



UNIVERSITY OF NAIROBI  
SCHOOL OF COMPUTING & INFORMATICS

Influence of Technology Adoption Factors on E-participation in  
Kenya MDAs

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A research project submitted to the School of Computing and Informatics in partial fulfillment of the requirement for the award of Degree of Master of Science in Applied Computing at the University of Nairobi

DECLARATION

This research project is my original work and has not been presented for a degree in any other university

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DATE

This research project has been submitted for examination with my approval as university supervisor

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.....

DATE

## DEDICATION

This work is dedicated to all those who supported me during the research work.

## ACKNOWLEDGEMENT

I wish to thank the Almighty God for strength and patience he provided me with in conducting this research. Secondly, I acknowledge the wise guidance and input from my dedicated supervisor, Dr.Wausi who was ever ready and willing to guide me on how best to undertake the project. I also wish to acknowledge the entire panel that gave critique and suggested areas of improvement. I wish to acknowledge key people in the various institutions who assisted in providing responses. Without them, the research would not have been possible. Finally to all those who supported me including Mr.Ikileng-Judiciary who ensured I have adequate time to do the project, I thank you all.

## ABSTRACT

The Constitution of Kenya through various articles demands that citizen participation is taken into account at all levels of government in coming up with decisions that affect their livelihoods. Further, there is a global push by key international bodies to ensure citizen participation is upheld. This is evidenced by various international ranking such as United Nations E-participation index that measures level of participation as provided by ICT tools otherwise called E-participation. Kenya has been ranked poorly in provision of e-participation despite this a being a constitutional requirement. This research sought to establish and evaluate the status of e-participation tools and initiatives, their reach, use and effectiveness. Further, the research sought to determine the influence of specific technology adoption factors on e-participation i.e. compatibility of tool to user experiences, citizen awareness, complexity of the tool and relative advantage of the tool. The main aim being to develop a set of guiding principles that can be followed by other departments while trying to provide for e-participation.

Four government agencies were sampled based on background information on tool availability through judgment sampling. The research instrument used was a structured questionnaire with both open ended and closed questions. Data was collected via focus group discussions and one on interviews. The data collected was analyzed using descriptive statistics in Microsoft Excel and Correlational analysis using SPSS statistical package.

The key constructs for the study that informed the hypothesis were compatibility of tool to design vs reality gaps, complexity of the tool, relative advantage of the tool and citizen awareness to existence of tool. These were informed by the technology adoption factors as identified by the literature review on technology adoption models.

The research established that despite participation being a legal requirement, less has been done to ensure participation of people using ICT tools despite the rapid growth in technology. None of the samples had achieved the highest level of participation of engaging citizens in decision making. Further with a view to improving e-participation the research established that compatibility of tool to user experiences, citizen awareness and complexity of tool have significant correlation to level of e-participation. The research recommends that government institutions need to scale up efforts to realize e-participation. Careful consideration ought to be given to the research findings in trying to achieve higher levels of e-participation.

## **List of acronyms and abbreviations**

MDAs – Ministries, Departments and Agencies

UN – United Nations

ICT – Information and Communication Technology

### **Definition of important terms**

**Citizen participation-** Involvement of citizens by government agencies in aspects of social, political and economic decision making through information provision and consultations.

**E-participation-** It is citizen participation as provided for through ICT tools such as online, TV, radio and mobile phones.

## TABLE OF CONTENTS

DECLARATION .....	i
DEDICATION .....	iii
ACKNOWLEDGEMENT .....	iv
ABSTRACT.....	v
List of acronyms and abbreviations .....	vi
Definition of important terms.....	vii
Chapter 1: Introduction.....	10
1.1 Background .....	10
1.2 Statement of Problem .....	11
1.3 Objectives.....	13
1.4 Research outcomes and significance to key audience.....	14
1.5 Scope .....	14
1.6 Limitations of the research .....	14
Chapter 2: Literature Review.....	15
2.1 Introduction .....	15
2.2 Benefits and Objectives of participation .....	15
2.3 Participation and the Constitution of Kenya .....	15
2.4 Frameworks and models used to study citizen participation.....	16
2.5 Critique of the existing literature relevant to the study.....	22
2.6 Research gap .....	23
2.7 Conceptual framework adopted and Measurement of variables .....	24
Chapter 3: Methodology .....	25
3.1 Introduction .....	25



3.2 Research Design & its justification .....	25
3.3 Population study .....	25
3.4 Sample Size and sampling technique .....	27
3.5 Data collection instrument .....	27
3.6 Limitations of methodology .....	27
CHAPTER FOUR: Data Analysis, Results And Discussion.....	28
4.1 Introduction .....	28
4.2 Data processing and analysis.....	28
4.3 Results .....	30
4.5 Discussion of findings.....	46
CHAPTER FIVE: Summary, Conclusions And Recommendations .....	48
5.1 Introduction .....	48
5.2 Summary of the findings .....	48
5.3 Summary of Objectives .....	49
5.5 Conclusion.....	51
5.6 Recommendations .....	52
5.7 Suggestion for Further Studies .....	52
References.....	53
APPENDIX.....	54
Questionnaire used for the study.....	54

# CHAPTER 1: INTRODUCTION

## 1.1 Background

Citizen participation is considered as one of the hall marks of democracy dating far back into early forms of representative government. Participation are means used by the public to have their voices and ideas included in decision making in matters affecting their livelihoods. It aims to bridge the gap between citizens and governments by providing avenues through which citizens are engaged in public decision making, avenues by which information is disseminated to them and avenues by which they engage the government in meaningful consultations. Citizen participation is a form of participatory democracy and indeed many governments across the world strive to uphold democracy.

Milakovich (2010), notes that participatory democracy implies citizens being involved in governmental decision making and should be encouraged and expected. He notes that citizen participation exists in various forms including providing information to citizens and getting information from them, involving citizens in public decision making and providing means for citizen consultation.

Public participation is a political principle that lies at the heart of the Constitution of Kenya 2010. The constitution provides various regulations that serve to ensure citizen participation is upheld. The Constitution in Article 35 grants allows citizens by virtue of right to access information held by state agencies. With information from the state it follows that citizens will be more aware of government activities, the services it offers, how public utilities and monies are spent and many others. The constitution also requires that counties promote participation in all processes within a county (Articles 196(1)(b), 201(a)).

The main aim of public participation is to ensure transparency, accountability and to improve citizens' trust in government. (Milakovich, 2010).

According to the UN-HABITAT (2004), public participation aims to promote transparency, encourage openness in government, and build ownership of development decisions as well as programmes and projects.

With advancements in Information and Communication Technologies (ICTs), public participation has become an even more important subject in governance. When ICTs are used to promote citizen participation, the new concept is referred to as Electronic participation (E-participation). ICT is viewed as having the ability to empower people in relation to citizen participation. E-participation allows

individuals who cannot access the government agencies and public officials for purposes of getting information, giving information and making their voices heard or influencing decision making to do so. These individuals, who in the traditional forms of participation e.g. public meetings were considered to be otherwise invisible and silent, get an opportunity to be visible and to be heard. E-participation therefore has the potential to reveal the diversity of the society voice and range of opinions. This potential benefit of e-participation is the driving factor for its adoption by various countries.

Indeed the recently launched Kenya ICT Master Plan (2014) identifies the importance of ICT in realizing the goals of the Kenya Constitution of ensuring participation to help realize democracy.

In addition world intergovernmental bodies such as United Nations and European Commission have been at the fore front in pushing their member states to adopt e-participation. This push is very evident in rankings such as the UN e-participation index and the European commission e-participation guidelines.

Kenya has been lagging behind in the UN rankings continuously. This in addition to the drive of the constitution to ensure participation at all levels informs the background upon which this study is conducted.

## **1.2 Statement of Problem**

Participation is identified by the Constitution as a national value and a principle of good governance. It expressly states that all state organs, state officers and public officers must ensure participation of the people.

Muriu (2013), notes that citizens of Kenya have generally suffered from lack of awareness and adequate capacity to participate over time which has led to their voice not being heard. He observes that the only direct participation of citizens seems to be by being consulted on what projects need to be done which is not always binding. Generally citizens have little and at times no information on what is being done, they lack idea of how, when and where they should participate.

Experience has demonstrated those policies, regulations and laws that are developed without citizens being informed or being involved in the process often lead to civil unrests, demonstrations and public outcry. It often leads to delayed development within a country.

The constitution of Kenya makes it mandatory that for any policy, laws and decisions affecting the public to sail through, government agencies must show proof of citizen participation.

As such various decisions and actions by both national and county governments have been challenged due to lack of public participation. Failure to engage citizens in budget making processes has seen county governments challenged by the very public on priorities.

It is evident from the United Nations (UN), e-participation index ranking that Kenya lags behind in the implementation of modern participation mechanisms using ICTs as compared to other countries. From 193 countries, Kenya in 2012 was position 125 with a score of 0.05 against scores of 1.00 for Netherlands and Korea which top the list. This is an indication that e-participation has not been well embraced calling for a review of the same.

ICT statistics released quarterly by the Communication Authority of Kenya (formerly Communication Commission of Kenya), show that mobile and internet access and penetration have increased tremendously. In December 2013, mobile subscription stood at 31 million while internet users stood at 21million. These are out of a total population of approximately 40 million citizens as at 2009 census. This figures already reflect the importance of harnessing e-participation as a rich means of citizen engagement.

Gehring V.D [ed] ( 2007) observes that e-participation is able to provide citizens with various means to have their input to political processes including a choice of when and where to participate. The study focuses on investigating the status of e-participation initiatives deployed in Kenya government MDAs. It looks at their reach, how well they are providing for citizen participation, challenges faced in the deployment and use of these initiatives, citizens access to and use of the e-participation tools and citizens perception of the tools usage. It also undertakes a desk review of e-participation initiatives adopted by other countries MDAs and the best practices and lessons learnt by these countries MDAs. The study concludes by providing a model that can guide MDAs in roll out and effective use of e-participation tools/initiatives with an aim of improving the status of citizen participation as demanded by the constitution.

## **1.3 Objectives**

### **Overall objective**

To explore the influence of technology adoption factors on e-participation

### **Specific objectives**

1. To determine and evaluate the status of e-participation initiatives & tools implemented in Kenya government MDAs
2. To determine the reach, use and effectiveness of the various e-participation initiatives & tools.
3. To determine the influence of technology adoption factors on e-participation.
4. To determine the correlation between compatibility of a tool to design reality gaps and level of participation.
5. To determine the correlation between complexity of tool and the level of participation it provides.
6. To determine the correlation between the level of citizen awareness and level of participation.
7. To determine the correlation between the relative advantage of an e-participation tool and level of participation.

#### **1.4 Research outcomes and significance to key audience**

This study will help to determine and evaluate the e-participation initiatives and tools implemented by Kenya government MDAs. It will highlight the challenges and limitations of these initiatives. The study will also be used to understand the reach and use of these initiatives and tools.

The findings, recommendations from the study will potentially help to guide MDAs on what measures, initiatives and practices they can adopt to fully realize the benefits of e-participation.

#### **1.5 Scope**

This study focuses on identifying and evaluating the existing e-participation initiatives and tools provided for by key Kenya government MDAs. It also seeks to identify the e-participation initiatives and tools that have been deployed in various MDAs of countries at the top of the UN participation studies. The result of the study is a set of research findings that can help assist MDAs in scaling up efforts towards achieving e-participation.

#### **1.6 Limitations of the research**

The study is limited to providing a set of recommendations and a developing a model for enhancing e-participation. It does not go into developing an e-participation tool or platform.

## CHAPTER 2: LITERATURE REVIEW

### **2.1 Introduction**

Citizen Participation involves goal setting, strategy formulation, policies, monitoring and evaluating government services. As noted by several authors and in-deed world intergovernmental bodies such as UN and European Commission, ICT has a big potential for improving citizen participation and achieving the goals of participatory democracy – transparency, accountability and increasing citizens trust in government.

This section highlights topics that are relevant to this study. It gives an explanation of what the constitution of Kenya says in relation to citizen participation, it gives a summary of the UN e-participation index, highlights similar studies that have been done, explains the benefits of e-participation and ends by giving a conceptual framework that was adopted for the study.

### **2.2 Benefits and Objectives of participation**

According to Milakovich (2010) citizen participation has the following purposes

- Provide citizens with information and get feedback from them.
- Improve decision making procedures through consultations with citizens and taking citizens opinions into decision making.
- Improve acceptance of activities by government
- Upholds the principles of transparency and accountability.
- Protecting individuals and group rights and interests

### **2.3 Participation and the Constitution of Kenya**

In Article 10 of the Constitution, participation of the people is identified as a national values and governance principle. It expressly states that all state agencies, state officers and public officers must ensure participation of the people. It goes ahead to identify integrity, transparency and accountability as key values of good governance. The constitution goes ahead to spell out several articles that require that public participation be upheld. Article 69(1)(d) requires the public to be involved in managing the environment, Article 118(1)(b) requires parliament to facilitate public participation and involvement of citizens in the legislative and other business of parliament and its committees. In fact Article 174 states one of the objectives behind the establishment of devolved government as giving self-governance

powers to citizens. The county assemblies are also obligated to ensure public participation in all matters. Article 201 in relation to public finance and as a way of ensuring transparency and accountability demands that public participation exist. Article 35 grants citizens the right to information held by the state. It also demands the state to publish and publicize any important information affecting the nation. Information to citizens must also be timely and accurate, article 232.

## **2.4 Frameworks and models used to study citizen participation**

### **2.4.1 Diffusion of Innovation Theory**

The theory is applied in technology innovation research studies to explain user adoption of new technologies (Rodgers, 1962).

Rodgers (1962) defined diffusion as “the process by which an innovation is communicated through certain channels over time among the members of social systems”.

Rodgers (1962) explained that adopters of any technology must learn about it before they can adopt it.

Rodgers identifies 5 factors which influence adoption of an innovation. These are:

1. **Relative Advantage (similar to TAM PU)** - The degree to which an innovation is seen as better than the idea, program, or product it replaces.
2. **Compatibility** - Measures how the tool matches the user experiences, their needs and beliefs and how they do things.
3. **Complexity** (similar to TAM PEOU)- The extent of difficulty that the innovation gives in its understanding and/or use.
4. **Triability** – Refers to the extent the innovation can be tested before a commitment to adopt is made.
5. **Observability** – Whether the innovation provides observable results on a particular scale.

The most successful adoption of a program results from understanding the target population and the factors influencing their rate of adoption



## **2.4.2 Technology Acceptance Model ( TAM)**

TAM is an information systems theory that models how users come to accept and use a technology. It is used to predict acceptability of a tool and to determine the modifications which should be made to the system in order to make it acceptable to users. The model is an effective tool for predicting acceptance of systems by the target users.

According to TAM, the following two factors will influence the decision on how and when to use a new technology

- **Perceived usefulness** – Abbreviated as PU. Refers to the degree to which a person believes that using a particular system would enhance his or her job performance.
- **Perceived ease-of-use** - Abbreviated as PEOU which refers to the degree to which a person believes that using a particular system would be free from effort ( Davis, 1989).

This means that though an employee does not welcome an information system, the probability that he will use it is high if he thinks that the system will improve his work performance.

### **Citizen participation in devolved governance**

Omolo A, (2011) conducted a study on citizen participation in devolved governance. This was done in Kenya counties.

In her study, she identifies 8 core elements necessary for conceptualization of citizen engagement in devolved governance. The eight thematic areas from her study are as follows:

#### **1. Citizen awareness & access to information**

It is said information is power and indeed citizen participation focuses a lot on provision of information to citizens. Citizens need to be made aware of events touching on them. For citizens to contribute and participate effectively there is need to furnish them with adequate information in the format they understand. Failure to disclose information delinks citizens from development. It also creates room for corruption.

#### **2. Capacity building**

For effective engagement, citizens need to be equipped with the requisite knowledge & skills on how they can participate. This information includes information on available channels.

Omolo, 2011 notes that technological capabilities of the communities are part of capacity building.

### **3. Planning, implementation**

Citizen participation should strive to ensure citizens are involved at all levels of planning( for projects) identification of the overall community vision and paving the way forward for communities pressing needs. Many a times, government agencies have only involved citizens at identification stage. However, in implementation there exists citizen alienation.

Omolo 2011 in her study notes that , one of the major downfalls to participation is the lack of suitable platforms for participation and lack of incentives for participation. This has more so affected the middle class and the elite who for one reason or another cannot attend barazas but would rather participate in a more comfortable environment. The 2013 general elections saw very few people registering to vote and among the few who registered, even fewer voted. This was majorly due to the need to be physically present at both registration and voting centers.

### **4. Monitoring & evaluation (M & E)**

This is another important aspect of citizen participation. KHRC & SPAN (2010), note that it has been difficult to hold anyone accountable for mis-use of funds if no legal backing exists. In the study, Omolo 2011 notes that the citizens in the past have not been able to question procedures at the lower levels of government. The study recommends that there should be good M & E framework where citizens input and feedback is utilized instead of relying only on inter-governmental reports which are many a time crafted to be positive. The need for citizen oversight committees is identified as part of the recommendations.

### **5. Feedback and reporting mechanisms**

As a right to information, citizens need feedback and regular reports on issues, projects etc affecting their day to day lives. Status reporting has been very poor. The study notes that personnel in most offices have not been trained in monitoring and evaluation thus preparing reports becomes a huddle. The author notes that status reporting tends to delay in most cases hence denying citizens of the information required to enable them give feedback or react.

### **6. Financial resource mobilization/ cost issues**

Providing for citizen participation has been identified to be a costly exercise especially when it involves information dissemination and capacity building. Omolo ,2011 notes that this is one of the factors that has really influenced the degree of citizen participation at the county level. She argues that studying this aspect of participation is an important aspect to be considered.

The author in her study proposes several policy guidelines relating to enhancing citizen participation. These policy suggestions will help guide part of the questionnaire questions for this study that will be used to interview respondents.

### 2.4.3 Arnstein's ladder of citizen participation

Arnstein (1969) in his study of citizen participation offered a proactive typology similar to a ladder pattern where each step corresponds to the level of citizens' power in determining the plan, issues, policies and or programs.

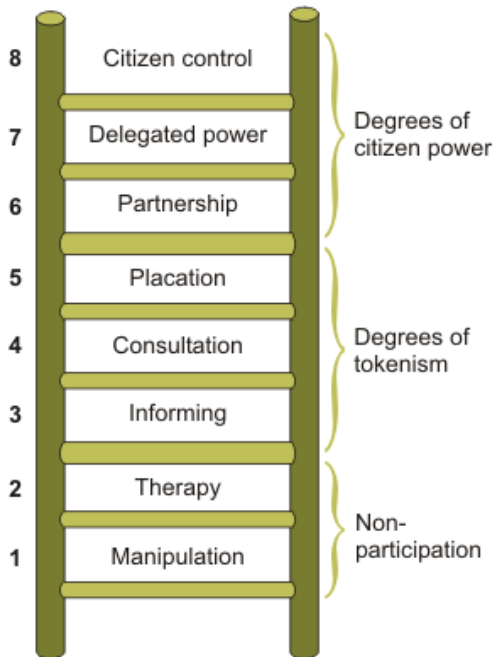


Fig: Arnsteins' ladder of citizen participation

The first 2 bottom layers are considered layers of non-participation i.e. *manipulation and therapy*. Often they have been twisted to substitute for genuine participation. Here power holders mainly educate/inform citizens of the decisions they have already made. In cases where such decisions can be potentially viewed as controversial, the power holders mainly try to convince citizens to adopt their resolutions or to focus on the positive only thus therapy.

Levels 3, 4, 5 represent degrees of tokenism where real participation starts. *Informing*-involves citizens being provided with information as to their rights, responsibilities, and options. However, this level is considered largely to be one directional flow of information. In such a case, no channel is provided for feedback and no power exists for citizens to negotiate with government. *Consultation* is inviting citizens' opinions. However, this step is still viewed as limited participation as citizens are never sure that their opinions will be taken into consideration in decision making. At *partnership level* power and decision making is redistributed through negotiations between citizens and power holders. Planning and

decision making is shared as a collective responsibility. In *delegated power*, citizens achieve a dominant decision making authority position in consultations with public officials. The highest level of participation according to Arnstein is *citizen control* where citizens are put in charge of specific decision making roles. They are put in managerial position to guide aspects such as public schools etc.

Angella Guimaraes et al. (2003), in their study of e-participation tools in water resources planning acknowledge that Arnsteins ladder is important in the designing and deployment of tools to support participation.

Arnsteins ladder strives to make it clear that there are significant levels of citizen participation. Understanding these levels helps to identify with ease the strict demands posed by citizens by being at a particular level of participation. This is said to have a direct relationship to the identification of appropriate ICT tools for use at a particular level.

This model has been relied upon in coming up with the conceptual framework for this study by picking some variables from it.

#### **2.4.4 Participation across the world – UN Studies**

The United Nation assesses citizen participation but with an inclination towards e-participation. The concept is measured under the framework called the UN e-participation index.

The index is investigated under 3 key topics i.e. e-information, e-consultation and e-decision making. Assessment is done by conducting a qualitative survey across key sectors such as health, education, finance, social welfare and employment. A country's e-participation index value reflects how useful the e-participation features are and how well they have been deployed compared to other countries. The aim of the index is to give information how countries are using e-participation tools.

The index is studied under 3 topics i.e.

**E-Information** – This refers to provision of information by the government. The information cuts across policies, programs, laws and any information that could be of interest to the public. The index evaluates whether tools exist for information dissemination. These could include online forums, chats , email or any other tools.

**E-Consultation** – Under this, the index evaluates whether the tools put in place give guidance on e-consultation mechanisms. The tools should offer policy topics. The tools should further allow for

discussion real time. Further citizens should be encouraged to participate. Subscriptions by citizens to enable alerts should also be provided by the tool.

**E-Decision-making-** Here the tools should provide a means for citizen inputs to be taken into decision making. Feedback should also be provided on the outcome of issues.

The index forms an important review point for this study as it helps to identify ICT initiatives employed in citizen participation across the world. It will also help in coming up with a comprehensive framework for this study.

### **Participation studies across Africa**

A study on e-participation in Uganda was conducted by the Collaboration on International ICT policy in East and Southern Africa (CIPESA) in 2012. The study evaluated ICT tools used to promote participation by government agencies mainly by evaluating their websites and online services. The study identifies the usefulness and shortcomings of the tools and the success factors. It gives proposals for improving the usefulness, reach and success of initiatives that utilize ICT to improve citizen participation.

The study employed a mix of methods including desk review, review of literature, site visits, interviews, focus group discussions, audits and tests. Each of the methods was aimed at collecting various kinds of data. A questionnaire was the data collection instrument.

The study notes the following benefits of using e-participation tools;

- E-participation tools can help citizens make choices by empowering them and informing them
- The tools can increase participation of citizens of citizens in democratic processes by building their confidence and capacity to participate.

From the study various challenges to uptake of ICT tools in participation were identified. The key ones of interest to this topic are

- Citizens not being aware of the tools put in place for their participation
- General fear and distrust of ICTs and the internet by citizens
- Lack of adequate funding for deploying the tools
- Mistrust on the part of government personnel as to the use of the tools
- General change resistance by government officials and citizens
- Unequal access to technology by citizens and in the use of such technologies

- Prohibitory costs associated with using the e-participation tools
- Failure by government agencies to involve citizens during the development of the tools

ICT tools were continuously being used in the work of government agencies including mobile devices and social media. However, organizations were largely not aware of how many people were being reached by the tools and the impact created by these tools. Key success factors realized from the study which can be replicated elsewhere include addressing inequality in technology access and use, ensuring that literacy levels match the tools set up, putting in place project continuity and sustainability measures and increasing citizen awareness on the tools.

## **2.5 Critique of the existing literature relevant to the study**

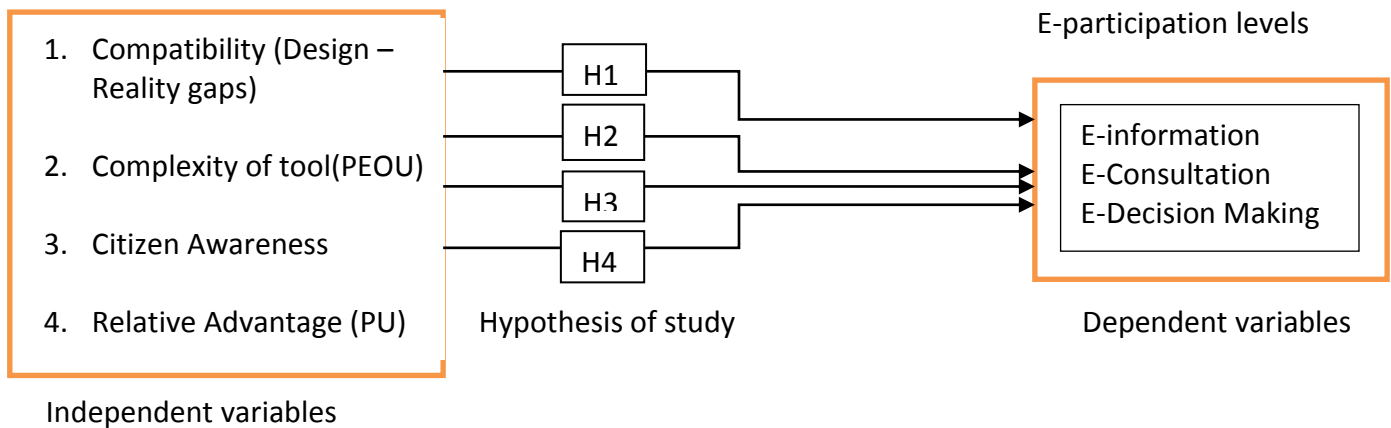
The framework used by UN is a comparative ranking mainly for illustrative purposes and doesn't go ahead to recommend practices or measures that countries (and their MDAs) in the ranking can take to improve their ranking. The study conducted by Omolo,(2011) focuses on policy proposals and not ICT tools in relation to citizen participation. However, it does provide a good framework from which citizen participation can be studied. Arnsteins ladder of citizen participation provides a framework for evaluating the level of citizen participation at which a country or MDA currently is at. This helps to potentially determine which ICT initiatives can be best suited to address the challenges identified at a particular level. The Diffussion of Innovation Theory and TAM are not comprehensive enough when considered on their own.

## **2.6 Research gap**

There is need to focus on e-participation especially at the local country or MDA level. Generalization of overall participation like the UN case does not serve to help countries improve at individual levels. Besides there is a general limitation of studies focusing on citizen participation especially within the Kenya MDAs level. Studies have mainly focused on country level citizen participation or generalized specific sectors of the country. The potential of ICT /role of ICT in citizen participation in Kenya hasn't been explored to desirable extents bearing in mind the state of ICT. A good number of citizen participation studies have merely focused on investigating citizen participation as adopted in traditional means such as barazas, public meetings, etc which often than not have locked out the middle class and the elite as noted by Omolo ,(2011).

## **2.7 Conceptual framework adopted and Measurement of variables**

From the literature on adoption models and studies conducted on participation, the following is the conceptual framework adopted for the study.



## **2.8 Hypothesis of study**

The following hypotheses have been developed for this study:

1. H1: There exist significant correlation between compatibility and level of participation.
2. H2: There exists a significant positive correlation between complexity of tool and its level of participation. (support for tool, ease of use)
3. H3: There exists a significant correlation between the level of citizen awareness and the level of e-participation.
4. H4: The relative advantage of the tool has significant influence on level of participation



## CHAPTER 3: METHODOLOGY

### **3.1 Introduction**

This section explains the methodology used for the study. It identifies the research design, population to be studied, sample size and sampling technique, data collection instrument and procedure and finally processing and analysis of the data.

### **3.2 Research Design & its justification**

This study is a cross-sectional study that adopts qualitative data gathering. The study employed a mix of data collection techniques including desk review, review of literature, site visits to MDAs, interviews, audits and tests. Each of the methods was aimed at collecting various kinds of data. A questionnaire was the core data collection instrument.

Site visit to MDAs offices followed by interviewing key personnel was conducted to help collect data on the e-participation tools as outlined in the conceptual framework.

### **3.3 Population study**

The study population was arrived at through desk research and crowd sourcing to determine which MDAs have implemented some form of e-participation tools including websites, toll free numbers among others.

Specifically, the desk research and crowd sourcing was used to collect information on which MDAs have some form of e-participation tool in place. The e-participation tool in this case involved any ICT tool that facilitates information sharing with citizens, that allows citizens to submit their inputs and opinion on certain key aspects including raising issues on services offered, and finally those ICT tools that allow information gathering from citizens for purposes of decision making and feedback dissemination.

Four (4) Kenyan MDAs were identified based on the criteria above. The 4 MDAs include

No	MDA	E-participation tool identified	Area of e-participation	Description
1	IEBC	Results Transmission System (RTS) and the website	E- information	Election monitoring and reporting tools (tallying),e-information civic participation/education e.g. How did iebc use ict tools for civic participation and education
2	The Judiciary	Service Desk System	E-consultation E-decision making	It is a complaint system for taking complains and compliments from the public and internal staff. Corruption reporting, complaints handling and whistle blowing
3	Kenya Revenue Authority	Itax system	E-Information E-Consultation	The Kenya Government tax collection system and filling of returns. It also provides citizens with a platform for providing feedback to the agency on certain tax related issues and performance of system.
4	Kenya law Reform commission	Social media platforms, blogs, opinion polls, bill tracker	E- information E-consultation E-decision making	Participating in contributing ideas to shape decisions in law making

The existence of these MDAs has wider implications on the day to day running of the government and public service delivery.

### **3.4 Sample Size and sampling technique**

The sampling technique employed for the study is survey sampling. There are numerous government ministries, departments and agencies in Kenya. This number is potentially too large to investigate. Non-probabilistic sampling that uses judgment sampling was adopted. Judgment sampling is a non-probability method where the researcher chooses the sample based on his judgment and information available provided the samples are truly representative of the population under study. For purposes of this study, 4 government MDAs were identified based on the existence of some form of e-participation tool in place.

### **3.5 Data collection instrument**

Data collection adopted the semi-structured interview approach via focus group discussions. Questionnaires were both closed and open ended and responses taken in a semi structured nature. This was expected to allow delving into issues of interest that arise during interview session but related to the study objectives. The questionnaire had questions arising from the conceptual framework. See appendix on the questionnaire used for the study.

Data on how ICT has been used in citizen participation in various countries was collected through desk research based on the UN e-participation index. The UN index has been selected as the study population of choice due to its wide reach considering it has 193 member countries across the world.

### **3.6 Limitations of methodology**

Due to the method of sampling adopted – Judgment sampling, generalization of results might not be possible hence the results and recommendations that emerge from the study should be adopted with this aspect in mind.

There could have been judgment error while doing judgment sampling. It is impossible to prove at this stage that the targeted respondents were 100% correct to be used for the study.

## CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

### **4.1 Introduction**

The key objective of the research was to evaluate the status of e-participation and the influence of technology adoption on e-participation in Kenya MDAs. A questionnaire (closed and open ended) was the data gathering research instrument. In order to arrive at meaningful analysis of data, descriptive statistics and correlation were relied upon to generate findings from the data collected. Microsoft Excel and IBM Statistical Analysis software (SPSS) were used in the analysis. This chapter, therefore, provides analysis, presentation, interpretation and discussion of the findings from the data collected for the study. The analysis is grouped into 6 parts in line with the questionnaire that was used.

### **4.2 Data processing and analysis**

Responses were transferred to one data template. Categorization and coding of data was performed to help clean up the data in readiness for analysis. Coding of data was done on Microsoft excel and responses were coded into appropriate scales depending on the question being answered.

Data analysis was conducted using descriptive statistics and correlational analysis. The subsequent section discusses these in detail.

#### **4.2.1 Descriptive statistics**

Descriptive statistics are used to quantitatively describe or summarize features of a collection of information otherwise called the sample. It aims at providing simple initial explanations of observations that can be made on the data. Graphs are typically used to display outputs.

Descriptive statistics was used during the analysis to provide snapshot on responses that were given. Graphs in the form of pie-charts were used to display the information in clear form.

### **4.2.2. Correlational Analysis**

Correlation measures the extent of linear relationship between two variables. The results of the correlational analysis can be used to indicate a relationship that is predictive and that can be used in practical analysis

For the purpose of this data analysis, the Pearson Correlation algorithm was used to analyse the data to determine relationships between the variables. IBM SPSS package for analysis was used to perform all correlational analyses.

The Pearson's correlation is used to determine if a statistical evidence of a linear relationship exists between pairs of research variables. This relationship is represented by the population correlation coefficient,  $\rho$  ("rho").

The measure indicates if a statistically significant linear relationship exists between two variables, measures strength of the relationship and finally whether relationship is increasing or decreasing as determined by the direction of the relationship.

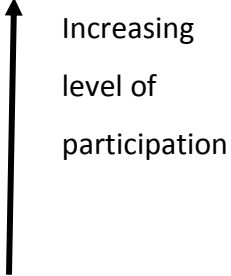
Correlational analysis here takes a range values from -1 to 1. The direction of the correlational analysis is determined by the sign of the correlational coefficient as either negative or positive. This also indicates how strong the relationship is. In this case a perfectly negative linear relationship is assigned -1. If no relationships exist, it is indicated as zero (0). Finally, a perfectly positive relationship is assigned +1.

A decreasing relationship is demonstrated by a -ve correlation while an increasing relationship is demonstrated by a +ve correlation. For the purpose of this correlational test, a two tailed test was performed at a statistical significance level of 0.01.

### **4.2.3 Ranking of e-participation levels**

As highlighted in the literature review, e-participation can be categorized into 3 key levels as follows depending on the complexity of the tool as well as the extent of citizen participation that the tool offers

Level of E-participation	Level assigned
E-Decision Making	3 (Highest level)
E-Consultation	2
E-Information	1(Lowest Level)



The scale above was used to rank the level of participation provided by the various e-participation tools.

### **4.3 Results**

The following sections give details on the analysis that was conducted and results.

#### **4.3.1 Introductory Questions**

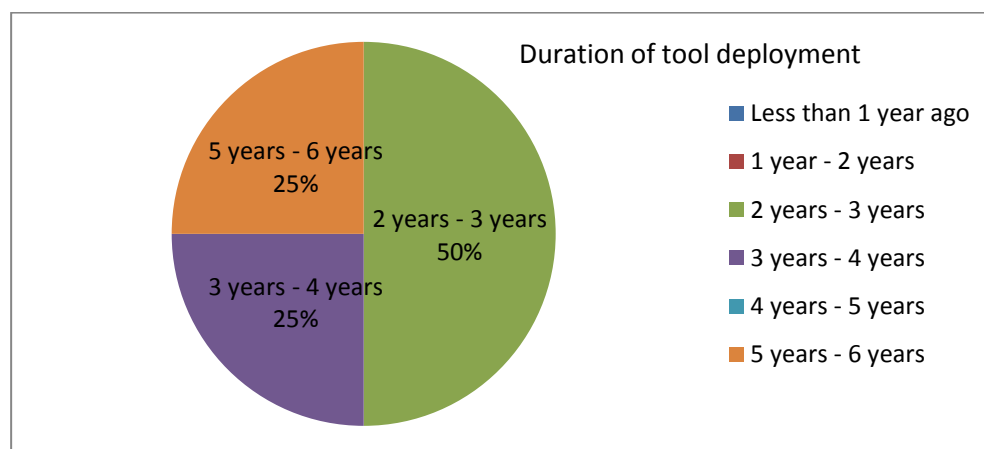
The set of questions under this topic set out to establish preliminary information regarding the tool in use. Four MDAs provided data regarding their tools. The level of participation provided by each tool was arrived at through consideration of the both the objectives of rolling out the tool as well as the nature of services offered by the tool. In general, the services mapped out included information provision, providing citizens with a channel for giving feedback and information to influence certain decisions and engaging citizens in consultations with an aim at arriving at a collective decision making.

The following figures summarize the findings under this area

No	MDA	Tool	E –participation Level	Description
1	Independent Electoral and Boundaries Commission	Results Transmission System (RTS) and the website	E- information	Election monitoring and reporting tools (tallying),e-information civic participation/education e.g. How did iebc use ict tools for civic participation and education

No	MDA	Tool	E-participation Level	Description
2	The Judiciary	Service Desk System	E-consultation E-decision making	It is a complaint system for taking complains and compliments from the public and internal staff. Corruption reporting, complaints handling and whistle blowing
3	Kenya Revenue Authority	Itax system	E-Information E-Consultation	The Kenya Government tax collection system and filling of returns. It also provides citizens with a platform for providing feedback to the agency on certain tax related issues and performance of system.
4	Kenya law Reform commission	Social media platforms, blogs, opinion polls, bill tracker	E- information E-consultation E-decision making	Participating in contributing ideas to shape decisions in law making

#### **4.3.2 Duration within which tool was deployed.**

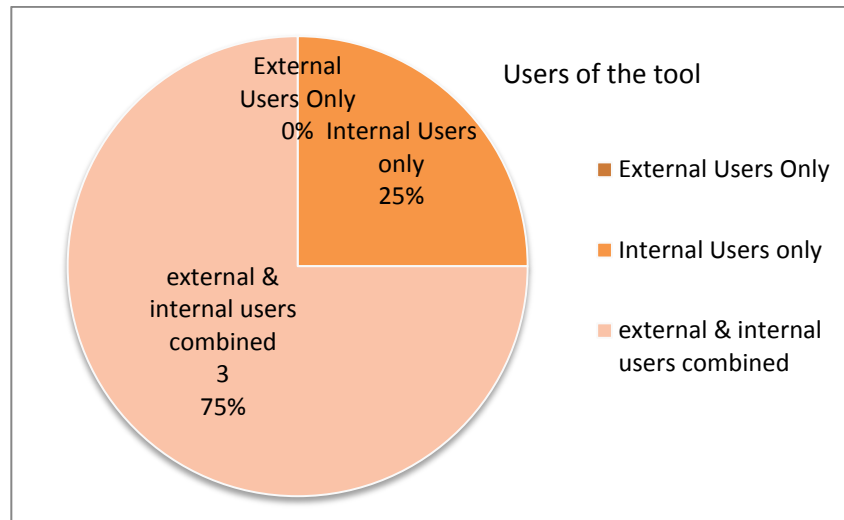


Of the tools under the study, 50 % were deployed for use within last 2-3 years while 25% between 3-4 and 5-6 years. This duration of time is assumed to provide adequate time for the tools to take shape to realize their intended objectives.





### 4.3.3 User of the tool



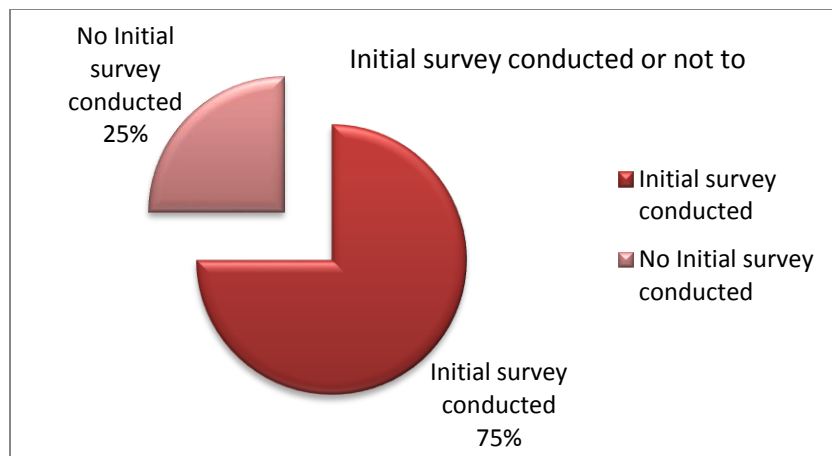
Of the tools in the study, 75% of the tools were providing for citizen participation through internal and external use while only 1 tool representing 25% was being used by internal institutional personnel on a hands on basis. This is a case where citizens interact with the tool via an intermediary channel whose input ends up in the e-participation tool for further action and review.

### 4.4.4 Variable 1: Compatibility (Design vs Reality gaps)

Compatibility measures the extent to which the tool in place is in line with the norms and practices of target users otherwise referred to as user experience (UX). Compatibility of the tool, a measure of its design vs reality gaps was considered under the following areas.

1. Conducting of a needs survey
2. Involvement of citizens during the deployment
3. Testing of the system by target users
4. How need for the tool came about

**Conducting needs survey** – To arrive at the best fit for compatibility, it is of at most importance to conduct a needs survey with the target users. A needs survey is meant to ensure that user requirements and aspirations are taken into account during the development of the tool. The following graph shows the distribution of tools in relation to whether a needs survey was conducted or otherwise prior to development of the tool.



A look at the tools which reported lack of initial user needs survey shows that these tools were at the lowest level of e-participation i.e. e-information.

### **Involvement of citizens during the development, testing and deployment of the tool**

The questionnaire sought to find out for each tool whether citizens were involved during development of the tool, testing and deployment. Of the tools in place, the following table shows a relation between these aspects of compatibility.

No.	MDA/Tool	Were the target users involved through the development process?	Was the tool deployed for testing with citizens prior to use?	Level of Participation offered by tool
1	IEBC	Yes	Yes	E-Information
2	JUD	Yes	No	E-Consultation
3	KRA	Yes	Yes	E-Consultation
4	KLRC	No	Yes	E-Information

## **Correlational analysis between compatibility and level of participation**

Further compatibility of the tool to design reality gap was evaluated in terms of user experience. On a scale of 1-5 where 5 is excellent user experience and 1 poor user experience, participants were asked to rate their user experience with the tool. User experience studies indicate that the highest level of user experience is arrived at through understanding the needs and aspiration of the target participants. The level of user experience was correlated to level of participation offered by the tool. The table below shows a summary of the results and the subsequent pearsons correlation output.

### **Hypothesis 1:**

**H1:** There exist significant correlation between compatibility and level of participation. The null hypotheis (H0) is that no linear relation whatsoever is present between the variables which imply a correlation of 0.

The statistical correlation test sought to find out if hypothesis 1 (H1) is supported by the outcome of the research.

The correlation test on the relationship between compatibility as measured by degree of user experience on a scale of 1-5 and the level of participation as provided by the tool on a scale of 1-3 is shown below.

### **Correlations of Compatibility to Level of Citizen participation**

		Compatibiltity	LevelofParticipation
Compatibiltity	Pearson Correlation	1	1.000**
	Sig. (2-tailed)		.000
	N	4	4
LevelofParticipation	Pearson Correlation	1.000**	1
	Sig. (2-tailed)	.000	
	N	4	4

\*\* . Correlation is significant at the 0.01 level (2-tailed).

From the observations above, a strong positive liner relation exists between compatibility and level of participation at Pearson Correlation = 1, p =.000 (2 sided). The relationship as demonstrated by the results of the analysis indicates a linear relationship that is statistically significant. The relationship is positive meaning as compatibility increases so does level of participation.

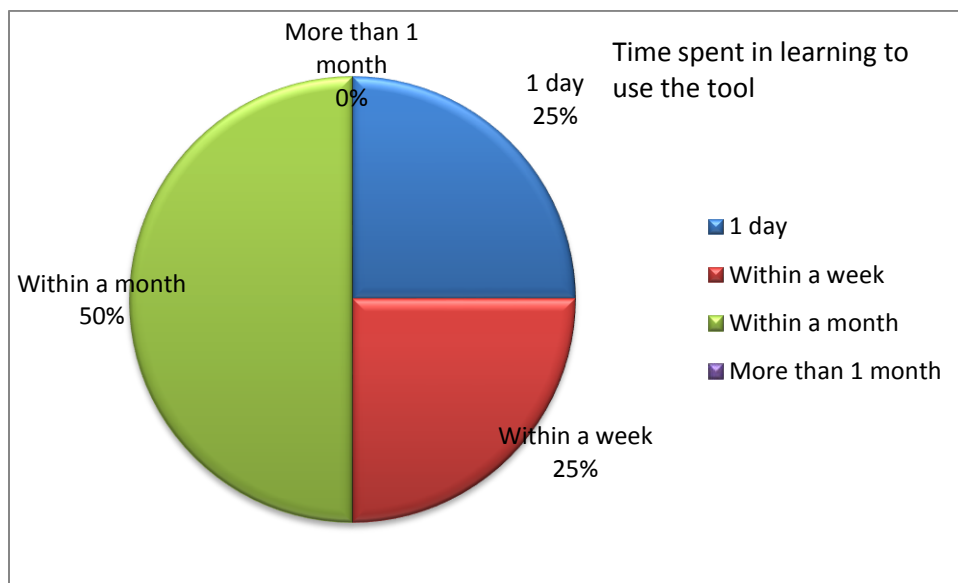
#### **4.4.5 Variable 2: Complexity of tool (perceived ease of use)**

Complexity of a tool refers to the amount of effort needed to use a tool. Complexity of a tool is otherwise referenced as perceived ease of use in some technology adoption models. The complexity of tool variable was studied under the following areas

1. Time spent in learning to use the tool
2. Need for extra skills to use the tool
3. Need for more office hours at work brought about by the use of the tool
4. General user support for the tool as related to complexity

#### **Time spent in learning to use the tool**

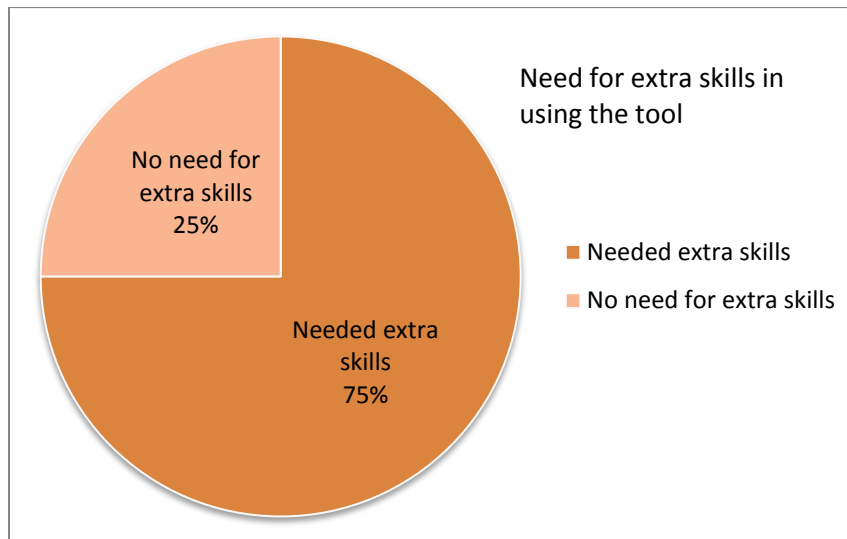
The learning time in order to use the tool provides an indication as to the level of complexity of the tool in use. The following graph shows the distribution of the time spent in learning to use the tool



50% of tools required learning time of within a month, 25% within a week while 25% within a day. In general, the more complex tools at higher levels of participation required more learning time as opposed to simpler tools at lower levels of participation.

## Need for extra skills to use the tool

With the deployment of the e-participation tool, users in some instances were required to gain new skills in order to effectively use the tool. The following figure shows the distribution of the responses in terms of need for extra skills to use the tool.



In general 75% of the tools needed extra skills to use the tools in place while 25% of the respondents did not need extra skills to use the tool. Preliminary observation of the data shows that tools offering higher levels of participation required extra skills to operate and use. This is also reflected in skills needed by citizens to interact with the tool.

## Correlational analysis between ease of use, support for tool and level of participation

The correlational analysis of ease of use, support of tool and level of participation was conducted to help determine whether hypothesis 2 (H2) was supported or not.

**H2:** There exists a significant positive correlation between complexity of tool and its level of participation. Complexity of tool was further broken down to two main variables of measure i.e. ease of use and general user support for the tool in place.

Institution	Ease of use	support for tool	Level of Participation
IEBC	2	4	1
JUD	1	4	2
KRA	1	4	2
KLRC	1	3	1

The following table shows a snapshot of the correlational analysis between support for tool and level and participation

### Correlations between level of support of tool and level of participation

		SupportforTool	LevelofParticipation
SupportforTool	Pearson Correlation	1	.577
	Sig. (2-tailed)		.423
	N	4	4
LevelofParticipation	Pearson Correlation	.577	1
	Sig. (2-tailed)	.423	
	N	4	4

From the observations above, a relatively strong positive correlation exists between level of support for tool and level of participation at Pearson Correlation =  $+.577$ ,  $p = .423$  (2 sided).

The relationship as demonstrated by the results of the analysis indicates a linear relationship that is statistically significant. The relationship is positive meaning that as the level of support for the tool increases so does level of participation.

### Correlations between ease of use and level of participation

		EaseofUse	LevelofParticipation
EaseofUse	Pearson Correlation	1	-.577
	Sig. (2-tailed)		.423
	N	4	4
LevelofParticipation	Pearson Correlation	-.577	1
	Sig. (2-tailed)	.423	
	N	4	4

From the observations above, a relatively strong negative correlation exists between ease of use of the tool and level of participation at Pearson Correlation =  $-.577$ ,  $p = .423$  (2 sided). This is a statistically significant linear relationship though negatively related. The direction of the relationship is negative meaning that as the ease of use increases for the tool, the level of participation goes down. This simply means that tools that provide for lower levels of citizen participation generally tend to be simpler to use. As a result it is crucial that in the design of the tools while trying to achieve higher levels of participation, the ease of use of the tool should be taken into great consideration.

#### **4.4.6 Variable 3: Citizen Awareness**

The use of any particular tool depends on the degree to which citizens are aware of the existence of the particular tool. The level of citizen awareness was measured on a scale of 1-9 in terms of the number of tools put in place to ensure citizens are aware of the tool. The hypothesis of the study to be answered under this variable was:

**H3:** There exists a significant correlation between the level of citizen awareness and the level of e-participation.

The following table shows the distribution of the level awareness per MDA vis-à-vis the level of citizen participation provided for by the tool.

	level of citizen awareness	Level of Participation
IEBC	5	1
JUD	4	2
KRA	7	2
KLRC	1	1

### Correlations between level of citizen awareness and level of e-participation

		LevelofAwareness	levelofcitizenparticipation
LevelofAwareness	Pearson Correlation	1	.577
	Sig. (2-tailed)		.423
	N	4	4
levelofcitizenparticipation	Pearson Correlation	.577	1
	Sig. (2-tailed)	.423	
	N	4	4

From the observations above, a relatively strong positive correlation exists between level of citizen awareness and level of participation at Pearson Correlation =  $+.577$ ,  $p = .423$  (2 sided). The relationship as demonstrated by the results of the analysis indicates a linear relationship that is statistically significant. The relationship is positive meaning that as the level of participation rises (complexity of tool increases) so does the level of citizen awareness needed.



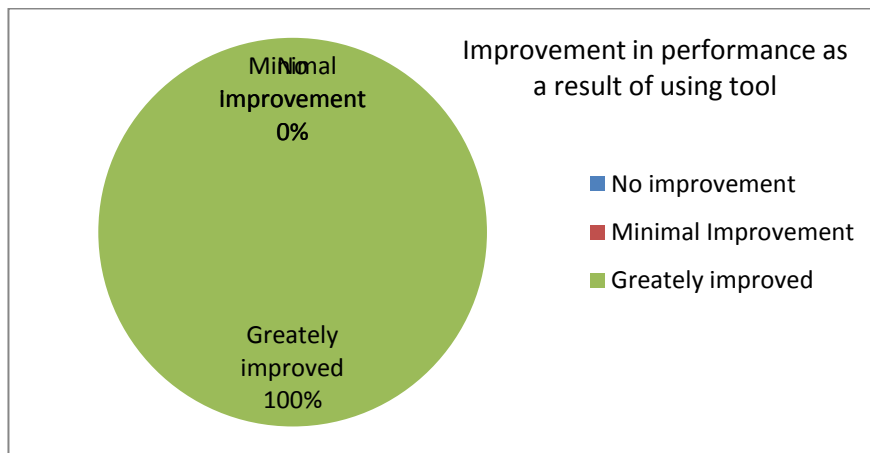
#### **4.4.7 Variable 4: Relative Advantage**

The relative advantage of the tool was looked into as perceived level of usefulness which points to the benefit that the tool is bringing on board during its use. It can be real benefit or even perceived into the future during the development of the particular tool. The hypothesis **H4**: The relative advantage of the tool has significant influence on level of participation was being tested through data collected under this section. The relative advantage of the tool was measured in terms of

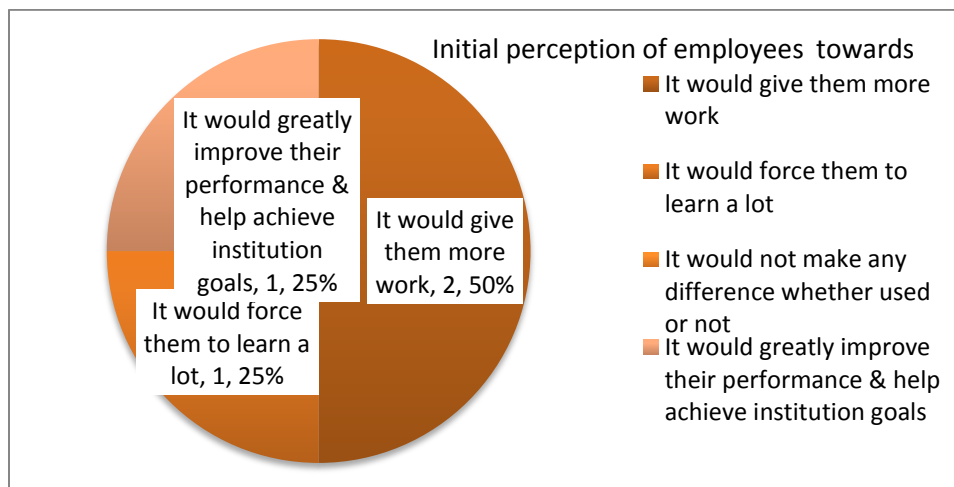
1. Improvement in performance as a result of using the tool
2. Initial perception of users to tool usage in terms of its advantage

#### **Improvement in performance as a result of using the tool**

The following figure shows the effect of tool use on performance of employees. Generally 100% of the tools saw an improvement in performance of the employees with the tool being in place.



#### **General initial perception of employees towards use of the tool**



50% of the responses indicated that employees thought the tool would give them more work, 25% that it would force them to learn a lot and 35% that it would greatly improve their performance & help achieve institutional goals.

The table below shows how the institutions fared. It shows the relative advantage of a tool verses the level of participation.

	Relative advantage	Level of Participation
IEBC	3	1
JUD	3	2
KRA	3	2
KLRC	3	1

#### Correlations between relative advantage and level of participation

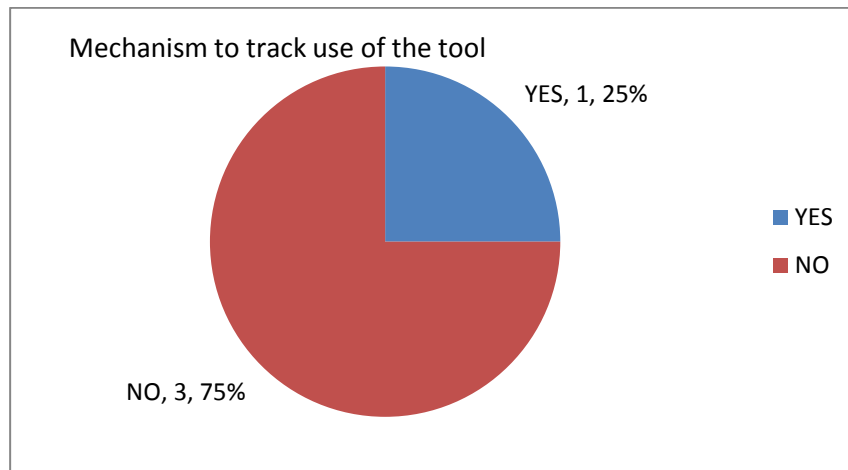
	relativeadvantage	levelofparticipation
relativeadvantage Pearson Correlation	. <sup>a</sup>	. <sup>a</sup>
Sig. (2-tailed)		.
N	4	4
levelofparticipatio Pearson Correlation	. <sup>a</sup>	1
n Sig. (2-tailed)	.	
N	4	4

A snapshot of the data above and the correlational analysis above shows that the relative advantage of the tool does not change as the level of participation changes. It seems that the relative advantage of the tool being a variable that is a comparison to how previously the task was being conducted has no correlation to increase in level of participation. As a result hypothesis H4 fails and the null hypothesis H0: Relative advantage has no correlation to level of citizen participation is thus supported.

#### **4.4.8 Feedback**

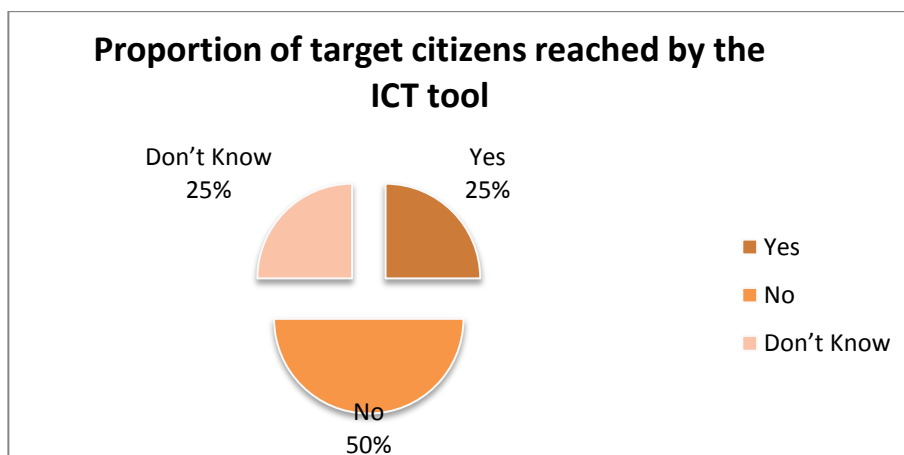
In addition to the variables above, the research sought to find out whether feedback mechanisms existed in regard to the tool usage. Only 3 institutions (75%) had put in place a mechanism of feedback collection from user of the tools. Further all institution relied on email communication as a channel for sending feedback to the users who had participated using the tools. The following areas were evaluated in relation to feedback

#### **Mechanism put in place to track use of the tool by citizens**



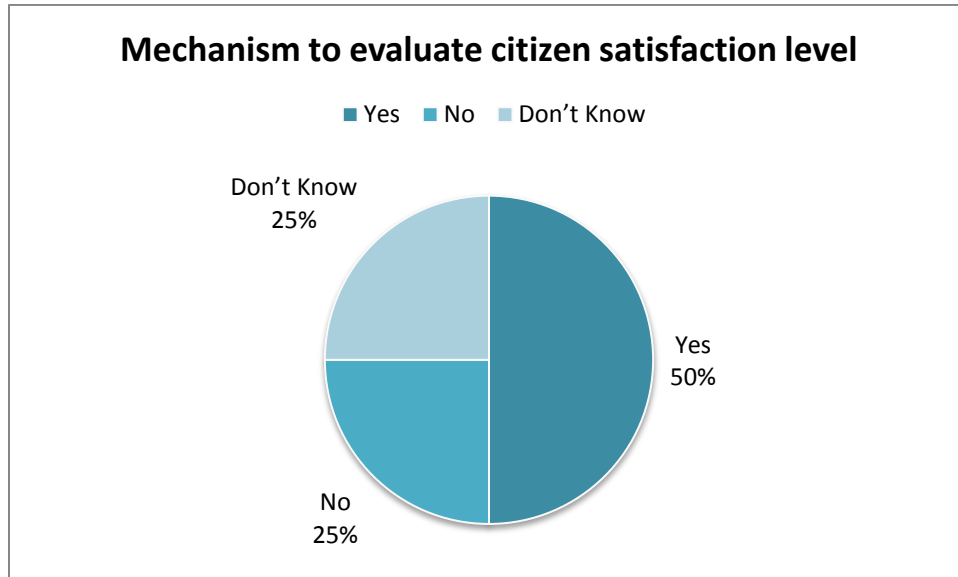
Of the MDAs surveyed, only one reported having mechanisms put in place to track use of the tool by citizens. The rest did not have any means to track use of the tool. One of the institutions reported having Monthly reports presented to management on use of tool. Kenya Revenue Authority has number of filers on-line and number of tax payers registered per month reports.

#### **Monitoring & evaluation mechanisms to measure proportion of target citizens reached by the tool**



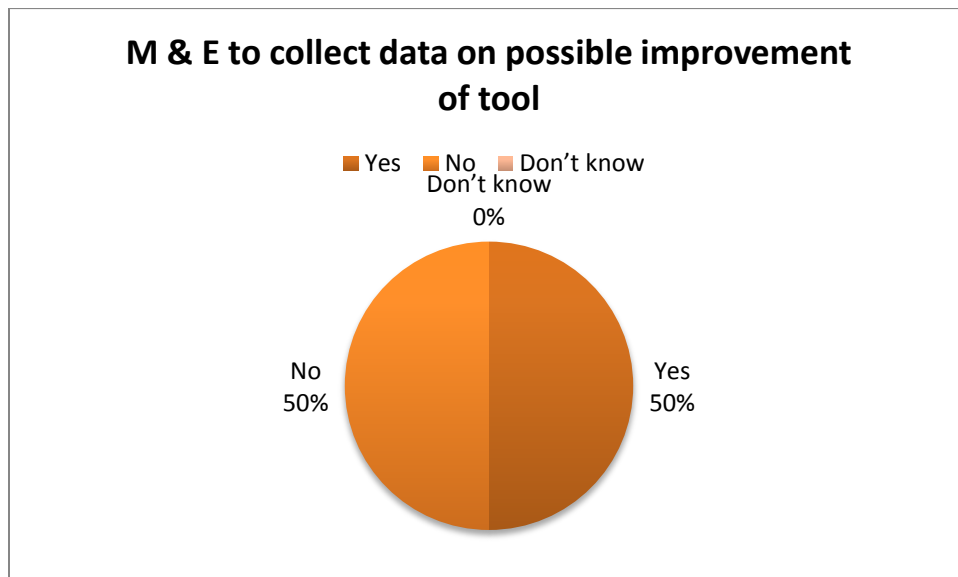
Only 25% of the MDAs had put in place measures to determine the proportion of target citizens reached by the e-participation tool.

**Monitoring & evaluation mechanisms to measure citizen satisfaction level in use of tool**



Measuring citizen satisfaction level helps to understand the experience target users are having with the tool that has been set up. However from the figure above, only 50% of the respondents had put in place means to evaluate citizen satisfaction level with the tools set up.

**Monitoring & evaluation process to determine points of improvement**



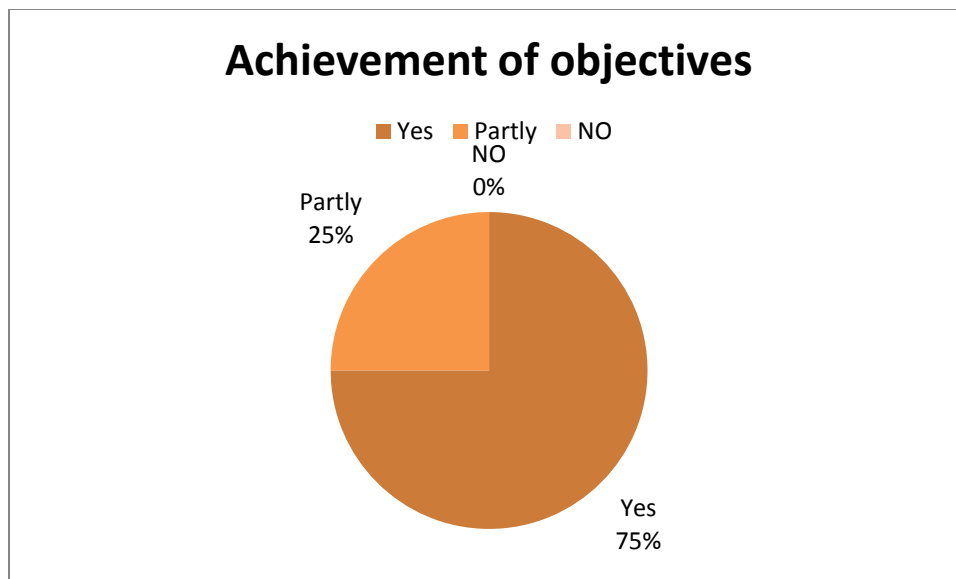
Only 50 % of the MDAs surveyed had put in place means to monitor and evaluate points of improvement of the tools.

#### **4.4.9 Achievement of objectives and aims of e-participation**

The research went ahead to find out if the institutions surveyed had achieved the objectives that were initially set up during the conceptualization and set up of the e-participation tool. This has a direct implication on the e-participation outcomes of transparency, accountability and citizen trust. The following table shows the distribution of responses in terms of achievement of objectives and e-participation outcomes.

	Achievement of objectives	Achievement of transparency	Achievement of accountability	Achievement of citizen trust	Level of Participation
IEBC	1	1	1	2	1
JUD	1	1	1	1	2
KRA	1	1	1	1	2
KLRC	3	1	2	2	1

1: YES 2: NO 3:Partly



## **4.5 Discussion of findings**

The study revealed that:

Of the tools under the study, 50 % were deployed for use within last 2-3 years while 25% between 3-4 and 5-6 years. This duration of time was assumed to be enough to provide adequate time for the tools to take shape to realize their intended objectives. 75% of the tools were providing for citizen participation through internal and external use while only 1 tool representing 25% was being used by internal institutional personnel on a hands on basis. This is a case where citizens interact with the tool via an intermediary channel whose input ends up in the e-participation tool for further action and review. 50% of tools required learning time of within a month, 25% within a week while 25% within a day. In general, the more complex tools at higher levels of participation required more learning time as opposed to simpler tools at lower levels of participation. 75% of the tools needed extra skills to use the tools in place while 25% of the respondents did not need extra skills to use the tool. Preliminary observation of the data shows that tools offering higher levels of participation required extra skills to operate and use. This is also reflected in skills needed by citizens to interact with the tool. 100% of the tools saw an improvement in performance of the employees with the tool being in place. 50% of the responses indicated that employees thought the tool would give them more work, 25% that it would force them to learn a lot and 35% that it would greatly improve their performance & help achieve institutional goals.

Only 25% of the MDAs had put in place measures to determine the proportion of target citizens reached by the e-participation tool. 50 % of the MDAs surveyed had put in place means to monitor and evaluate points of improvement of the tools. 50 % had put in place means to monitor and evaluate points of improvement of the tools. Finally only 75% of the MDAs had achieved their initial objectives of rolling out the e-participation tool. In general none of the institution surveyed has achieved the maximum level of e-participation where tools are used to provide a mechanism for inviting citizens input into decision making and using the same with evidence to make actual decisions.

In terms of findings from the correlational analyses to determine influences of technology adoption factors on e-participation:

- a. A strong positive linear correlation exists between **compatibility** and **level of participation** at Pearson Correlation = 1,  $p = .000$  (2 sided). The relationship as demonstrated by the results of the analysis indicates a linear relationship that is statistically significant. The relationship is positive meaning as compatibility increases so does level of participation. **Hypothesis 1(H1) is supported.**

- b. A relatively strong positive correlation exists between **level of support for tool** and **level of participation** at Pearson Correlation =  $+0.577$ ,  $p = 0.423$  (2 sided). The relationship as demonstrated by the results of the analysis indicates a linear relationship that is statistically significant. The relationship is positive meaning that as the level of support for the tool increases so does level of participation. Further, a relatively strong negative correlation exists between **ease of use of the tool** and **level of participation** at Pearson Correlation =  $-0.577$ ,  $p = 0.423$  (2 sided). This is a statistically significant linear relationship though negatively related. The direction of the relationship is negative meaning that as the ease of use increases for the tool, the level of participation goes down. This simply means that tools that provide for lower levels of citizen participation generally tend to be simpler to use. As a result it is crucial that in the design of the tools while trying to achieve higher levels of participation, the ease of use of the tool should be taken into great consideration. Hypothesis 2(H2) is supported.
- c. A relatively strong positive correlation exists between **level of citizen awareness** and **level of participation** at Pearson Correlation =  $+0.577$ ,  $p = 0.423$  (2 sided). The relationship as demonstrated by the results of the analysis indicates a linear relationship that is statistically significant. The relationship is positive meaning that as the level of participation rises (complexity of tool increases) so does the level of citizen awareness needed.  
**Hypothesis 3 (H3) is supported.**
- d. Finally, the **relative advantage** of the tool does not change as the level of participation changes. It seems that the relative advantage of the tool being a variable that is a comparison to how previously the task was being conducted has no correlation to increase in level of participation. As a result hypothesis **H4 fails and the null hypothesis H0**: Relative advantage has no correlation to level of citizen participation is thus supported.

The conclusions and recommendations on the above analysis is summarized in the next chapter.

## CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

### **5.1 Introduction**

The research sought to find out the status of e-participation initiatives & tools implemented in key Kenya government MDAs. Specifically, the research explored the influence of technology adoption factors on e-participation. The reach, use and effectiveness of the various e-participation tools were also explored.

The following sections highlight on the findings from which conclusions are drawn. Further the chapter gives recommendations based on the findings.

### **5.2 Summary of the findings**

From the research findings, none of the MDAs had achieved the highest level of e-participation i.e. e-decision making. The tools in place are still relatively weak in terms of providing for full citizen participation. However, 100% of the respondents indicated a strong will to improve their tools to reach for higher levels of e-participation. This is tied to the constitutions' requirement that citizens need to be involved at all levels of decision making regarding matters affecting their lives.

In terms of the influence of technology adoption factors investigated, a strong positive linear correlation exists between compatibility and level of participation. The Hypothesis 1(H1): There exist significant correlation between compatibility and level of participation is supported. Hypothesis 2(H2): There exists a significant positive correlation between complexity of tool and its level of participation is also supported. Hypothesis H3: There exists a significant correlation between the level of citizen awareness and the level of e-participation is also supported with a strong positive correlation. Finally hypothesis H4: The relative advantage of the tool has significant influence on level of participation is not supported.



### **5.3 Summary of Objectives**

#### **5.3.1 Objective One: To determine and evaluate the status of e-participation initiatives & tools implemented in Kenya government MDAs**

The research revealed that a few MDAs have tried to implement some form of e-participation. However, most tools provide for participation via the web based tools which perhaps does not fit a majority of the population especially in remote areas. The tools have mostly been deployed within the last 5 years which is in line with the constitutional requirement to have citizen input in a lot of issues affecting them. However, none of the MDAs so far has achieved the highest level of e-participation i.e. e-decision making. A lot still needs to be done to provide for higher levels of e-participation.

#### **5.3.2 Objective Two: To determine the reach, use and effectiveness of the various e-participation initiatives & tools.**

The research established that despite the MDAs having put in place e-participation tools, only a few are aware of the exact reach of their e-participation tools. There lacks proper follow up mechanisms on the number of citizens using the e-participation tools as evidenced by the statistics. Use of the e-participation tools has majorly focused on websites as medium for information provision. A few tools provide for channels for to collect citizen feedback and input on issues or even to collect information from them. In general, the effectiveness of the tools is still low as reported by the respondents so much so that all the MDAs were in the process of evaluating how best to improve the tools for the purpose of enhancing their usefulness and effectiveness.

#### **5.3.3 Objective Three: To determine the influence of technology adoption factors on e-participation**

One of the research objectives was to determine the influence of technology adoption factors on e-participation. Specifically, compatibility of tool, complexity of tool otherwise called ease of use, citizen awareness, and relative advantage of tool. Each of the factors was investigated under specific research areas as highlighted in the previous chapter. The findings revealed that compatibility of tool to reality and user experiences has a strong positive correlation to level of e-participation. This means that as institutions desire to achieve higher levels of e-participation, there must be consideration of user experiences and how the tool will best meet the needs of the targeted users. Complexity of tool was investigated through consideration of the time spent in learning to use the tool, need for extra skills to use the tool, ease of use of the tool and level of support for the tool. Analysis revealed that complexity of tool has a strong correlation to level of e-participation. Tools developed with an aim of achieving higher

levels of e-participation tend to be more complex. This has the ripple effect of possibility of the target users shying away from the tool. It is therefore crucial that in order to achieve higher participation levels, the target users be engaged to ensure the tools put in place are as simple as possible to use. Citizen awareness to tool existence was another important factor that was correlated to level of e-participation. The research established that citizen awareness was positively correlated to the level of e-participation. MDAs which had focused highly on ensuring citizens are aware of the existence of their tools generally showed higher levels of use their tool for even complex tasks other than information consumption. As MDAs desire to achieve higher levels of e-participation, it is crucial that citizen awareness be considered greatly and planned for. Finally, relative advantage of tool was found to have no correlation to level of e-participation.

## **5.5 Conclusion**

Kenya government Ministries, Departments and Agencies are still lagging behind in terms of implementation of ICT tools and initiatives that provide for e-participation. Of the sampled MDAs none had achieved the highest level of e-participation of e-decision making. The use of ICT tools to provide for citizen participation is a suitable option to ensure citizens participate in democratic processes and receive information from government. The focus however of many MDAs other than those actually interviewed reveals that they have focused solely on information provision through websites which at times are not updated. In order to compete favorably with other countries at the top of the UN e-participation index, there is great need and push that Kenya MDAs consider means and success factors that can be put in place to ensure higher levels of e-participation. This study focused on how technology adoption factors and their influence on e-participation can best be employed to arrive at higher levels of e-participation.

For each level of e-participation moved there must be strong consideration of the technology factors (variables of study). This is because, the higher the level of participation desired, the greater the need for complex tools in place that will call for careful consideration of e-adoption factors. As such disregard of the influences that technology adoption factors have on uptake of e-participation could lead to undesirable results. MDAs need to ensure that tools that are put in place borrow from the life experiences and ways of doing things of the target users. Further they must re-examine complexity of the tool with the aim of making them as simple as possible since participation is mandatory. Citizen awareness becomes a key ingredient to ensure citizens participate. People will only use a tool whose existence they are aware about and are constantly reminded of the same. In conclusion, the research established that Kenya needs to do more to ensure people can participate regardless of their location and economic status.

### **Factors listed as success determinants**

1. Continuous training of users on the tools
2. Stakeholder engagement during the conceptualization and development of the tool

### **General challenges faced in deploying the e-participation tools**

- 1 Logistical issues in planning for deployment of an e-participation tool
- 2 User resistance both internally and externally
- 3 Differences in technological skills of target users
- 4 Lack of training and inadequate user sensitization and awareness

### **5.6 Recommendations**

It is important that Kenya strives to achieve higher levels of e-participation so as to compete favorably with other democratic countries. IN trying to achieve higher levels of e-participation, MDAs need to take into consideration the factors that could point to the success or the failure of the e-participation initiative. More specifically, MDAs must factor in inputs of the target citizens including their experiences in developing the tool. They need to involve users during the conceptualization, development and deployment of such tools. Adequate resources and time must also be planned for to ensure citizen awareness is given prominence to avoid the huge investments in e-participation from going to waste due to non-use. Finally it is important that the tools are as easy as possible to use to ensure higher uptake.

### **5.7 Suggestion for Further Studies**

The study focused on a few among the many technology adoption factors and how they influence e-participation. There is needed to scale the research to consider more factors and to investigate the same over a wider sample space. Further, there is need to focus the research on the citizen side of e-participation to get an understanding of user experiences.

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## APPENDIX

### **Questionnaire used for the study**

#### **Introduction**

Participation refers to different mechanisms used by the public to get information, express opinions and ideally to exert influence regarding political, economic, management and other social decisions. It aims to bridge the gap between citizens and governments by providing avenues through which citizens are engaged in public decision making, avenues by which information is disseminated to them and avenues by which they engage the government in meaningful consultations.

The main aim of public participation is to ensure transparency, accountability and to improve citizens' trust in government. Lack of citizen participation has been shown to delay development within a country.

The Constitution of Kenya identifies participation of the people as one of the National Values and Principles of Governance – Articles 10(2)(a), 35, 118(1)(b), 174(c), 184(1)(c), 196(1)(b), 201(a). It expressly states that all state organs, county governments, state officers and public officers must ensure participation of the people.

When participation of citizens is provided for by the various ICT tools, it is referred to as electronic participation (e-participation), which is the focus of this study.

This study seeks to find evaluate the e-participation tools and initiatives provided for by selected Kenya government ministries, departments and agencies. It seeks to investigate the status of these tools and initiatives by focusing on various thematic issues including but not limited to their development, usefulness, their impact on work performance, how well they provide for citizen participation among others.

The study will conclude by providing an e-participation framework that can guide ministries, departments and agencies in roll out and effective use of e-participation tools and initiatives with an aim of improving the status of citizen participation as demanded by the constitution.

### **How to Complete the Questionnaire**

Please fill in your responses to the questions to the best of your knowledge. Where a checkbox has been provided, tick as appropriate. Where description or details are needed, fill in as appropriate keeping responses as brief as possible but without affecting clarity of the response. Where space provided is not enough for the response, a separate sheet of paper may be used and attached to this questionnaire. In such cases, responses should be numbered as per the question on the questionnaire.

This questionnaire can be filled in hardcopy, softcopy and emailed or an online version can be filled by visiting the link on your browser.

### **Where to submit the completed questionnaire**

The completed questionnaire can be sent via email to [omolobernest@gmail.com](mailto:omolobernest@gmail.com). A research assistant will also be on standby to collect the completed questionnaire.

### **Notes for confidentiality**

The responses provided in this study will be solely used for the purpose of providing insights into e-participation in your Institution. Reasonable attempts to protect access to your answers have been put in place. Your anonymity is also guaranteed as no personal data is being collected.

**Introductory Questions**

1. Briefly describe the e-participation tool in your organization/institution

.....  
.....  
.....

2. When was the e-participation tool deployed for use by citizens?

- Less than 1 year ago
- 1 year – 2 years
- 2 years – 3 years
- 3 years – 4years
- 4 years – 5years
- 5 years – 6 years

3. Which ICT platforms does the tool rely on to reach citizens? Tick as appropriate

- Web/internet
- SMS & USSD
- Radio
- TV

4. What were the objectives of rolling out the tool? Please tick as appropriate

- To provide information to citizens
- To provide citizens with a channel for giving feedback to influence decisions
- To enable citizens and the institution engage in e-consultations with back & forth communication mechanisms

5. Who are the users of the tool?

- Citizens/Members of the public
- Internal institution personnel

6. What services are offered by the e-participation tool?

- Access to information
- Monitoring of public service delivery
- Corruption tracking & complaints handling
- Consultation with citizens
- Decision making



## Variables affecting E-Participation of Citizens

The following questions grouped into 5 parts each represent the factors that are likely to influence the e-participation tool in your institution. Fill in your responses by ticking in the appropriate box or writing down your response as may be appropriate.

### 1. Compatibility (design – reality gaps)

1. What necessitated the development of the identified tool?
  - Institutional needs arising from deliberations and decision making
  - Demand from citizens
2. Does the tool cater for the needs of the disabled in society?
  - Yes
  - No
  - Not sure

IF YES, PLEASE DESCRIBE HOW

.....  
.....  
.....

If tool above is a website, are there mobile and tablet versions of the same?

- Yes
- No
- Not sure

Was the tool deployed for testing/piloting with target citizens prior to full use?

- Yes
- No
- Not sure

3. Which language options does the e-participation tool allow citizens to participate in

- English
- Kiswahili
- Others (specify)

4. Was an initial study/survey conducted to understand the needs of the target users?

- Yes
- No
- Not sure

5. On a scale of 1 to 5 where 5 represents excellent user experience and 1 poor user experience, how would you rate your interaction with the tool?

1 (Poor User Experience) ←————→ 5 (Excellent User Experience)

6. Were the target users involved through the process of its development?

Yes

No

**2. Complexity of tool (perceived ease of use)**

1. Internally, did the deployment of the tool necessitate employees acquiring new skills?

- Yes  No

If yes, briefly state the nature of skills that were required

.....  
2. Has the use of the tool necessitated need for more office hours?

- Yes  No

3. How long did you take in learning to comfortably use the tool?

- 1 day  Within a week  Within a month  More than 1 month

4. In your opinion how would you describe the tool in terms of ease of use?

- Difficult to use  Slightly difficult to use  Easy to use

5. Given, an opportunity, would you consider dropping use of the tool all together?

- Yes  No  Not sure

6. In your view, what skills and or knowledge do citizens require to use the tool?

.....  
7. Are there steps that your institution has taken to ensure citizens are equipped with adequate skills and or knowledge on how they can participate?

- Yes  No  Don't know

If yes, please list the steps

.....  
8. Has the tool brought about more complexities than before?

- Yes  No  Relatively

9. What is the general feeling of other colleagues in regards to using the e-participation tool?

- Strongly support the tool

- Relatively support the tool
- Minimal support of the tool
- No support

**3. Citizen awareness**

1. From the list below, tick the mechanisms that your institution has taken to ensure citizens are aware of the existence of the e-participation tool.

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> Distribution of leaflets and fliers | <input type="checkbox"/> Television adverts    | <input type="checkbox"/> Newspaper adverts        |
| <input type="checkbox"/> Radio adverts                       | <input type="checkbox"/> Bill boards           | <input type="checkbox"/> Others ...please specify |
| <input type="checkbox"/> Posters on notice boards            | <input type="checkbox"/> Social media networks | <input type="checkbox"/> None                     |

If more than one mechanism, which is the primary mechanism used?

.....

2. What mechanisms has your institution taken to ensure citizens are able to use the e-participation tool? Tick as appropriate

- Citizen sensitization barazas
- Television sensitization adverts
- Radio sensitization
- Information leaflets

3. Are the channels above if any, still in active use to ensure continuous awareness of citizens?

- Yes                       No

4. Are there any incentives put in place to encourage citizens to use the e-participation tool?

- Yes                       No

If yes, please list

.....  
.....

**4. Relative advantage (perceived usefulness)**

1. Has the performance of employees within the institution improved as a result of using the tool?

- No improvement                       Minimal improvement                       Greatly improved

2. What was the general initial perception of employees towards the use of the tool?

- It would give them more work
- It would force them to learn a lot
- It would not make any difference whether used or not
- It would greatly improve their performance and help achieve institution goals
- It was another attempt at adopting ict that would soon fail

3. Through which means was your institution providing for participation of citizens prior to adopting the tool in use?

- None
- Community barazas
- Others

.....specify.....  
.....

4. Are there cost implications on the part of citizens that arise in their use of the ict tool put in place to provide for their participation?

- Yes                                       No

If yes, please describe

.....  
.....  
.....

5. In your opinion, how has the tool helped to realize transparency, accountability and citizens' trust in government?

.....  
.....

6. In your opinion, how has the tool affected your work?

- The tool has enhanced my work greatly
- The tool has made it slightly hard to accomplish tasks

7. Would you recommend for adoption of a similar tool in another institution?

.....  
.....  
**5. Feedback**

1. Are there mechanisms put in place to collect feedback from citizens on the tool usage is collected?

- Yes  No

If yes, please list

• .....

• .....

2. What mechanism has your institution put in place to allow citizens receive feedback on the information received via the tool and issues they have raised?

Phone calls  email

Sms

3. Are there mechanisms put in place to track use of the tool by citizens?

- Yes  No

If yes, please list

.....  
.....  
4. Is their information (supported with evidence) of the number of people who have used the tool in the past one month?

- Yes  No

5. Are there mechanisms that the institution has put in place to monitor and evaluate;

a) The proportion of target citizens who are aware of the existence of the ict tools provided for their participation?

- Yes  No  Don't know

If yes, briefly describe the mechanisms

.....  
.....  
b) The proportion of target citizens reached by the ict tool provided for their participation?

- Yes  No  Don't know

If yes, briefly describe the mechanisms

.....  
.....  
c) The proportion of target citizens who use/have used the ict tools provided for their participation?

- Yes                       No                       Don't know

If yes, briefly describe the mechanisms

.....  
.....  
.....

d) The citizen satisfaction level in relation to the tool put in place by your institution for them to participate?

- Yes                       No                       Don't know

If                      yes,                      briefly                      describe                      the                      mechanisms

.....  
 Yes                       No                       Don't know

Has there been a monitoring and evaluation exercise to evaluate how to improve it?

.....  
.....

**Concluding questions**

**In your opinion;**

1. Have the objectives of deploying the tool been achieved?

- Yes                       No                       Partly

**If no;**

What factors have prevented the objectives from being realized? Or initiative from succeeding? Please list

.....  
.....

**If yes**

What would you list as factors that have helped realize the success of the tool?

.....  
.....



2. What challenges have been faced in deploying the tool and ensuring it succeeds?  
.....  
.....

3. What factors would you consider in future in ensuring success of similar tools in other institutions  
.....  
.....

4. What are some of the reasons that have been reported in regard to non use of the e-participation tool you have deployed?  
.....

5. Are there any other e-participation tools in other mdas that you are aware of an can be reviewed to help in this study? Please list  
.....

In your view;

a) Has your institution achieved **transparency** as a result of using ict in citizen participation?  
 Yes                       No                       Don't know

Briefly explain your answer.....  
.....  
.....

b) Has your institution achieved **accountability** as a result of using ict in citizen participation?  
 Yes                       No                       Don't know

Briefly explain your answer.....  
.....  
.....

c) Has your institution won **citizens trust** as a result of using ict in citizen participation?  
 Yes                       No                       Don't know

Briefly explain your answer

.....

6. In what ways do you think e-participation could be improved to make it more effective and applicable?

.....

.....

**Part c: feedback on the questionnaire**

1. Was the questionnaire easy to complete?

Yes

No

Relatively ease

If no, please provide suggestions on how to improve the questionnaire.....

.....

.....

2. Do you have other comments and observations on the questionnaire?

.....

.....

*Thank you for participating in this study.*