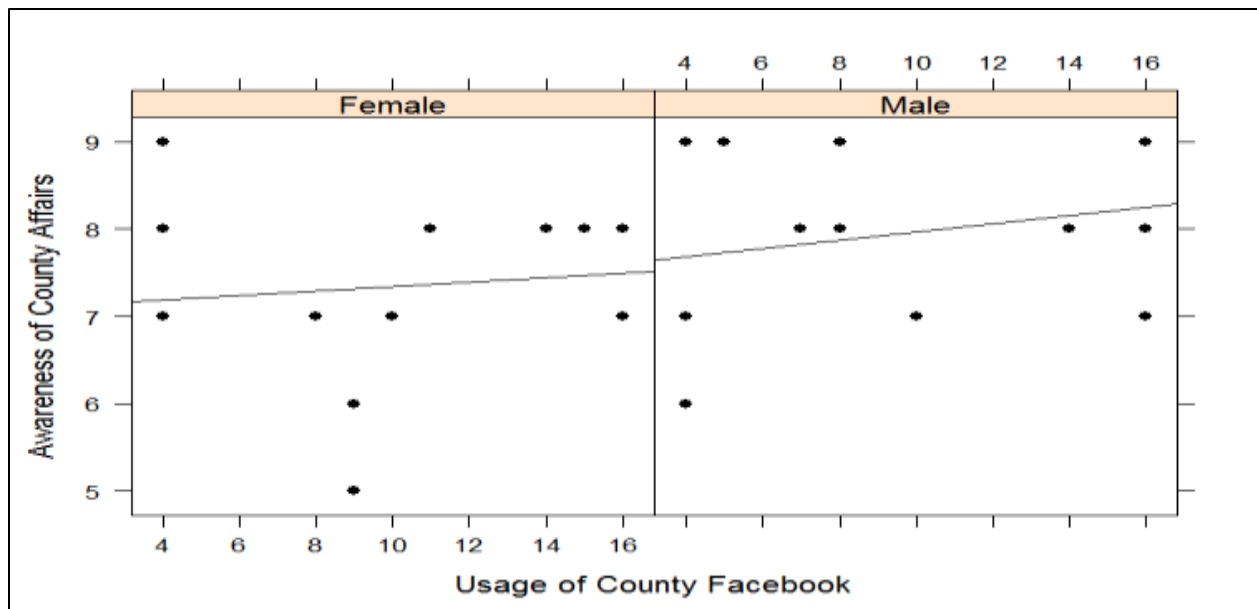
Table 3.3 shows an ordinary least squares regression analysis of the relationship between the levels of awareness, usage of county Website and gender. The models R² is 0.567. This means that the model was able to explain 56.7% of changes in the levels of awareness of the residents

of Thika sub-county. R automatically indicates the variable that is significant with a star. As shown in the significance code, one star indicates 95% level of confidence, two stars indicate 99% level of confidence and three stars indicate 100% level of confidence. Table 3.3 also shows that Website usage is has three stars. The three stars indicate that usage of county Website is positive and significant with a confidence level of 100%, in changing the levels of awareness of residents of Thika. This means that the usage of county website increased the levels of awareness of residents of Thika. This might be because Website contains information that is reliable and can hold a lot of information concerning the county. Residents are able to download large files from the county Website. The results show that gender had one star. The findings indicate that gender is significant in changing the levels of awareness of residence of Thika Sub-county with a confidence level of 95%. This means that men were more aware of County affairs than women. This is not a surprise as traditionally men are involved in politics and government compared to women. The low awareness level of women in county affairs might be the reason why women do not participate in the public participation process.

3.6.2 The Usage of County Facebook Page and Levels of Awareness

Figure 3.14 shows the findings on the usage of County Facebook, awareness levels and Gender.

Figure 3.14 xy plot of Awareness of County affairs, Usage of County Facebook and Gender.



Source: Research data, 2018

Figure 3.14 shows the relationship between usage of County Facebook page and the levels of awareness of residents conditioned by gender. The findings show that the gradient line of the xy plot for both male and female is positive, indicating that men and women who use the county Facebook, are more likely to be aware of county affairs. From an eyeball view, the gradient is stiffer for men compared to female. However, it seems that men using county Facebook are slightly more aware of county affairs compared to women who use county Facebook page. Table 3.4 shows further analysis of the findings using an ordinary least squares regression.

Table 3.4: Awareness as a Function of Usage of County Facebook and Gender

Variables	Coefficients
Facebook Usage	0.620** (0.282)
Gender: Female	-0.593* (0.301)
Intercept	7.587*** (0.435)
R ²	0.514
Observations	30

Entries are Ordinary Least Squares Regression Coefficients with Standard Errors in brackets.
Significance: 0 '****' 0.00 '***' 0.01 '*' 0.05

Table 3.4 shows an ordinary least squares regression model for levels of awareness as a function of usage of county Facebook page and gender. The model R² is 0.514, indicating that county Facebook page and gender contributed to 51.4% of the changes in levels of awareness of the residents of Thika sub-county. R software automatically indicates the variable that is significant with a star. One star indicates 95% level of confidence, two stars indicate 99% level of confidence and three stars indicate 100% level of confidence. The usage of Facebook and awareness has two stars. The two stars indicate that the model on the usage of Facebook on awareness had a 99% level of confident. This means that the usage of county Facebook was significant in changing the levels of awareness of residents of Thika Sub-county. This means that

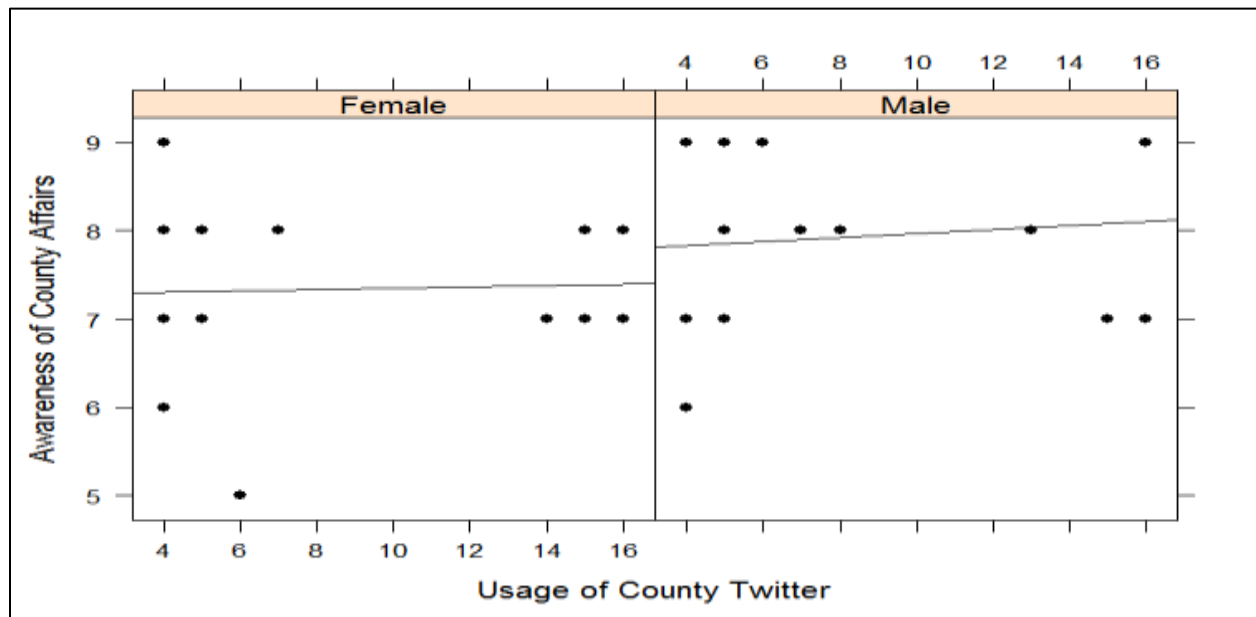
the usage of county Facebook was significant in increasing the levels of awareness of residents of Thika. This might be because Facebook is a platform that can hold a lot of information since it does not restrict the amount of information posted.

The results show that gender had one star. This means that gender was a factor in changing the levels of awareness of the residents of Thika sub- County. The star indicate that the effects of gender is significant in changing the levels of awareness of residents on county affairs with a level of confidence of 95%. The findings indicate that men were more aware county affairs compared to women. This is not a surprise because men are involved more in politics and governance compared to women.

3.6.3 The Usage of county Twitter handle and levels of awareness

The study sought to find out the effects of the use of county Twitter on the levels of awareness of residents of Thika Sub-County. Figure 3.15 shows the findings of the study.

Figure 3.15: xy Plot of Awareness of County Affairs, Usage of Twitter, and Gender



Source: Research data, 2018

Figure 3.15 shows a xy plot of the usage of County Twitter handle, awareness on county affairs and gender. The gradient line for the female is almost flat compared to that of the male. This

indicates that the levels of awareness of women did not change as they continued to use the county Twitter handle. The gradient line for the male is stiffer but not significant indicating that when males used the county Twitter handle the more they were aware of county affairs. Table 3.5 shows further analysis of the study.

Table 3.5: Awareness of County Affairs as a Function of Usage of County Twitter and Gender

Variables	Coefficients
Twitter Usage	0.015* (0.007)
Gender: Female	-0.037 (0.038)
Intercept	7.806*** (0.410)
R ²	0.428
Observations	30

Entries are Ordinary Least Squares Regression Coefficients with Standard Errors in brackets.
Significance: 0 '***' 0.00 '**' 0.01 '*' 0.05

Table 3.5 shows a model of levels of awareness as a function of usage of county Kiambu Twitter handle and gender. The model R² is 0.428. This means that the gender and county Twitter handle contributed 42.8% of changes in levels of awareness on county affairs. R program for statistical computing automatically indicates the variable that is significant with a star. One star indicates 95% level of confidence, two stars indicate 99% level of confidence and three stars indicate 100% level of confidence. The results show that the usage of county Twitter has one star. This means the effect of usage of Twitter on the levels of awareness was significant at a confidence level of 95%. Therefore usage of County Twitter increased the levels of awareness of residents of Thika. The significance level is low compared to the rest of ICT platforms. This might be due to the Twitter having fewer characters to use when writing messages. Maybe Thika residents cannot get as much information as they would want to. The tables shows that the coefficient for gender had no star. The model show that gender was less significant in increasing the levels of awareness of residence of Thika.

CHAPTER FOUR

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

4.1 Introduction

This chapter presents the summary of findings, conclusions and the recommendations for further studies. The first part of this chapter addresses the summary of the findings for this study. The conclusion section answers the question that prompted the study which was the effects of ICT on the awareness levels of residents of Thika Sub- County, Kiambu County. The recommendation section suggests areas that should be considered for further studies.

4.2 Summary of Findings

This study sought to find out the effects of using county Website, Facebook page, and Twitter handle on the levels of awareness of residents of Thika Sub- County.

The summary of this study is presented in table 3.6.

Variables	Model I	Model II	Model III
Website Usage	0.068*** (0.023)		
Facebook Usage		0.620** (0.282)	
Twitter Usage			0.015* (0.007)
Gender: Female	-0.614* (0.307)	-0.593* (0.301)	-0.037 (0.038)
Intercept	8.534*** (0.408)	7.587*** (0.435)	7.806*** (0.410)
R ²	0.567	0.514	0.428
Observations	30	30	30

Entries are Ordinary Least Squares Regression Coefficients with Standard Errors in brackets. Significance. Codes: 0 '***' 0.00 '**' 0.01 '*' 0.05

Table 3.6 shows that each model used 30 cases. The 30 cases were sufficient to conduct the ordinary least squares regression. The study used three models because the study wanted to find out the effect of the use of county Website, Facebook page and Twitter handle on the levels of awareness of the residents of Thika sub-county. Model I was used to test separately the effect of county Website and gender on the levels of awareness of residents of Thika. The model did not use Facebook and Twitter to avoid collinearity. Model II was used to test separately the effects of county Facebook on the levels of awareness of residents of Thika. The model did not use Website and Twitter to avoid the problem of collinearity. Model III tested separately the effects of county Twitter handle and gender on the levels of awareness of residents of Thika. This model did not use Website and Facebook to avoid the problem of collinearity.

The study analyzed the data using the *xy* plot on the demographics used which were age, gender and education. Gender was the only demographic variable that had significant effect on levels of awareness. The use of education and age in the model would have caused the problem of collinearity. Moreover, gender is important as a variable because of current concerns about gender inclusivity and gender balance, which is important when it comes to public participation. Women empowerment has also been a big agenda in Kenya and hence the inclusion of gender.

Table 3.6 shows that model I had an R^2 of 0.567, the model II had an R^2 of 0.514 and model III had an R^2 of 0.428. R^2 is a coefficient of determination. The bigger the value of R^2 the better the model. From the figures of R^2 , the findings show that the use of ICT affects the levels of awareness of residence of Thika Sub-county. The results indicate that the usage of the county Website and gender contributed to 56.7% of the change in levels of awareness of residents of Thika. The usage of county Facebook page and gender contributed to 51.4% of the changes in the levels of awareness of the residents of Thika. Lastly, the usage of county Twitter handle and gender contributed 42.8% of the change in levels of awareness of residents of Thika sub-county. This means that county Website was stronger in increasing the level of awareness of residents of Thika. The study also found out that the residents who paid attention to the ICT platforms were more aware of county affairs. From the finding county website was 5.3% more effective in changing the levels of awareness of county residents than county Facebook page. County

Facebook page was 8.6% more effective than County Twitter. County Website was 13.9% more effective in changing the levels of awareness of residents than County Twitter.

R program for statistical computing automatically indicates the variable that is significant with a star. One star indicates 95% level of confidence, two stars indicate 99% level of confidence and three stars indicate 100% level of confidence. Table 3.6 shows that usage of county Website has three stars, usage of county Facebook has two stars and the usage of county Twitter is one star. The coefficients indicate that the usage county Website, Facebook and Twitter are significant in affecting the levels of awareness of residents of Thika Sub- County.

Therefore the model on usage of Kiambu County Website indicates 100% level of confidence. Meaning that the usage of County Website was 100% significant in changing the awareness levels of residents of Thika. This might be because you do not need to create an account while using the website as in the case of Facebook and Twitter. Hence there is ease while using county Website compared to Facebook and Twitter. The model on usage of county Facebook indicates a 99% level of confidence. Meaning that the county Facebook page was 99% significant in affecting the levels of awareness of the residents of Thika. Facebook was second in changing the levels of awareness because Facebook is user friendly compared to Twitter. Therefore residents of Thika would use it more to get information about county compared to Twitter. Lastly, the models on the usage of county Twitter handle had a 95% level of confidence. Meaning that the county Twitter was 95% significant in affecting the levels of awareness of the residents of Thika Sub-county. This might have been because Twitter is slightly complicated compared to Website and Facebook hence a lot of people in Thika are not driven to use it to get information about the County. These findings agree with Vivier et al (2015) study that when governments understand the most effective ICT platforms then they are well able to communicate effectively with its citizens.

Table 3.6 also shows effect of gender on awareness. The coefficient for gender on model I is -0.614*, for model II is -0.593* and for model III is -0.037. As R program for statistical computing indicates the significance level, model I and II are significant due to the one star. Model III is not significant. The results shows that gender had a significant effect on the levels of

awareness of Thika. The findings indicate that gender affected the levels of awareness of residents who used county Website and Facebook. Gender did not affect the levels of awareness of residents who used county Twitter. The findings indicate that men were more aware of county affairs than women. This is not a surprise because traditionally men are involved in politics and governance than women in patriarchy society.

4.3 Conclusions

This study sought to answer the question how the use of ICT affected the levels of awareness of residents of Thika sub-county. Specifically, the study sought to find out how the use of county Website affected the level of awareness of residents of Thika; how the use of county Facebook page affected the levels of awareness of residents of Thika; and how the use of county Twitter handle affected the levels of awareness of the residents of Thika. The study found out that the use of county Website, Facebook page and Twitter handle affected the levels of awareness of the residents of Thika. The study tested the general hypothesis which postulates that the ICT usage influences the awareness levels of Thika residents. The study finding supports this hypothesis in that the use of ICT significantly raised the level of awareness of Thika residents. The specific hypothesis was also supported. The use of county Website raised the levels of awareness of Thika residents at a 100% confidence level. The county Facebook Usage raised awareness levels of the residents of Thika at a 99% confidence level. Lastly the county Twitter Usage raised the levels of awareness of the residents of Thika sub-county at a confidence level of 95%. The study finding revealed that the county government website was the most effective ICT platform to change the awareness levels of the residents of Thika Sub-county. It was followed by the county Facebook page and lastly the county Twitter handle.

4.4 Recommendation

4.4.1 Recommendation with Policy Implication

According to the Kenya Constitution (2010), Article 232 provides the principles that inform public service. One of these principles is transparency and giving the public timely, accurate information. Public participation is also a requirement before policies are created and adopted by the national and county governments. County governments are mandated to hold public hearings whenever they seek to make or amend public policies. It is the mandate of national and county

government to make citizens aware of public participation forums. How does the government communicate this? ICT is one way of conveying information to citizens. Website, Facebook and Twitter are avenues that the county government should use to inform citizens.

However, from this study, some issues have been highlighted by Thika residents which require urgent county government attention. Some residents were not aware of the existence of County Website, Facebook page, and Twitter handle. Most residents use the internet, but are not aware that they can connect with the County government using these platforms. These findings are in agreement with Njuru (2011) that the government of Kenya and county governments have not initiated awareness campaigns on use of ICT. The study therefore recommends that the county government should create awareness campaigns to sensitize the residents on the existence and importance of their Website, Facebook page, and Twitter handle. They should inform the County residents that they can get information on what the government is doing and how they can play a part in policy-making. This will help the County government in that its citizens will participate more in public participation forums. This will, in turn, legitimate the policies that the county government puts into place. On the other hand, Thika and Kiambu county residents will generally be aware of services being provided by their county government.

The county government of Kiambu should also sensitize women on the use of ICT so that they can get information concerning county affairs. Gender balance and inclusivity are values that are ingrained in the Constitution 2010. In Kenya, due to cultural practices, women are not usually encouraged to take part in governance and politics. But due to the Constitution (2010), women are encouraged to get involved in the policy - making process. The county government of Kiambu should sensitize women in Thika Sub-county on the importance of them taking part in public participation forums. This will encourage women to participate in county public affairs because they will come from a point of information. This will grow their confidence in the political and governance scene. With this, public participation in Thika Sub-County with extension to Kiambu and other counties will be inclusive and gender balance will be attained.

The study found out that the older residents of Thika were more aware of county affairs than the young and middle aged residents. The study therefore recommends the County of Kiambu should

hold sensitization forums for the young and middle - aged residents of Thika on the importance of them taking part in public participation forums. The finding of the study found out that university graduates were less aware of County affairs than non-graduates. Therefore this study recommends that the County government sensitize graduates in Thika Sub-county on the advantages of them taking part in the public policy process.

4.4.2 Recommendation for Further Study.

This study focused on the use of county Website, Facebook and Twitter in disseminating county information to its residents. More research should be carried out on the challenges experienced by the government while using social media to disseminate information to citizens. Also, research needs to be done on the government use of other social media platforms like WhatsApp.

References

- Arnstein S.R (1969). A ladder of citizen participation. *Journal of American Institute of Planners*. 35(4):216 – 224.
- Alasdair R (2006). *Blacked out: Government secrecy in the information age*. New York: Cambridge University Press.
- Anthopoulos L (2015). Understanding the smart city Domain: A Literature Review,” in Bolivar M.P. (Ed) *Transforming City Governments for successful Smart Cities, Public Administration and Information Technology Series, Vol. 3*, Springer New York.
- Avgerou C (2000). IT and organizational change: An institutionalist perspective. *Information Technology & People*, 13, (4).
- Bachstein N (2015). *The Nature of Government Tweets for Conveying a Message to the Public* University of Tennessee 434 Circle Park Dr. Knoxville.
- Bertot J.C, Paul T, Grimes J.M (2010). Using ICTs to create a culture of transparency: E-government and social media as openness and anti-corruption tools for societies. *The government Information quarterly issue*. (27): 264–271.
- Bertot J.C, Jaeger P.T, Munson S, & Glaisyer T. (2010). Social media technology and government transparency. *Computer* (43): 53–59
- Bertot J.C, Jaeger P.T & Grimes G.M, (2012). Promoting Transparency and Accountability through ICTs, Social Media, and Collaborative E-government”, *Transforming Government: People, Process and Policy*. *Emerald insights*. 6(1):78-91.
- Business Daily November 11, 2015. www.businessdailyafrica.com/news/Nairobi-ranked-8th-on-World-Bank-list-of-rich—poor-counties- -/539546-2951310-uoakygz/index.html
- Cincotta R. (2008). How Democracies grow up. Countries with too many people may not have a fighting chance for freedom report. 13
- Cuillier D, & Piotrowski S. J (2009). Internet information-seeking and its relation to support for access to government records. *Government Information Quarterly*. 26(3): 441-449.
- Cilbora C. (2005). Interpreting e-government and development: Efficiency, transparency or governance at a distance? *Information Technology & People*. 18 (3): 260-279
- Darbishire H (2012). Proactive transparency: The Future of the right to information? A Review of Standards, Challenges, and Opportunities. *World Bank Institute*.

- Dean L (1999). Further Erosion of Privacy Rights. CNS Commentary from the Free Congress Foundation's "Endangered Liberties" Program. Available: <http://www.cnsnews.com/ViewCommentary.asp?Page=\Commentary\archive\1998-2000\OPI19990802a.html>.
- Dewey J (1888). *The Ethics of Democracy*. University of Michigan, Philosophical Papers, Second Series, Number 1. Andrews & Company Publishers.
- Denvir D (2014). *How to Destroy a Public-School System*. Philadelphia. <http://www.thenation.com/article/how-destroy-public-school-system/>
- Evans-Cowley J & Hollander J (2010) The New Generation of Public Participation: Internet-based Participation Tools. *Planning Practice and Research*. 25(3): 397-408.
- Familusi O. A (2014). An assessment of the use of Radio and other means of information dissemination by residents of Ado - Ekiti, Ekiti state Nigeria. *Library Philosophy and Practice (e-Journal)*. (12)
- Gathungu J & Mungai N (2012). Contextual factors affecting e-government strategy implementation and its impact on public sector performance in Kenya. *Journal of Arts and Humanities (JAH)*. (1): No.1.
- Giddens A (1984). *The Constitution of Society: Outline of the Theory of Structure*. University of California Press, Berkeley, CA.
- Hadden S.G (1981). Technical Information for Citizen Participation. *Journal of Applied Behavioral Science*. 17(4):537 – 549.
- Haider H, Mcloughlin C & Scott Z (2011). *Communication and Governance*. Birmingham: Communication for Governance and Accountability.
- Hartley N & Wood C (2005). Public participation in Environmental Impact Assessment Implementing the Aarhus Convention. *Environment Impact Assessment Review*. 25(4):319 – 340.
- Håndværksrådet (2006). *Business Opportunities within the IT and Telecommunication Industry: Kenya*. Retrieved from <http://www.um.dk.pdf>.
- Hourdequin M, Landres P, Hanson M.J, & Craig D.R (2012). Ethical Implications of Democratic Theory for U.S. Public Participation in Environmental Impact Assessment. *Environment Impact Assessment Review*. (35): 37 – 44

- Jaeger P. T & Bertot J. C (2010). Transparency and Technological Change: Ensuring Equal and Sustained Public Access to Government Information. *Government Information Quarterly* (27): 371–376
- Jaeger P.T, Paquette S. and Simmons S.N (2010). Information Policy in National Political Campaigns: A Comparison of the 2008 Campaigns for President of the United States and Prime Minister of Canada, *Journal of Information Technology & Politics*.(7): 1-16.
- ICT Authority (2014).Government Enterprise Architecture & ICT Standards. Retrieved on 3rd September 2016 from <http://www.icta.go.ke/ict-standards/>
- Kenya Power and Lighting Company (2007). Rural Electrification boost in Mwala. Retrieved from <http://www.kplc.co.ke/UserFiles/File/Press%20Release%20-%20Mwala.doc>
- Kariuki G. (2009). Growth and Improvement of Information Communication Technology in Kenya. *International Journal of Education and Development using ICT*.<http://ijedict.dec.uwi.edu/viewarticle.php?id=667&layout=html>
- Khan N, Shah B, & Nawar A (2008). Impacts of Demographics on Citizens Access to Information. An Empirical Study of Dera Ismail Khan Northern Western Frontier Province Pakistan. *Asian social work and policy review*. (2): 81-90.
- Kramer H.J, Legat R, Naggy M, Mayer J, Schleidt K, & Paneli M. (2011). Die österreichische Umwelt informations politik als Vorreiter der Open Government Data Entwicklungen.
- Layne K. and Lee J (2001). Developing Fully Functional E-government: A Four Stage Model. *Government Information Quarterly* (18):122-136.
- Lynden W. J. (2012). Best Practices in government information: A global perspective. Germany: Strauss Morlenbach.
- McDermott P. (2010). Building Open Government, *Government Information Quarterly*. (27): 401-13.
- Magro M.J (2012). A Review of Social Media Use in E-Government. *Administrative Sciences*. 2(2): 148-161.
- Mulgan R. (2007). Truth in Government and the Politicization of Public Service Advice. *Public Administration*. (85): 569-86.
- Mulligan C. E. A, (2011). The Communications Industries in the Era of Convergence. Industry Transformation – Horizon Scan: ICT & the Future of Financial Services Routledge.

- Munyoro I. and Dick A.L (2015). Accessing Information through Zimbabwe's Parliamentary Constituency Information Centers (PCICs). *African Journal of Library Archaeology & Information Science*. 25(1):29-43.
- Meijer A. J, Curtin D, & Hillebrandt M. (2012). Open Government: Connecting Vision and Voice. *International Review of Administrative Sciences*. (78): 10–29.
- Muganda O.N, (2008). Emergence of the E-Government Artifact in an Environment of Social Exclusion in Kenya. *The African Journal of Information Systems*. Volume 1(1), 18-43
- Mutegi M. (2014). Rollout of digital IDs starts in Feb. Retrieved on Feb 27, 2016, <http://www.businessdailyafrica.com/Rollout-of-digital-IDsstarts-in-Feb/-/539546/2497388/-/ujohpp/-/index.html>
- ICT Authority (2014).Government Enterprise Architecture & ICT Standards. Retrieved on 3rd September 2015 from <http://www.icta.go.ke/ict-standards/>
- Njuru J.W (2011). Implication of E-government On Public Policy and Challenges of Adopting Technology: The Case of Kenya. *Journal of Global Affairs and Public Policy*. (1)1.
- Netchaeva I. (2002). E-Government and e-democracy: A comparison in the North and South Gazette: *The International Journal for Communication Studies*. 64(5): 467-477
- Obwocha B. (2014). Government to use biometric registration to eliminate ghost workers.” BusinessDaily.<http://www.businessdailyafrica.com/Anne-Waiguru-use-biometric-registration-to-rid-ghost-workers/-/539546/2431070/-/84r9gnz/-/index.html>
- Ochara M.N (2012). Grassroots community participation as a key to E-governance sustainability in Africa. *The African Journal of Information and Communication*. (12)
- Okong'o V. (2007). The e-government experience Chapter 9: Sectorial and thematic case studies in Kenya: the story so far; *IDRC review*
- Ogara E. A. & Odhiambo-Otieno G.W. (2003) “Challenges of implementing Telemedicine initiatives in Kenya.” Ministry of Health.
- Orlikowski W.J. (1992). “The Duality of Technology: Rethinking the Concept of Technology in the Context of Organizations,” *Organization Science*. 3 (3): 398-427.
- Parthasarathy S. (2010). Breaking the expertise barrier: understanding activist strategies in science and technology policy domains. *Sci Public Policy*. 37(5): 355 – 367.

- PSCU (2014) “President Kenyatta launches E-procurement system.” Accessed on 7th September 2015 from <http://www.capitalfm.co.ke/business/2014/08/president-kenyattalaunches-e-procurement-system>
- Quinn A.C (2003). Keeping the Citizenry Informed: Early Congressional Printing and 21st-Century Information Policy. *Government Information Quarterly*. (20):281-93.
- Republic of Kenya (2012). Communication Authority Kenya Annual Report. Nairobi
- Republic of Kenya (2010). Constitution of Kenya 2010. Nairobi. Government Printers
- Republic of Kenya (2012). County Government ACT 2012. Nairobi. Government Printers
- Republic of Kenya (2004). E-Government Strategy: The Strategic Framework, Administrative Structure, Training Requirements, and Standardization Framework. Government of Kenya Publications, Available Online at www.e-government.go.ke
- Republic of Kenya (2013). Kenya National Bureau of Statistics. Exploring Kenya’s Inequality: Pulling Apart or Pooling Together. Kiambu County. Nairobi. Government Printers
- Republic of Kenya (2017). Kenya National Bureau of Statistics. Economic Survey. Nairobi. Government Printers.
- Republic of Kenya (1999). Kenya National Bureau of Statistic. Kenya Population and Housing Census. Nairobi. Government Printers
- Republic of Kenya (2013). Kiambu County Integrated Development Plan.2013-2017
- Republic of Kenya (2013). Ministry of Information, Communications and Technology Strategic Plan 2013-2017. Nairobi. Government Printers
- Republic of Kenya (2006). National ICT Policy. Nairobi. Government Printers.
- Republic of Kenya (2007). Freedom of Information Policy. Government of Kenya Publications,
- Reylea H.C. (2009). Federal freedom of information policy: highlights of recent developments. *Government Information Quarterly*. (26):314-20.
- Shuler J.A, Jaeger, P.T. & Bertot, J.C. (2010). Implications of harmonizing e-government principles and the Federal Depository Library Program (FDLP). *Government Information Quarterly*. (27):9-16.
- Twinomurinzi H, Phahlamohlaka J. & Byrne E, (2012). The small group subtlety of using ICT for participatory governance: A South African experience. Pretoria. University of Pretoria.

- Telecom L. (2016). Retrieved October 15, 2016, from www.liquidtelecom.com:
<https://www.liquidtelecom.com/news-events/news/Kiambu-County-launches-free-Wi-Fi.html>
- Vivier E, Siebe D, Wentzel M. & Sacher D. (2015). From information to engagement. Exploring communication platforms for the government-citizen interface in South Africa. *The African Journal of Information and Communication*. (15)
- Waema T, & Mitullah W. (2007), E-Governance and Governance: A Case Study of the Assessment of the Effects of Integrated Financial Management System on Good Governance in Two Municipal Councils in Kenya. ICEGOV2007, December 10-13, 2007.
- Wiklund H. (2011). Why high participatory ideals fail in practice: A bottom-up approach to public non-participation in EIA. *Journal of Environmental Assessment and Pollution Management*. 13(2):159–178.
- Williamson W. & Parolin B. (2012) Review of Web-Based Communications for Town Planning in Local Government. *Journal of Urban Technology*. 19(1): 43–63.
- White C. M. (2012). *Social media, Crisis Communication, and Emergency Management: Leveraging web 2.0 technologies*. Boca Raton, FL: CRC Press
- World Bank (2003). *The Kenyan Strategic Country Gender Assessment*. Nairobi, Kenya.
- World Bank (2015). *Bright Lights, Big Cities*. Nairobi, Kenya.
- Yildiz M. (2008). E-government: Initiatives, Developments, and Issues. *Government Information Quarterly*. (24): 646–665.

APPENDICES
APPENDIX I: QUESTIONNAIRE

Dear respondent,

I am a student from the University of Nairobi undertaking a study on how ICT is being used by the county government. Kindly please participate in this study by providing responses which will go a long way in understanding how the county government is using ICT. Kindly note there is no right or wrong answer and your responses will be kept confidential. Thank you for your time.

Regards

Catherine Kamau

SECTION I: DEMOGRAPHIC DATA

Q1. Gender

1. Male

2. Female

Q2. How old are you?

1) below 21

2) 21-40

3) 41-60

4) Above 60

Q3. What is your highest level of formal education?

1) No education

2) Primary education

3) Secondary education

4) University education

SECTION II: INFORMATION TECHNOLOGY & COMMUNICATION USAGE

A. Instructions: For the following statements please choose one answer that describes your ICT usage (Scale never-1 rarely-2 regularly- 3, very regularly- 4)

No.	Question	Never	Rarely	Regularly	Very Regularly
Q.4	How often do you visit county government of Kiambu Website?				
Q.5	How often do you visit the county government of Kiambu Facebook page?				
Q.6	How often do you view the county government Kiambu Twitter handle?				

B. Instructions. Kindly choose the answer that describes your level of agreement to the following statement

No	Questions	Completely disagree	Disagree	Agree	Completely agree
Q.7	The county government of Kiambu website contains reliable information.				
Q.8	The county government of Kiambu website contains regularly updated information?				
Q.9	I always use the website to get information on the county government of Kiambu.				
Q.10	Kiambu County government Facebook page contains reliable information?				
Q.11	The county government of Kiambu Facebook page contains regularly updated information?				
Q.12	I always use Facebook to get				

	information on the county government of Kiambu.				
Q.13	The county government of Kiambu Twitter handle contains reliable information?				
Q.14	The county government of Kiambu twitter page contains regularly updated information?				
Q.15	I always use Twitter to get information on the county government of Kiambu.				

SECTION III: COUNTY GOVERNMENT INFORMATION

Q.16. what is the name of the speaker of the County Assembly of Kiambu?

.....

Q.17. How many ambulances did the County Government of Kiambu deploy to Kijabe Hospital in 2018?

.....

Q.18. In which town did the County Government of Kiambu hold the Alcohol Control Bill 2018 public participation?

.....

Q.19. State one qualification that one needs to have, to get the Kiambu County Biashara loan?

.....

Q.20. In which town is the County Government of Kiambu new advanced Reproductive Health Unit located?

.....

Q.21. How much money has the County Government of Kiambu set aside for the upgrading of the Ruiru market?

.....

Q.22. In which town has the county government of Kiambu held training on the Access to Government Procurement Opportunities (AGPO)?

Q.23. Name one health facility that has been upgraded by the County Government of Kiambu?

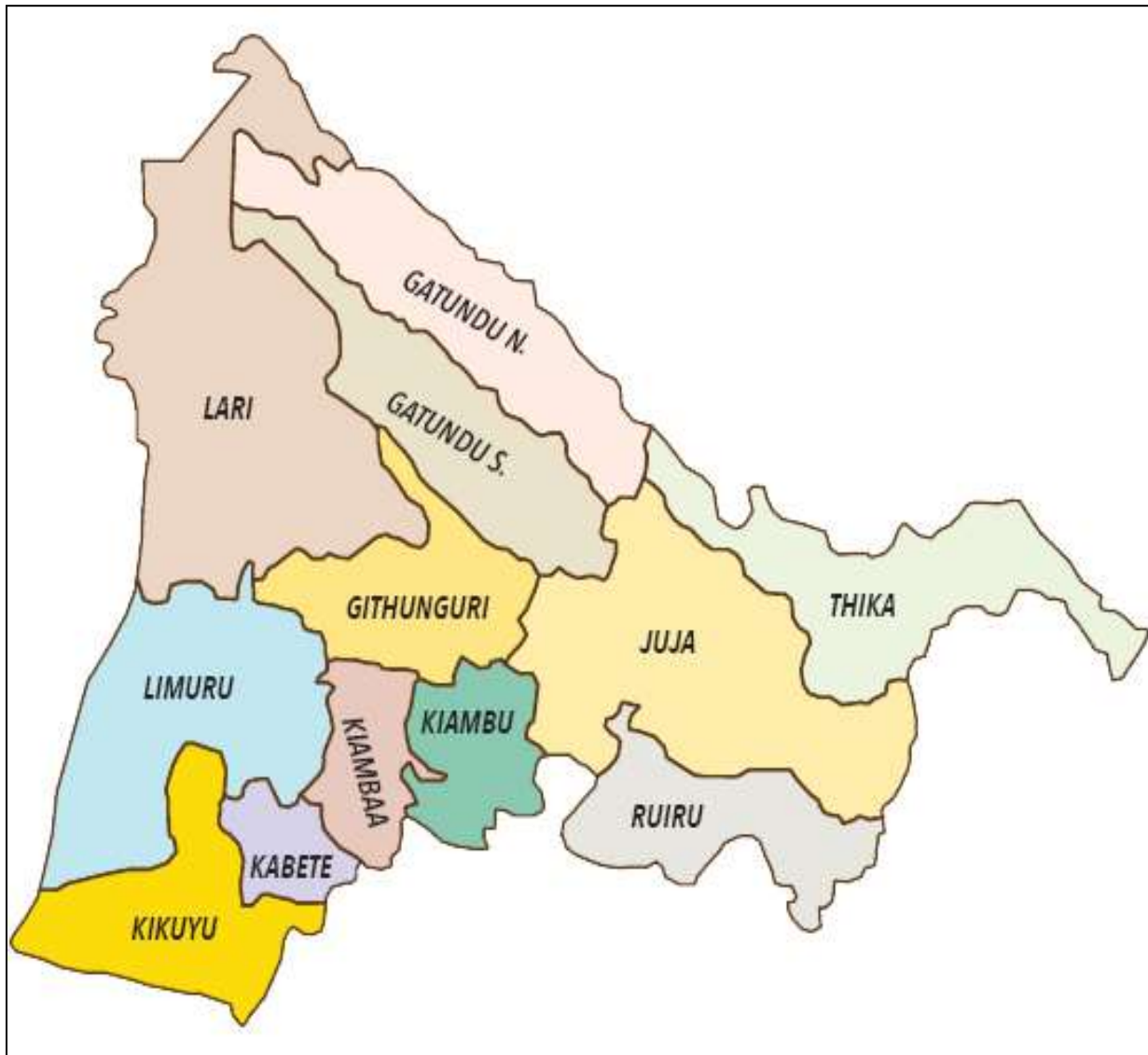
Q.24. Have you ever attended training on public participation organized by the county of government Kiambu? YES/NO.

If yes where was it held?

.....
Q.25. In which sub-county is the County Government of Kiambu upgrading a community center to house more offices?
.....

Thank you for your time.

APPENDIX II: MAP OF KIAMBU COUNTY



<http://www.kiambu.go.ke/about/administrative-political-units>