

Investigating the factors that influence use of ICTs for citizen engagement in Malawi.

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Where leaders learn

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Abstract

Literature has suggested that Malawians are keen to participate. Malawian's willingness to participate is evident as the country has recorded high voter turnouts during the elections in recent decades. However, literature also suggests that there is minimal citizen engagement in between elections. Elsewhere, Information and Communication Technologies (ICTs) have been used to enhance citizen engagement, but ICT led citizen engagement is still an emerging field and yet to be explored as an area of research particularly in Malawi. We thus sought to explore if the use of ICTs could improve citizen engagement with councils, councilors, and utility companies that provide water and electricity in Malawi. We developed and deployed an ICT platform called Mzinda which means My location in Malawi's populous Chichewa language. The platform provided various channels for citizens and duty bearers to engage via SMS, USSD, web and a mobile application. We sought to understand the factors that influence citizen's behavior intention to use an ICT platform to engage. We applied the modified UTAUT model by including Attitude and Self Efficacy social constructs that have among others been cited as limitations of the UTAUT model. We conducted factor loadings of six social constructs of the modified UTAUT model to validate content and reexamine the model in the context of citizen engagement using ICTs in Malawi. We found that, Attitude and Self Efficacy were not significant determinants of the Behaviour Intention for citizens to use the ICT platform. However, 75% of the Behaviour Intention was influenced by Performance Expectancy and Effort Expectancy as moderated by age and gender. Empirical evidence showed that responsiveness and actionability of councils and councillors had improved. We also learned that citizens believed that service delivery had improved and that they had more influence over councils, councillors, and the utility companies because of using the ICT platform. We conclude by noting that improvements in service delivery; enhanced responsiveness and actionability of councils, councillors and the utility companies were not necessarily as a result of the ICT platform alone; but a combination of ICTs and non-technology mechanisms of engaging the stakeholders through community campaigns, radio programs, print media engagement, community meetings and debates among others. It is evident that ICTs are not the panacea of all citizen engagement problems. This research can be useful to researchers and practitioners in the technology and citizen engagement domains.

Keywords: Citizen engagement; ICTs; SMS; USSD; Web, Mobile Application; Malawi; UTAUT

Declaration

I declare that the Dissertation/Thesis entitled, **Investigating the factors that influence use of ICTs for citizen engagement in Malawi.**

which I hereby submit for the degree, Doctor of Philosophy at Rhodes University, is my own work. I also declare that this thesis/dissertation has not previously been submitted by me for a degree at this or any other tertiary institution and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

Rachel Sibande (*signed*)

Dedication

To My Father, My Mother

and Amama Christophen Simkoko (1957-2021)

Acknowledgements

It has been a long six-year journey to this PhD, and I have so much to be grateful for hence this will be a long piece of acknowledgements. I am grateful to God for the gift of life and education. Education has been such a liberating space for me. My PhD journey has taken me through reading multiple subject areas outside of my computer science domain; fields such as political science. It was intriguing to accumulate new knowledge. It was satisfying to deploy this research in my home country of Malawi as I yearn to be a true patriot. Being the first ICT for Citizen Engagement platform to be deployed in the country, was a challenge I took on with great enthusiasm because of the potential to create the change I wanted to see. It was thoroughly satisfying working with the Mzinda project team consisting of Noble Hara, Blessings Chavula, Vincent Kumwenda, Elizabeth Phiri, David Samuel, Regis Mbera, Monica Madulira and Samuel Marcello. Their energy, creativity, resilience and problem-solving skills are the main attributes that struck me about the team. Together, we set off to disrupt the norms. Together we embarked on a journey of immersing ourselves with the common Malawian. There is indeed no better contribution than what man makes to his own country. Together we set out for the change we wanted to see in our own country. And as John F. Kennedy said, *“Do not ask what your country can do for you. Ask what you can do for your country.”*; through the Mzinda project, I found the space to do something for my country and my people in my little corner and that is a deeply humbling and satisfying experience.

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List of abbreviations

ADC	Area Development Committee
ANSA-EAP	Affiliated Network for Social Accountability- East Asia Pacific
App	Application
AT	Attitude towards Technology
BI	Behavior Intention
CCJP	Catholic Commission for Justice and Peace
CCLGRT	Cabinet Committee on Local Government and Rural Transformation
CECOWDA	Centre for Conflict Management and Women Development Affairs
CEO	Chief Executive Officer
CFA	Confirmatory Factor Analysis
CFJ	Citizens For Justice
CIPESA	The Collaboration on International ICT Policy in East and Southern Africa
CSO	Civil Society Organisations
CSS	Cascading Style Sheets
CYO	Concerned Youth Organisation
DA	District Assembly
DAI	Development Alternatives Incorporated
DC	District Commissioner
DDP	District Development Plan
DEC	District Executive Committee
DFID	Department For International Development
DOI	Diffusion of Innovations
DTPB	Decomposed Theory of Planned Behaviour
EE	Effort Expectancy
EFA	Exploratory Factor Analysis
ESCOM	Electricity Supply Commission of Malawi
ESR	Election Situation Room
FC	Facilitating Conditions
FODEP	Foundation for Democratic Processes
GPS	Global Positioning System
GSMA	Global System for Mobil Communications
HDI	Human Development Index
ICT	Information and Communication Technology
IMTCD	Inter-ministerial Technical Committee on Decentralization
LGA	Local Government Association
LGAP	Local Government Accountability Project
LGSCOM	Local Government Services Commission
MACRA	Malawi Communications Regulatory Authority
MALGA	Malawi Local Government Association
MAVC	Making All Voices Count

MEC	Malawi Electoral Commission
MGDS	Malawi Growth Development Strategy
MLGRD	Ministries of Local Government and Rural Development
MM	Motivational Model
MobiSAM	Mobile Social Accountability Methodology
MP	Member of Parliament
MPCU	Model of PC Utilization
MTL	Malawi Telecommunications Limited
MVC	The Model-View-Controller
NDI	National Democratic Institute
NFC	Near Field Communication
NGO	Non Governmental Organisation
NICE	National Initiative for Civic Education
NLGFC	National Local Government Finance Committee
NSO	National Statistical Office
OECD	The Organisation for Economic Co-operation and Development
OPC	Office of the President and Cabinet
OSISA	Open Society Initiative for Southern Africa
PAC	Public Affairs Committee
PE	Performance Expectancy
PETS	Public Expenditure Tracking Surveys
PHP	Hypertext Preprocessor
PRO	Public Relations Officer
RMSEA	<i>Root Mean Square Error of Approximation</i>
SCT	Social Cognitive Theory
SDGs	United Nations Sustainable development goals
SE	Self-Efficacy
SI	Social Influence
SMART	Specific, Measurable, Realistic, Attainable, Relevant and Time bound
SMS	Short Message Service
SQL	Structured Query Language
SWET	Story Workshop Extension Trust
TAM	Technology Acceptance Model
TNM	Telekom Networks Malawi
ToC	Theory of Change
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNICEF	United Nations International Children's Emergency Fund
USSD	Unstructured supplementary service data

UTAUT	Unified Theory of Acceptance and Use of Technology
VDC	Village Development Committee
XML	Extensible Markup Language
ZBS	Zodiak Broadcasting Station

CHAPTER 1

Introduction and project overview

Introduction and background

Globally the number of unique mobile subscribers had exceeded the 5.1 billion mark in 2019 representing 67% of the world's population. A decade earlier, only a third of the mobile subscribers had a mobile internet subscription. Today, there are about 3.8 billion mobile internet users. In 2018, there were more mobile internet users than non-users amongst the population covered by a mobile broadband network. Africa remains the fastest growing mobile economy with an expected 600 million mobile subscribers representing 50% of the population by 2025. By the end of 2020, there would be about 498 million smart phones in Sub Saharan Africa and 60% of mobile broadband connections: an increase from 33% in only 4 years (GSMA, 2019).

It is evident that the mobile revolution has impacted social systems and shifted the way people communicate and access information, to an extent difficult to fully apprehend. The mobile revolution has paved the way for scaling of foundational services such as mobile money and digital identity. In an era of growing inequalities, an important question remains on how these digital solutions can offer more development organisations potential to increase effectiveness and efficiency in new ways to deliver socio-economic impact leveraging the mobile phone among other Information and Communication Technology (ICT) tools¹. The mobile phone is undoubtedly the most pervasive ICT tool and platform that will bridge the digital divide (Elias et.al, 2009). This research is thus situated at the fore of leveraging the power of ICTs including the mobile phone, internet, computer, radio, social media platforms, web and mobile applications to enhance effectiveness and efficiency in ways in which citizens engage with their local councils, councillors and utility service providers.

This research is situated in Malawi, a country located in Southern Africa with a population of over 17,563,749 (National Statistical Office, 2018). In 2019, Malawi's mobile penetration rate sat at 42%, double the rate in 2013 showing an exponential growth in 6 years and 22% mobile broadband connections.² We hypothesize that if the use of ICTs can enhance the minimal levels of citizen

¹ <https://www.gsma.com/mobilefordevelopment/10yearsofm4d/>

² <https://www.mobileconnectivityindex.com/#year=2019&zoneIsocode=MWI>

engagement with councils, councillors, Electricity Supply Commission of Malawi (ESCOM) and the Water boards, then service delivery of essential services can improve.

Malawi attained its democracy in 1994 after three decades of a one-party rule³. The country adopted the decentralization framework that enhances citizen engagement at the local level in 1998 (National Decentralization Policy, 1998). Citizen participation is clearly enshrined in Chapter IV of Malawi's constitution as a fundamental right for every Malawian (Malawi Constitution, 1994).

Decentralization has been implemented within the local government structures as a means to devolve power, authority and decision making to local councils. One of the key aspirations of decentralization is to enhance community participation in decision making at the local level and for the community to be a part of formulating development projects in engaging with the local government on service delivery (National Decentralization Policy, 1998). However, literature suggests that the professed commitments on citizen participation at the local level have since turned into mere rhetoric (Chinsinga, 2003). Literature further states that rather than devolution, which is the most preferred form of decentralization, there has been deconcentration (Chiweza, 2010; Hussein, 2010). There is a striking mismatch between the theories of citizen participation and the actual status of citizen participation (Hussein, 2010).

Literature provides extant examples of ways in which citizens can participate including through elections, participatory budgeting, community meetings, citizen surveys, participatory planning and social audits, public expenditure tracking and community management⁴. It has been established that Malawians are keen to engage during elections (Khaila and Chibwana, 2005). The country has a significant record high voter turnout in comparison with other African countries with a minimum of 63.59% voter turnout in 2004 and the highest at 93.76% in 1999⁵. These high voters turn outs percentages clearly align with the assertion that Malawians are keen to participate as highlighted by Chibwana and Khaila (2005).

It has also been established that citizens are keen to engage with elected leaders beyond elections to keep them accountable (Khaila and Mthinda, 2006). However, it has been established that there is actually minimal engagement between citizens and elected leaders, local councils and service providers

³ <https://thecommonwealth.org/our-member-countries/malawi/history>

⁴ http://documents1.worldbank.org/curated/en/266371468124780089/071652160_201411345005243/additional/929570WP0Box380ategicFrameworkforCE.pdf

⁵ <https://www.idea.int/data-tools/country-view/219/40>

in between elections (Khaila and Mthinda, 2006; Tsoka and Chunga, 2008; Tsoka and Chunga, 2012; Chingaipe and Musukwa, 2012). Due to the minimal engagement, citizens seem to consider elections as one of the only ways of assessing the performance of elected leaders for a term of office that has already passed (Khaila and Mthinda, 2006). As important as elections are in democracy, elections do not necessarily provide citizens the opportunity to contribute in a meaningful way to public decision making, or to hold public actors accountable for service delivery (World Bank, 2004).

1.1. Problem Statement

This research is built on the premise that, participation of citizens in elections alone is not enough to deepen democracy if the elected leaders, local government, and service providers are not held accountable for their performance in between one election and the other. For the deepening of democracy to happen in a country; citizens ought to engage beyond elections (Wasserman, 2011). Heller (2009) reinforces that there is a need to foster continued citizen engagement beyond elections by asking the following question: “*Citizens can vote, but can they participate consequentially?*”. We contextualize this question and ask; Malawian citizens do participate in elections but, can they engage beyond the elections? It is within the space between one election and another that this research is primarily situated to alleviate the problem of minimal citizen engagement in Malawi. We particularly focus on the three cities of Blantyre, Lilongwe and Mzuzu. However, later in the research we extend to eight additional districts.

1.1.1. Solution

This research lies at the intersection of citizen engagement and ICT as we explore the design and use of an ICT platform to facilitate citizen engagement with elected leaders and service providers in Malawi.

We explore whether the use of ICTs would enhance citizen engagement and service delivery of essential services at the local level. Our aspiration is to complement traditional forms of engagement that have been minimal and limited to physical interaction which sometimes poses a threat of identification of individuals and reprisals from those in authority (Chingaipe and Musukwa, 2012).

ICTs and in particular mobile phones are the most pervasive form of devices that can enhance two-way communication. The GSMA intimates that it is the mobile device that will close the digital divide to reach the last mile (Elia, et al., 2009). Online and mobile technologies are continuously being used to increase transparency and accountability (Avila, et al., 2011). ICTs have the potential to enhance

citizen engagement transparency and accountability (CIPESA, 2012). ICTs have been used by citizens to highlight poor service delivery and to demand proper accountability and transparency from leaders (Hellström and Karefelt, 2012; Cegarra, Cegarra Navarro and Córdoba Pachón, 2014; Omenya, 2013; Thinyane and Coulson, 2012; McGee and Carlitz, 2013; CIPESA, 2012; Peixoto and Fox, 2016).

In the long term, such initiatives have the potential to create a more engaged citizenry, a responsive state, accountable leaders, and improved service delivery. However, the evidence and data that is available on the impact of such technology led initiatives in citizen engagement, is still uneven and sparse (McGee and Carlitz, 2013). As such, there are still outstanding research questions and gaps on the impact of some technology led citizen engagement platforms that must be addressed (McGee and Carlitz, 2013). For example, in 2012, CIPESA made an analysis of ICT led citizen engagement initiatives in Uganda and concluded that many initiatives did not have a feedback mechanism that allowed users to comment on the applicability of the technology tools.

Further reviews of technology led initiatives for citizen engagement have also highlighted the need to focus on reviews across diverse contexts as they present the opportunity to point to some common factors that may become useful in understanding citizen engagement in broader contexts (McGee and Gaventa, 2011). There is a growing recognition that context is critical in shaping and driving the success or failure of citizen engagement initiatives (Grindle, 2007; Levy, 2011). It has been acknowledged that the success or failure of citizen engagement initiatives is shaped by both the way in which citizen engagement is implemented and by the context within which citizen engagement is situated in (O'Meally, 2015). There is need for more empirical evidence in understanding users and their experiences on technology led citizen engagement initiatives (McGee and Carlitz, 2013).

This research thus seeks to collate new empirical evidence on the use of ICTs for Citizen engagement in the context of Malawi by making key theoretical and practical research contributions. We contribute to the ecological validity of the UTAUT model (Venkatesh, Morris, Davis and Davis, 2003) by applying the modified UTAUT theoretical model (Venkatesh, et al., 2003) in understanding the factors that influence citizen's acceptance and Behavior Intention to use technology for engagement. The modified UTAUT model (Venkatesh, et al., 2003) considers two additional social constructs. We reload all factors of the six social constructs to establish the variables that determine Behaviour Intention of citizens to use ICTs to engage in Malawi. We deliver a source code for the technology platform used for other practitioners to use as an open resource and compile a comprehensive case study on use of ICTs for citizen engagement. These resources can be used by other practitioners seeking to deploy ICT for Citizen Engagement initiatives in similar contexts.

1.2. Objectives

The objectives of this research are:

- To review existing knowledge on Citizen Engagement.
- To investigate the status of citizen engagement in Malawi.
- To develop an ICT platform that can facilitate citizen engagement.
- To generate new knowledge on ICTs and Citizen engagement in Malawi by understanding the theoretical and practical underpinnings of factors that influence citizens to use ICTs for engagement.

The potential users or audience of this research would be some of the following: - Governments, CSOs, Service Providers, Practitioners in ICT for Development (ICT4D), Researchers, Academics and Technology Practitioners.

1.3. Research Questions

This research answers the following main question:

What are the factors that influence use of ICTs by citizens to engage with councils, councillors and utility providers?

This research question is further expanded into more depth through these sub questions:

1. Does the use of ICT led Citizen engagement enhance responsiveness of duty bearer's and service providers?
2. Does the use of ICT led citizen engagement enhance actionability of duty bearers and service providers?

1.4. Research Methodology

This research is premised on the **Realism research philosophy**. **We will develop a technology solution** to alleviate the problem of minimal citizen engagement in Malawi's three main cities of Blantyre, Lilongwe and Mzuzu. **We will ultimately apply the modified UTAUT model** to understand factors that influence people's Behaviour Intention to use the technology platform. **We will use the deductive approach** to test specific knowledge on the factors that influence use of ICTs by citizens to engage against general knowledge of the UTAUT model (Venkatesh, et al., 2003). We will thus develop hypothesis to test if certain statements on use of ICTs for citizen engagement are true.

The research process encompasses a desk-based literature review, surveys, development of a technology platform, implementation, and an impact assessment study.

We will conduct a Literature review that covers an understanding of the following areas: - citizen engagement in general, status of citizen engagement in Malawi, use of ICTs for citizen engagement and theories of use and acceptance of technology. The literature review shall inform the understanding of the problem and motivate the potential solution. We will conduct a **baseline study**, collecting empirical evidence to understand the status of citizen engagement and use of ICTs in the three cities of Blantyre, Lilongwe and Mzuzu. Results of the baseline study shall inform **the design and deployment of the technology platform** to facilitate citizen engagement. The technology platform will be subsequently deployed to afford citizens various channels of engagement via SMS, USSD, web and mobile application. In **the implementation phase** of the research, we will undertake to train and disseminate information to citizens and duty bearers on channels of how to use the technology platform. We shall also collate empirical data from the ICT platform on the actual use of the platform by all stakeholders. For example, we will collate all citizen's reports, disaggregated by sector. We will also document the rate of responsiveness and actionability of the duty bearers. Ultimately, we will conduct **a post deployment assessment study** thereafter to measure citizen's and duty bearer's perspectives and experiences in using technology as a tool for engagement. We will apply the modified UTAUT model (Venkatesh, et al., 2003) to establish the factors that influence citizen engagement using ICTs.

1.5. Data Collection and Analysis

We will use both quantitative and qualitative data collection methods. Data will be collected through desk-based research, face to face interviews, online forms and focus group discussions. Survey data is collected on a Google Form. Data analysis will be done using SPSS, STATA and R. Descriptive statistics will be done in Google Sheets and Excel. A measurement model of the six social constructs as determinants of Behavior Intention to use the Mzinda technology platform, will be estimated based on the modified UTAUT model (Venkatesh, et al., 2003).

Internal consistency reliabilities will be calculated to estimate how well items measure the construct. The Cronbach coefficient alpha which measures internal consistency reliabilities will be calculated and tested to measure the consistency of the questionnaire. For $\alpha > 0.70$, it is reasonable to accept and conclude that there are adequate internal consistencies. We shall conduct Exploratory Factor Analysis (EFA) to find independencies between observed UTAUT variables by describing variability.

We will use Exploratory Factor Analysis to group the variables with strong correlations and explore if the items load as set by the UTAUT theory. Using the EFA, we shall separate the multiple items that are used to measure the behavior intention.

Finally, we will use Bivariate correlation and multiple regression to understand the relations between the variables that influence Behavior Intention of citizens to use the ICT platform to engage with councils, councillors, ESCOM and the Water Boards. We will use Multiple regression specifically to explain which factors influence Behavior Intention and the moderating factors.

Below is a diagram representing the logical flow of the research process

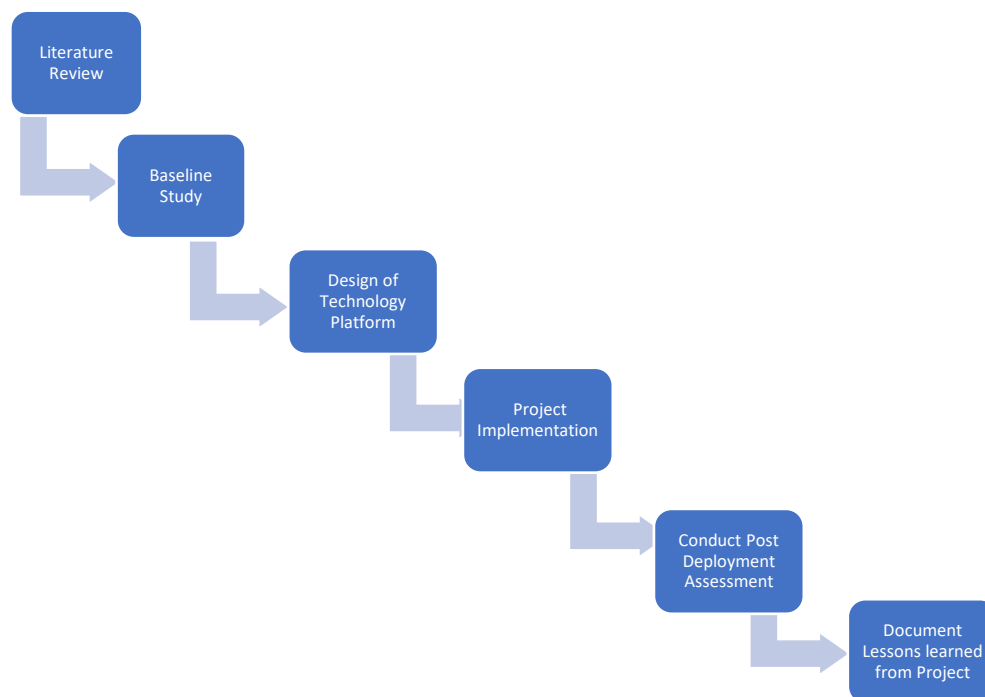


Figure 1.1: Research Process

1.6. Results

The following are some of the key findings and results of this research: -

1. Performance Expectancy and Effort Expectancy accounted for 75% of citizen's Behavior Intention to use the ICT platform. Both Performance Expectancy and Effort Expectancy were moderated positively by age and gender. Social Influence, Facilitating Conditions, Attitude and

Self Efficacy were not significant influencing factors for citizen's Behavior Intention to use the ICT Platform.

2. Performance Expectancy was found to be particularly pronounced in females within the age bracket of 31-60. Age positively moderates the Performance Expectancy. Performance Expectancy was found to be particularly stronger for younger men and decreases with age. Whereas the older the citizens, the higher the Effort Expectancy. Effort Expectancy was stronger in male than female citizens.
3. The level of responsiveness and actionability of councils, councillors, ESCOM and Water Boards significantly increased with the deployment of the Mzinda platform. There was an **86%** response rate to the **811** citizen reports sent through the Mzinda platform from the initial cities of Blantyre, Lilongwe and Mzuzu. **76%** of the 811 reports were confirmed to have been resolved or acted on which was 6% above the project targeted rate of 70%. There was a 78% response rate to the 219 reports from 8 additional districts and a 42% action rate 8% shy of the project target of 50%.
4. 62% of citizens were of the view that use of the Mzinda Platform accorded them the opportunity to influence the duty bearers and service providers. Majority of citizens were of the view that service delivery had improved after reporting on the Mzinda platform. However, service providers acknowledge that a lack of adequate resources still makes it difficult for them to deliver their best.
5. It was a combination of both online and non-technology mechanisms that made the success of the ICT platform. This intimates the notion that ICTs in themselves are not the panacea of all citizen engagement problems. Through the mayoral debates, it was also learnt that there are certain ecosystem challenges that can only be resolved with political solutions and not necessarily citizen engagement or use of technology.
6. Leveraging partnerships with other civil society organisations and political will were key in enhancing outreach, scale and buy in from existing community or political structures.

1.6.1. Research contribution

This thesis falls within the ICT for Development (ICT4D) domain as it focuses on the design, deployment and implementation of an ICT platform for citizen engagement. The platform provides diverse channels (SMS, USSD, mobile application, web application, social media) for citizens to engage with councillors, councils, ESCOM and Water Board in Malawi. Although research has been

done to document citizen engagement in Malawi, there has not been any or perhaps little documented research on the use of ICTs for citizen engagement. This research therefore is among the first of its kind in the Malawian context. The research cuts across both theoretical and practical aspects of citizen engagement. Below are the three main conceptual contributions in the field of ICT for Citizen Engagement also called Digital Citizen Engagement.

1.6.2. Theoretical Contributions

This research will make theoretical contributions to the ecological validity of the UTAUT theoretical model by Venkatesh, et al. (2003) within Malawi's context. We apply a modified model of the UTAUT as we seek to explain the factors that influence citizen's Behaviour Intention to use of ICTs to engage with local councils, councillors, ESCOM and the Water Boards on service delivery in Malawi. As a follow up to the limitations of the UTAUT model highlighted by Venkatesh, et al. (2003), we will seek to validate the appropriate scales for each of the selected social constructs of the final model including Attitude and Self Efficacy social constructs. Attitude and Self Efficacy have been highlighted by other authors as significant contributors to the motivation and performance of an individual yet were left out of the final social constructs that make up the UTAUT model. For example, literature suggests that Self Efficacy contributes significantly to the motivation and performance of an individual (Bandura and Locke, 2003; Bandura, 1994; 1997). Whereas Attitude is an important factor in Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB), and Technology Acceptance Model (TAM) and prior studies have found attitude to be a significant determinant of Behavioral Intention (Louho, et al., 2006; Oshlyansky, et al., 2007; Dijk, et al., 2008; Yuen, et al., 2010). We will thus enhance content validity and revalidate the UTAUT model in the context of citizen engagement using ICTs in Malawi.

The theoretical underpinnings of the intentions to use ICTs for citizen engagement in the Malawian context are key for researchers and practitioners in the space of citizen engagement to consider as they study and deploy citizen engagement initiatives. The study will also make recommendations for subsequent research to consider a modified model of the UTAUT model applied to similar contexts.

1.6.3. Practical Contributions

This study will present new contribution to the body of knowledge on citizen engagement and

use of ICTs in Malawi. We will document a new case study of the first ICT led citizen engagement platform developed, deployed and documented in Malawi. The platform called Mzinda, meaning “My Location” in Malawi’s populous Chichewa language; will be built using the MVA architecture model, using PHP Laravel framework, Java and MySQL data base. We will offer the code base of the system as a turnkey, replicable contribution to the open source community for other practitioners within the technology and citizen engagement spaces to customise on as they seek to deploy ICT led citizen engagement platforms. The code base will be made available on the GitHub repository. The system will cater for a pallette of technology channels through which citizens and other stakeholders will be able to interact on service delivery and local development issues. The technology platform will offer channels such as: - SMS, USSD, mobile application and a web application.

We will also document a detailed case study on the activities conducted, practical lessons learned, challenges and recommendations from actual deployment of the Mzinda ICT platform, for citizen engagement in Malawi.

1.7. Conclusion

In conclusion, we present the thesis structure below as a guide to this research highlighting the purpose of each Chapter and the main outputs.

Thesis structure

Chapter	Brief and Purpose	Output
Chapter 1	Chapter 1 introduces the background to the research topic, the research objectives, the research questions, a summary of results of the research and provides a guide as to how the thesis has been structured.	Introduction and overview of research
Chapter 2	Chapter 2 delves into general literature on citizen engagement, the benefits of citizen engagement, core values of citizen engagement and various types of citizen engagement mechanisms.	Literature Review on Citizen Engagement

Chapter 3	Chapter 3 starts by highlighting the context of where this research is situated which is in Malawi. We give a background on Malawi. We delve deeper into Malawi's local government structures; the status of citizen engagement from literature and the challenges that currently exist in citizen engagement which ultimately calls for the proposition of using ICTs as a complementary tool for citizen engagement.	Literature Review on Malawi
Chapter 4	Chapter 4 introduces the concept of using ICT for citizen engagement. We highlight the pros and cons. We delve deeper to highlight examples of ICT led citizen engagement initiatives. Later, we extract lessons learned from ICT led citizen engagement initiatives.	Literature review on use of ICTs for Citizen Engagement
Chapter	Brief and purpose	Output
Chapter 5	Chapter 5 introduces Technology Acceptance Models widely used in Social Psychology and Information Systems Research. We make justification for the selection of the UTAUT model.	Theoretical Model
Chapter 6	Chapter 6 marks the end of the preliminary literature review and scene setting chapters. Chapter 5 highlights the research onion, methodology, approach and the theory of change.	Research Methodology
Chapter 7	Chapter 7 introduces the baseline study that was conducted in 2016 before the design and deployment of the Mzinda platform. In this chapter, we present the results of the baseline study.	Baseline Study Results
Chapter 8	Chapter 8 presents the structural design, architecture and code excerpts of the Mzinda system.	Technology Platform

Chapter 9	Chapter 9 presents the strategies and activities used throughout the implementation of the Mzinda platform. Lessons learned from the deployment are shared in this Chapter.	Implementation
Chapter 10	Chapter 10 presents results of the Post deployment assessment that was conducted in 2017 to establish the perceptions of citizens, councillors, service providers and other duty bearers of the Mzinda platform and engagement experience. The Chapter also presents results from the application of the modified UTAUT model.	Assessment Study Results
Chapter 11	Chapter 11 presents a summary of the research process, key findings, contributions to research, implications of the research, limitations and issues for further research.	Conclusion and Summary of findings.

CHAPTER 2

Literature Review

Introduction

This research is focused on the intersection of three key areas of citizen participation, citizen engagement and ICTs. It is thus imperative that we understand the concept of citizen participation and engagement before we can delve further into the concept of using ICTs for citizen engagement. For the purposes of this research, we may interchange the words engagement and participation, given the colloquial understanding of the terms. However, as noted by the Citizen Lab; “the key difference between the two terms is that citizen engagement requires an active, intentional dialogue between citizens and public decision makers whereas citizen participation can come from citizens only”⁶. We thus assert that citizen participation is a subset of citizen engagement. In this chapter, we examine literature that exists around citizen participation and citizen engagement. We navigate through the theories of citizen participation and engagement, the various types and typologies of participation; benefits of citizen engagement, tactics for citizen engagement and mechanisms for citizen engagement. However, in this document we begin by highlighting the intricate and interrelated nature of these terms, as well as other key concepts in citizen engagement.

We begin by defining citizen participation and citizen engagement, understanding the types or forms of engagement, as well as the benefits of citizen engagement.

2.2. Citizen Engagement

The term citizen engagement is often used with vague connotations of the involvement of citizens within the decision-making processes of government. Nzimakwe (2011) highlights citizen participation through non-governmental community organisations for the purpose of contributing to administrative activities, formulation of policies, determination of public service and setting budgets. Citizen participation is further highlighted in the determination of infrastructure projects that are relevant to community needs; enhance public support and cohesion within communities (Fox and Meyer, 2005). Through citizen engagement, the United Nations (UN) emphasizes that ‘ordinary’ citizens can influence public policies and determine relevant community development that would

⁶ <https://www.citizenlab.co/blog/civic-engagement/what-is-the-difference-between-citizen-engagement-and-participation/>

ultimately enhance their socio and economic status (Smith, 2003)⁷. Citizen engagement is therefore a fundamental element of any functioning democracy (Michels and De Graaf, 2010). It opens the lines of communication between the citizenry, the government, civil society, and relevant stakeholders in development organisations. As such, it is regarded by many as a cornerstone of good governance and a means of enhancing community development (Cegarra-Navarro, Garcia-Perez and Moreno-Cegarra, 2014).

For this study, we will use the term citizen engagement to refer to the two-way interaction between citizens, government, the private sector and service providers giving citizens a stake in decision making processes for local development. In this process, citizens can be involved in formulation of policies; determination of public services; setting budgets; and implementation of development projects. Through citizen engagement, elected officials can be held accountable by the electorate that put them into power. Citizen engagement offers the promise to improve and enhance access to fundamental services (Ferro, Loukis, Charalabidis and Osella, 2013).

Sharma (2000 p.178) notes that by participating in local government, communities address their felt needs through self-help projects and realising grassroots democracy. Communities can also ensure fair and equitable distribution and access of resources; and obtain maximum utility of local resources for effective community development (Hussein, 2010). Fishkin (1995) notes the importance for ‘ordinary’ citizens to be engaged instead of just engaging elected representatives alone which advances elite deliberation and ultimately elite capture where the masses are not engaged but the few elites in society (Fishkin, 1995). When citizens are engaged, they have an opportunity to create a new political space for activism (NDI, 2013)⁸. The importance of citizen participation in local development is globally recognized by the United Nations and has also been adopted at a continental level through the African Charter on popular participation which was adopted in 1990. The charter asserts that citizen participation stimulates democratization in development (African Union, 1990).

Political theories on democracy and governance suggest that active citizen engagement is a recipe for a thriving democracy and good governance (Noveck, 2010). This ‘active’ engagement lies in the ability of citizens to constructively engage with government, elected leaders and the civil society and influence decision on policy, budgeting, implementation of development activities, monitoring and subsequently evaluation of development projects (Fioramonti and Heinrich, 2007)⁹. When referring to

⁷ <https://fcssaa.org/?mdocs-file=3433>

⁸ <https://www.ndi.org/sites/default/files/Citizen-Participation-and-Technology-an-NDI-Study.pdf>

⁹ <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/224.pdf>

good governance, the United Nations defines this term as consisting of among others the following elements: participatory, consensus oriented, legitimacy, competence, accountable, transparent, responsive, equitable, follows the rule of law and inclusion of the vulnerable and minority in decision-making¹⁰ (United Nations, n.d)¹¹, (Edralin, 1997; Schneider, 1999). The fact that citizens are consulted and involved in decision making enhances the legitimacy of development projects and decisions that are made. Through free flow and exchange of information between citizens, government, elected leaders and civil society; transparency is enhanced hence provides an opportunity to foster accountability by those in authority (Hollyer, Rosendorff and Vreeland, 2011).

Citizen engagement has the potential to enhance the relationship between citizens and the state while building new spaces for citizens to engage in development (Gasco, 2003). Even in the most difficult and constrained spaces such as non-democratic spaces; citizen engagement has the potential to enhance the construction of citizenship, strengthen the practices of participation and the building of responsive and accountable states and the development of inclusive and (Gaventa and Barret, 2012).

2.2.1. Defining Key Terms Associated with Citizen Engagement

All through extant literature on citizen engagement, the terms participation, transparency, accountability, and empowerment are mostly ambiguous and entail casual links between them. We thus aim to deconstruct these words by unpacking the definitions of each of these terms.

Participation: a process where citizens raise their concerns and voices to duty bearers and amongst themselves. “Participation is a process through which stakeholders influence and share control over development initiatives and the decisions and resources which affect them” (World Bank, 1995). Some schools of thought suggest that it becomes *Citizen Engagement* once there is two-way engagement between citizens and duty bearers (Powell and Colin, 2008).

Transparency: refers to attempts by the government or citizens to place information or processes in the public domain for use by citizens, service providers and policy makers that were previously opaque (Joshi, 2010 p.3).

Accountability: is the relationship between the entity that holds power to hold another entity

¹⁰ <https://carnegieendowment.org/2014/10/20/accountability-transparency-participation-and-inclusion-new-development-consensus-pub-56968>

¹¹ <https://www.unescap.org/sites/default/files/good-governance.pdf>

accountable; also called the account demander and the entity that is expected to account for their actions or words; also called the account provider (Schedler, 1999). Accountability also refers to the broad range of actions and mechanisms that citizens can take as account demanders to hold the state accountable beyond elections (Malena and McNeil, 2010 p.1).

The key aspects of accountability are *answerability* and *enforcement*. Where answerability is the ability of duty bearers to explain what they are doing and enforcement is the capacity for account demanders, citizens, including civil society have to impose sanctions on those who hold power when they violate or do not meet their obligations (Gigler and Bailur, 2014).

Answerability does not necessarily lead to enforcement neither does enforcement lead to answerability. Likewise, in general, although the four processes can be related, each is independent but can be relational. For example, participation may not necessarily always lead to transparency or accountability.

Empowerment hinges on the ability to enhance the capacity of disadvantaged people to influence the state and institutions that have an impact on their lives by way of strengthening the people's participation in political processes and decision making. Empowerment further means removal of the barriers that exist for people not to participate such as political, legal, and socio-cultural barriers (World Bank, 2000 p.39).

It is imperative that participation, transparency, and accountability are embedded within empowerment. For empowerment to happen these three must have happened (Gigler and Bailur, 2014).

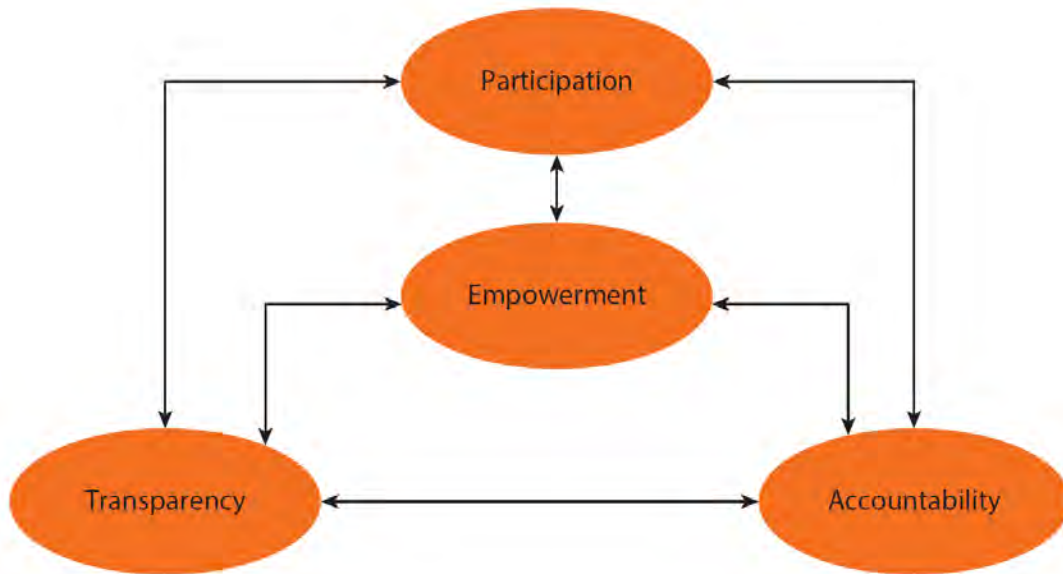


Figure 2.1: An illustration of the relationship of participation, empowerment, transparency and accountability as adapted from (Gigler and Bailur, 2014).

Social Accountability: Social accountability is also a common term used in literature of citizen engagement (Tembo, 2013). Social Accountability is focused on operationalizing direct accountability relationships between citizens and the state. These efforts are collective often involving civil society, media, and other societal actors (Gigler and Bailur, 2014; ODI, 2013). There are many avenues within which to attain social accountability such as protests, public demonstrations, advocacy, and lobbying.

In recent years, there has been an emergent field of social accountability practices that are based on solid evidence and focus on direct engagement between citizens and duty bearers (Tembo, 2013; ODI, 2013). These include participatory budgeting, public expenditure tracking, public policy making and monitoring, and citizen engagement and monitoring of public services. It has been noted that social accountability mechanisms that engage ordinary citizens are more effective in translating public policy into action such as the disbursement, allocation and monitoring of public resources and services (McNeil and Malena, 2015).

“*Voice*” is shorthand for both the aggregation and representation of the views of under-represented citizens in an effort to influence the priorities of government and governance processes (O’Neil, Foresti and Hudson, 2007). Aggregation refers here to many voices coming together, while representation

refers to who has the capacity to speak for the many when it comes to negotiating actual changes with the government (Fox, 2015).

“*Teeth*” is shorthand for government capacity for responsiveness (Peixoto and Fox, 2016). Teeth includes both positive incentives to encourage reformers and negative sanctions to address bottlenecks and abuse (Fox, 2015). There are two pathways of voice: either from individuals or as a collective (Peixoto and Fox, 2016). So far, many citizen engagement efforts are constrained by the fact that few are well-coordinated with reforms to encourage government capacity to respond to voice-such as audit/anti-corruption investigative bodies, information access reforms, ombudsman, access to fair courts, among other governance reforms (Fox, 2015).

This emphasis on the synergy between citizen voice and government response capacity points to the problem of which comes first, the chicken or the egg. It is important that voice and teeth reinforce each other to break the traps of low accountability. “Voice needs teeth to bite, yet teeth may not bite without voice” (Fox, 2015 p. 357).

2.2.2. Core Values of Citizen Participation

The International Association for Public Participation (IAP2, 2002) outlines seven core values of citizen participation in local governance which are confined by global declaration and policy statements.

The following are the seven core values of citizen participation as adapted from IAP:

- a. Citizens should **influence** the decisions that are made on issues, resources and development initiatives that affect their lives.
- b. Citizen participation must influence decision making to the extent **that community needs are prioritized** and dominate the agenda (which we refer to as responsiveness).
- c. Citizen participation must take a bottom up approach such that public officials can be held accountable by citizens.
- d. Citizen participation process must provide an opportunity to all citizens and groups to be heard and present their needs. There must be a mechanism that citizens communicate their interests and needs.
- e. Citizen participation process must look out for those potentially affected and facilitate their involvement including the rural poor.

- f. Citizen participation process must engage citizens to understand their role in local community development in the towns and cities they live in; how they can participate in policy formulation, local governance, legislation and how citizens are influenced by government policies.
- g. Feedback: The citizen participation process must provide feedback to citizens on how their views ultimately influenced the decision that was made (IAP2, 2002).

Citizens are likely to be more involved in making government officials accountable if they are involved in policy formulation and understand that their input has helped to enhance social and economic change (Michels and De Graaf, 2010). Citizens must be given all the information that they need to participate and provide input on pertinent issues affecting their community. Citizens are thus able to meaningfully engage with public officials, elected leaders and civil society if they have relevant information and as such decisions are not made without community's involvement (Marlena, Forster and Singh, 2004).

2.3. Forms and Typologies of citizen engagement

There are various forms of citizen engagement. In this section we discuss various forms, types, and typologies of citizen engagement as discussed in extant literature.

2.3.1. How do Citizens participate?

Scholars and practitioners have categorized citizen participation based on how citizens participate. Kabemba (2003) presents four types of citizen participation based on the modalities of participation as follows: - **First**, citizen's action which is determined and controlled by citizens to achieve a specific purpose such as protests and public demonstration. **Second**, citizen's action which is determined and controlled by Government to engage citizen's views in decision making and implementation of programs among others through public hearings and surveys. **Third**, citizen's participation in elections which is initiated by government by law for citizens to elect representatives periodically. **Fourth**, citizen's obligated participation by remitting taxes and joining the military service. The four variations could also be identified by the entity that is driving change e.g. citizens, government, donors, duty bearers and CSOs.

Based on the four variations outlined categorised by Kabemba (2003), some tangible examples of ways or initiatives through which citizens engage include: elections, Participatory budgeting, Community

meetings, Citizen surveys, score cards, participatory planning and social audits, public expenditure tracking, citizen juries, procurement monitoring, community management. These forms of participation take place at local, national or community levels and are led by diverse entities.

2.3.2. Participation beyond Elections

Elections are a common form of participation through which citizens choose new leaders or decide to retain seating leaders if they have served them well (Moehler, 2009). Beyond elections, there are several ways within which citizens continue to participate in perfecting the limitations that come with elections (Bratton, 2013). Elections are commonly held only once every couple of years and one only ticks a box against the candidate of their choice (Bratton, 2013). Elections do not offer citizens the opportunity to contribute in a meaningful way to public decision making, or to hold public actors accountable for service delivery, specific decisions, or behaviors (World Bank, 2004).

The most prevalent form of citizen engagement is driven by influence from political parties and power brokers than the citizens that form the electorate (Heller, 2009, p.32). In reality, the dialogue between citizens, the government, elected leaders, and the civil society is inadequate (ODI, 2014¹²). Elected leaders engage citizens more during campaign period in the run up to elections than after the elections. After ascending to power, most elected leaders become more accountable to their political parties than the electorate that put them into power. As a result, political parties monopolize and significantly influence setting the national agenda, and make determinations on which issues enter the political domain, consequentially which issues enter the public sphere (Heller, 2009).

Similarly, where local government structures; municipalities, cities and councils do not often actively engage citizens; some of the development projects that are initiated are not relevant and responsive to citizens' needs (Bingham, Nabatchi and O'Leary, 2005). Lack of citizen engagement undermines the power of the electorate and brews citizen dissatisfaction which consequentially may lead to political unrest and protests (Govender, 2013). As a result, citizens' respect and trust in Government at all levels diminishes as it has been evidenced across the world in the last decade (Govender, n.d.) quoting (Goss 2001, p.22).

¹² <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8950.pdf>

In the absence of engagement procedures, citizens are reduced to dependent clients that have no effective means to hold government accountable other than during periodic elections (Heller, 2009). Heller (2009, p.6) further stimulates debate by asking, “Citizens can vote, but can they participate consequentially?” Wasserman quoting Willems, emphasizes that “for the deepening of democracy in Africa, surveillance of government also has to happen in between the ‘ritual of elections’” (Wasserman, 2011). It is necessary that there must be continued citizen engagement between citizens and government, elected leaders, and civil society beyond elections (Albert, 2009; Gaventa and Barrett, 2010). This is the space where this research is situated, investigating facilitated citizen engagement beyond elections. The challenge is to identify modern ways within which citizens can be actively engaged and technology is one such mechanism that this research will focus on outlined later in Chapter 4.

2.3.3. Variations of Citizen Engagement

In a study by Peixoto and Fox (2016), a collection of over 23 ICT led citizen engagement initiatives were categorized according to a number of variables of interest including the following:- voicing modality, disclosure of feedback and direction of accountability among others.

Voice modality differentiates citizen engagement initiatives by looking at who is engaging with the state or duty bearers; either individual voices or collective voices (Peixoto and Fox, 2016). Individualized mechanisms involve singular persons whereas collective action involve multiple persons. Both individual and collective action are expected to trigger response singularly or as an aggregate of reports identifying a common issue in public service delivery. For example, ICT led citizen engagement initiatives like PorMiBarrio, FixMyStreet in Georgia and I Paid a Bribe in India cater for individual engagement where each individual report is enough to lead to a governmental response. Whereas with collective action; it is the magnitude and intensity of the aggregation of citizen reports that triggers action from government, service providers and duty bearers (Peixoto and Fox, 2016). An example of collective action is the mobile web voting Grande do Sul; it is collective action that would trigger ultimate response for participatory budgeting in Brazil’s Rio (Goldfrank and Schneider, 2006).

Disclosure of Feedback; there are also variations according to whether there is disclosure of citizen reports or feedback and disclosure of institutional response. Either the citizen voice, aggregated voices, institutional response and or the impact or change in service delivery are made public or they are not (Peixoto and Fox, 2016). There is an underlying assumption that where feedback is made public, then

it is a stimulant for more citizen engagement and enhances accountability of the state. However, this is just an assumption, unless proven by empirical evidence

Direction of Accountability; Citizen engagement could also be looked at from the perspective of the direction of accountability, where upwards accountability involves engagement between service providers and higher authorities particularly from frontline service providers to managers and policymakers by identifying problems and triggering administrative action. Downward accountability refers to engagement between citizens and service providers (Peixoto and Fox, 2016).

O'Meally (2015) disaggregated citizen engagement according to five elements being *focal area*, *operational tool*, *policy/institutional aspects*, *mode of engagement*, and *outcome focus*. The authors emphasize that these categorizations of citizen engagement are not necessarily typologies but to be considered as forms of engagement. Table 2.2 demonstrates the disaggregation of citizen engagement initiatives according to these five elements as adapted from O'Meally (2015) who adapted from Joshi and Houtzager (2012); Agarwal and Van Wicklin (2011); Bukenya, et al., (2012); and Tembo, (2012).

Table 2.2 O'Meally (2015): Elements of Citizen Engagements

Focus Area	Operational Tool	Policy/ Institutional Aspects	Mode of Engagement	Outcome Focus
Transparency: The collection, analysis, dissemination, and monitoring of information related to government policies and programs. Accountability (more collaborative): Action	Transparency • Information campaigns • Open budget initiatives • Citizen charters Accountability (more collaborative) • Community scorecards • Expenditure tracking	Policy reforms (e.g., to promote citizen participation) • Legal reforms (e.g., introduction of access to information legislation) • Capacity/ Institutional	Instrumental (e.g., service efficiency) or transformational (e.g., challenge power relationships) • Collaborative (e.g., joint problem-solving) or confrontational (e.g., advocacy or protest) • Project-focused or institutionalization • Formal track (e.g.,	• Improved service delivery - Improved state responsiveness • Better budget utilization • Lowering corruption • Building democratic spaces • Citizenship formation

that seeks improved accountability through more collaborative and incremental approaches. Accountability (more contentious): Action that, to differing degrees, more directly challenges the accountability system and political status quo. Participation: In policymaking or implementation as a means of oversight.	• Formal grievance redress mechanisms Accountability (more contentious) • Advocacy campaigns • Investigative journalism • Public interest lawsuits • Demonstration and protest Participation • Participatory budgeting • Participatory Planning	Strengthening • Public Financial Management Reforms • Public Service Delivery Systems Reforms (e.g., e-government)	legal procedures) or <i>informal track</i> (e.g., networks) • Choice (new public management) or <i>rights/empowerment</i> (democratization) • Short route (citizen service provider) or <i>long route</i> (citizen state) • Individualized routes (e.g., citizen scorecards) or <i>collective action routes</i> (e.g., NGO mobilization)	• Empowerment/ rights claiming • Social cohesion • Improved state-society relationships • Answerability • Sanctions

2.3.4. The Ladder of citizen participation

In her widely cited article on participation, Arnstein (1969) presents one of the most comprehensive influential theory in the discourse of citizen participation. She characterizes citizen participation as a ladder comprising of eight rungs. Each rung represents a level of participation or a form of non-participation and corresponding to the extent of citizens' power as depicted in Figure 2.2.

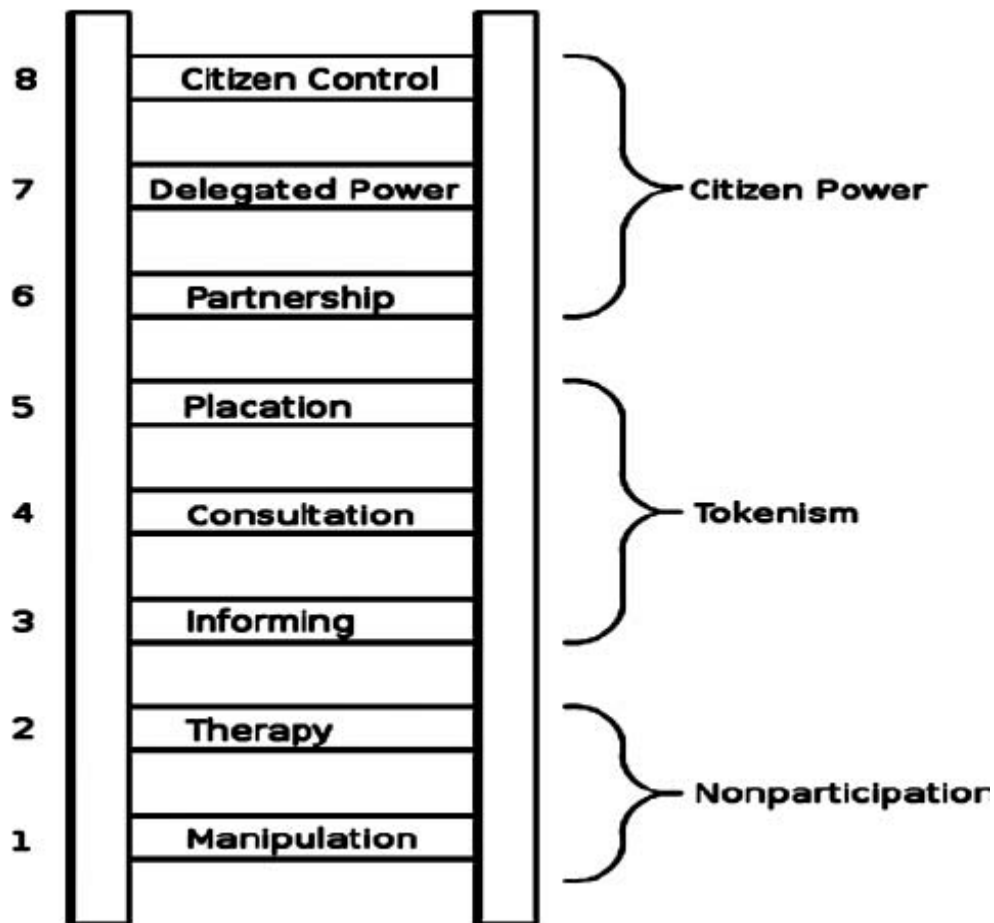


Figure 2.2: Arnstein (1969) A ladder of citizen participation

Arnstein's (1969) ladder refines participation into the following three main categories: - *Non-Participation*, *Tokenism* and *Citizen Power*. Within each of these broader categories there are rungs of citizen participation which include: - manipulative, therapy, informing, consultation, placation, partnership, delegated power and citizen control. In table 2.3 we categorise the rungs of citizen participation according to the three main categories.

Table 2.3: Rungs of citizen participation (Adapted from Arnstein (1969))

Non-Participation	Tokenism	Citizen Power
is where there are deficiencies in creating a conducive state for citizens to participate.	where citizens are not offered as much power and control to citizens despite giving them a platform to be heard and to participate (Arnstein, 1969).	is where citizens have more power to influence decision making
Manipulation is where participation is a means for the executive to educate or persuade citizens not the opposite. manipulation often relates to where authorities pass information to citizens in a top-down approach. (Chingaipe and Msukwa, 2012). (Nzimakwe, 2011). Therapy is where officials provide group therapy and assume ignorance of citizens (Chingaipe and Msukwa, 2012).	Informing is where there is one-way communication from Government to citizens and citizens have access to information that they demand. Consultation is where citizens' views are sought by those in authority often based on predefined issues set by the Government. Citizens participate in giving information to authorities by answering questions through various surveys. There is no guarantee that citizen's views will be taken on board given that professionals define both problems and solutions (Nzimakwe, 2011). Placation is where citizens actively participate and have an influence though Government reserves the right to decide on the legitimacy of inputs from citizens and their feasibility in influencing final decisions (Chingaipe and Msukwa, 2012).	Partnership is where citizens enter into an agreement and can negotiate with power holders (Arnstein, 1969). There is need for an organized community to which community leaders must be held accountable by a community in Partnership (Chingaipe and Msukwa, 2012). Delegation is when citizens have enough numbers to demand accountability from power holders as they have a dominant position on a particular policy, plan or program (Chingaipe and Msukwa, 2012). Citizen Control is where citizens have significant power or control to take charge of policy and influence decisions.

All the typologies of participation in Table 2.3 can broadly be categorized as direct or indirect participation. The rungs of participation at the top of the ladder relate more to representation of citizens by elected leaders or otherwise hence appeal more to indirect forms of participation (Arnstein, 1969). Those at the bottom of the ladder such as informing, and consultation relate more to direct forms of participation. In the next section, we will further delve into a discussion on Direct or Indirect forms of participation (Arnstein, 1969).

2.3.5. Direct Participation

Direct participation refers to any form of participation where ordinary people themselves take part in policy formulation, decision making, project implementation, monitoring and evaluation of policies, resources, and services (Arnstein, 1969). There are two variations of Direct participation, namely, **Instrumental** and **Transformative** participation (Arnstein, 1969).

Instrumental participation refers to the involvement of citizens based on predefined outcomes by those in authority, where citizens are there just to legitimize what has already been prescribed by those in power (White, 1996). Participation of citizens is used as a means towards an already defined end (White, 1996). Through instrumental participation, power holders; legitimize their views and decisions using citizens as a rubber stamp (White, 1996). However, citizens are not initiators and do not have the guarantee that their views will be taken on board (White, 1996).

Transformative participation is desirable for a thriving democracy as it offers citizen's means to initiate dialogue and participate fully in a way in which their views are considered and ultimately influence decisions that are made on issues that affect the citizens (Gaventa, 2004). Transformative participation often results in the empowerment of citizens and is likely to change the structures and institutions that lead to marginalization and exclusion of certain demographic segments from participating (Mikkelsen, 1995; Makumbe, 1996; Chinsinga, 2003). "This form of participation entails empowerment and the promotion of social justice, equity and democracy" (Chinsinga, 2003 p.133).

2.3.6. Indirect Participation

Indirect participation refers to where the views and interests of ordinary citizens are represented by elected representatives or otherwise (White, 1996). Indirect participation also refers to participation by

way of representation where citizens elect or assign fellow citizens to represent their views (White, 1996). This becomes a reasonable means of participation for large populations and for instances where getting each citizen to participate or air their views directly is not practical. Citizens are entrusted in representatives where representation brings order, eliminating potential for chaos where intermittent views were to be expressed by each individual (Irvin, 2004). Through representation, citizens' views, whether common or dissenting, can be condensed into a more edible form, an element of representation (Heywood, 2007).

Nominal participation is a variation of indirect participation that is often used by more powerful actors to give legitimacy to development plans (Arnstein, 1969). Less powerful people become involved in it through a desire for inclusion, however it is little more than a display, and does not result in significant change.

Representative participation is another variation of indirect participation that involves giving community members a voice in the decision-making and implementation processes of projects or policies that affect them (Arnstein, 1969). For the more powerful, representative participation increases the chances of their intervention being sustainable; for the less powerful, it may offer a chance for leverage (White, 1996). Existing literature identifies four models of representation, namely trusteeship, delegation, mandate and resemblance (Heywood, 2007). Each of these models is defined as follows: -

Trusteeship: A trustee is a representative for a group of people given formal responsibility for the community's affairs. The representative exercises 'mature judgment' in making rational decisions as they rarely engage with the people. "They think for the people and present their views as those of the people" (Heywood, 2007).

Delegation: A delegate is a representative that acts based on instructions from the people being represented. Representatives are bound to express the views of the people they represent with limited or no power to articulate their own judgement or preferences (Heywood, 2007).

The mandate model views representatives as less independent actors. This came about after the emergence of modern political parties; now constituents rarely vote for a representative based on their personal qualities but more broadly, they vote for their party to be elected to government (Royed, 1996). A mandate is an order or instruction from a superior body; therefore, this model suggests that representatives follow the party line and must carry out policies outlined during election campaigns (Heywood, 2013).

The resemblance model is less concerned about the way representatives are selected and more concerned whether the representatives resemble the group they claim to represent (Pitkin, 1967). The argument is that to represent a group of people such as women or people with disabilities; a representative must be a part of that social group. Therefore, only people who have shared experiences and interests can fully identify with specific issues (Heywood, 2013).

2.3.7. Other Typologies of Citizen Participation

In addition to the typologies of participation discussed above as adapted from the ladder of citizen participation proposed by Arnstein (1969), we consider three more typologies as explained by Nzimakwe (2011) adapted from Pretty (1995). The three typologies are functional participation, interactive participation and self-mobilization.

Functional participation is where citizens participate as a group to meet predetermined objectives. Often, important decisions on the project are made earlier on in the project by those in authority whilst citizens participate at a later stage (Nzimakwe, 2011).

Interactive participation is where citizens take part in defining problems, take part in conducting an analysis of proposed solutions, initiate development of action plans and have their capacity enhanced in terms of all areas of project management. Interactive participation is considered a right not a means to achieve project goals (Nzimakwe, 2011).

Self-mobilization is where citizens make their own initiative to participate in order to change systems. Citizen participation is independent of influence from those in authority and external institutions. Citizens initiate projects, make contact with resource entities, seek technical support and have absolute control over resources and ultimately drive the initiatives (Nzimakwe, 2011).

It is evident that each type of participation has pros and cons. Ideally, there is a need for balance where a bottom up approach is considered where citizens are central in setting the policy agenda, determining relevant solutions to their community problems but also where technocrats can support citizens to achieve desirable results (Nzimakwe, 2011). The Electoral Institute for Sustainable Democracy in Africa (EISA) notes that one of the democratic values for which citizen participation is promoted for, is the principle that “all citizens should have an equal opportunity to exert influence through political activity if they choose to do so” (Kabemba, 2003 p.2).

In reality, the strategies proposed by EISA may not be attainable as it requires that all citizens have the mechanism to be heard and yet not all views can be accommodated. The democratic principle of

popular sovereignty caters for the shortfall of the latter as it considers government as a composition of the citizenry and that not all interests can be satisfied. Government must be sensitive to the needs and voices of the people points out the limitations of the ladder of citizen participation being that it constantly highlights the divisions that exist between the powerless citizens and those in authority (Collins and Ison, 2006).

These typologies do not include the most significant elements for achieving genuine citizen participation (Arnstein, 1969). To enhance meaningful citizen engagement; it is important to consider engagement at the local level. As such, decentralization has been considered as a mechanism through which power, authority and decision-making processes can be devolved to the grassroots and enhance citizen participation at the grassroots through local government structures (Mansuri and Rao, 2013).

2.3.8. Intrinsic vs Instrumental Citizen Engagement

Some theories of citizen engagement have categorized engagement as **intrinsic** or **instrumental** citizen engagement. The concept of intrinsic citizen engagement stems from Amartya Sen's human capabilities approach (Sen, 1999). The approach intimates that citizens must have inherent capability and the voice to participate in development through open and transparent processes (Sen, 1999). However, this is dependent on many factors such as an enabling environment for citizens to participate. On the other hand, instrumental engagement considers engagement as a tool to achieve instrumental value such as improved service delivery, increased accountability and social cohesion (Mansuri and Rao, 2013).

Regardless of how citizens participate; it is essential to keep the feedback loop alive where there is recurring interaction through a two-way flow of information between citizens, government, private sector, civil society organisations and other service providers (Falco, and Kleinhans, 2018). Some studies of citizen engagement have hinted that responsiveness enhances further engagement of citizens (Brix, Lust and Woolcock, 2015; Sjoberg, Mellon, Peixoto, 2015; Abers, 2001; Finkel 1985). It must be emphasized that there is no set 'blueprint' on how citizens can participate.

The status of citizen engagement is a variable that is dependent on many factors e.g. the context, availability of an enabling environment, socio political factors and the inherent drivers of the instruments that make up citizen engagement (Protik, Nichols-Barrer, Berman and Sloan, 2018; Baum, Neil, and Paul, 2001). Although citizen engagement is often sold as a technical process; political and power relations are fundamental in shaping citizen engagement. Even in cases where citizen

engagement is driven by the civil society; it is not immune to the effect of political and power relations (Weghors and Lindberg, 2013) The effectiveness of citizen engagement initiatives is dependent on many other attributes including political will and capacity of the state to respond to demands (Grandvoinnet, Aslam, and Raha, 2015).

However, the absence of low capacity does not necessarily mean that there is no role for citizen engagement (Waddington, Sonnenfeld, Finetti, Gaarder, John and Stevenson, 2019). Where there is no political will and low capacity; citizen engagement might play the modest roles of construction of citizenship, enhancing collective voice, building trust, enhancing awareness, strengthening practices of engagement, strengthening of responsive and accountable states, and the development of more inclusive and cohesive societies (Gaventa and Barret, 2010; Brix, Lust and Woolcock, 2015). Citizen engagement initiatives do not have the same prospects of succeeding in regimes where essential freedoms of association, voice, or media are restricted as compared to where such freedoms exist (McGee and Gaventa, 2011). Even though the assumption and expectation is that highly democratic contexts are likely to permit the widest range of citizen engagement initiatives; it must also be stated that there is not necessarily a linear relationship between democracy and effective citizen engagement (Gaventa and Barret, 2010).

2.3.9. Thick and Thin Engagement

According to Leighninger (2014) there are two types of productive engagement. These are Thick engagement and Thin engagement. Thick engagement is where citizens come together in small working groups of ten people or more to learn, deliberate and make decisions on certain issues. Thick engagement is intense and deliberative (Leighninger, 2014). Citizens share experiences and may deliberate on several options before acting and selecting the best. In contrast, thin engagement is faster and potentially viral. It involves individual participation in signing petitions, tweeting or retweeting views, voting in a poll by a click among other things (Fung and Shkabatur, 2013). Using thin engagement, information can spread quickly whilst giving people the opportunity to express their preferences on policies and other public issues (Leighninger, 2014). A combination of both thick and thin engagement would be more effective as was the case with the consultation process on the National Mental Health Dialogue in USA where large and small deliberative groups, texting and online connections were used to involve citizens (Leininger, 2014).

There are different scenarios within which thick and thick engagements can be used. These will be dependent on the scenario of participation involved or the purpose for participation (Leininger, 2014). The following different scenario examples demonstrate how thick and thin engagements can be used:

In instances where decision makers want to:

- inform citizens or where leaders want to get feedback from citizens on a particular issue
- or where decision makers want to involve citizens voluntarily in implementation
- or through a process or where leaders want to generate new ideas from citizens
- or where leaders want citizens to develop a plan or a budget
- or where decision makers want to involve citizens in policy making, citizen engagement practitioners do not have to choose one or the other.

Some of the most **successful long-term citizen engagement initiatives have combined both** thick and thin engagement and we are seeing the incorporation of thin elements into thick engagement programs¹³.

2.3.10. The Citizen Engagement Loop

According to Grandvoinnet et al., (2015) there are five main elements that make up a complete citizen engagement process. The elements are: Citizen action, State action, Information, Civic mobilization and citizen–state interface (Grandvoinnet, et al., 2015)

¹³ <https://cele.sog.unc.edu/how-thick-or-thin-is-your-civic-engagement-project/>

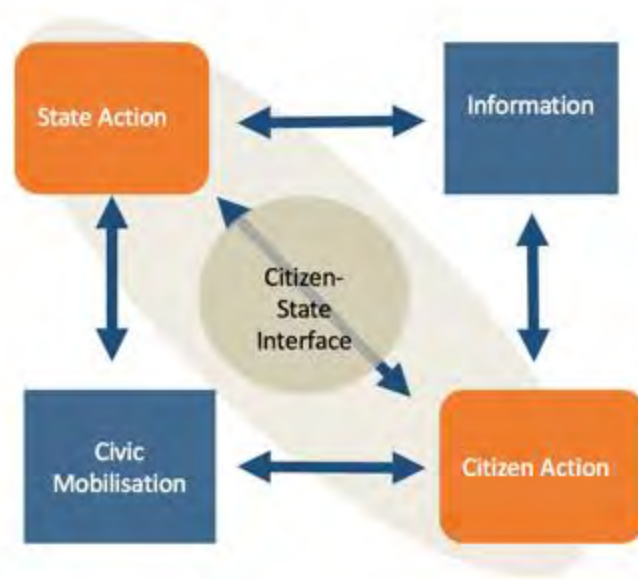


Figure 2.3: The Citizen Engagement Loop

The narrative below explaining the Citizen Engagement loop is adapted from (Grandvoinnet, et al., 2015). Citizen action is key as it encapsulates the role and voice of citizens in keeping the state and elected leaders accountable. Citizens can demand improved service delivery from the state, civil society organisations and service providers. The state is required to create an enabling environment with conducive social political factors that allow citizens to participate non discriminately. The state is also expected to be responsive to citizen's needs to satisfy citizen's needs and demands. Civil society organisations may help facilitate the mobilization of citizens to spur into action on a specific issue or in general. The interface between the state and citizens is crucial as it provides a platform for information to flow between the state and citizens. Information can flow from various directions, from citizens to the state or vice versa, from civic mobilizations to the state or otherwise. The content and flow of information may vary and matter (Grandvoinnet, et al., 2015)

There are several social political factors that shape citizen engagement. To begin with; the history of citizen engagement can shape the mechanisms and status of citizen participation. For the state to be responsive, it is dependent on the assumption that the state society relationship is such that the state has an obligation to respond to citizen's needs. The capabilities and commitment of elected officials and bureaucrats to respond to citizens demands is key. The status of state and civil society relationship is key. The networking abilities, technical capacity, and scope of reach of civil society organisations is key in facilitating meaningful citizen engagement (Grandvoinnet, et al., 2015).

There are several factors that drive citizen action in citizen engagement. Salience and awareness of the issues at hand, intrinsic motivation and the cost of inaction are potential drivers. State Action is driven by the ability of the state to resolve issues, awareness of the roles of the state towards citizens; the attitude of the state towards engaging with Civil Society, Intrinsic motivation and cost of inaction. It is important to note that the cost of inaction would differ for elected and non-elected officials as they are driven by varying incentives. Information is driven by accessibility, framing of the information, and trustworthiness. The drivers of interface include awareness, credibility, mediation, and capability. The drivers of civic mobilization include awareness, capability, and networks and credibility (Grandvoinnet, et al., 2015).

2.4. Benefits of Citizen Engagement

Below, we discuss some of the benefits of citizen engagement. Through citizen engagement, policy makers can tap on new ideas that inform policy design. Citizens are more likely to legitimize public policies and take part in development projects when engaged. Although there is no linear relationship between citizen engagement and democracy; citizen engagement has the potential to build trust in government, raising the quality of democracy (Baum, et al., 2001 p.1842). The notion of Citizen engagement building trust must however be considered with caution; as there are forms of citizen engagement built on tokenism and non-participation where citizen's views are not guaranteed to be taken into consideration neither is it possible to account for all citizens views (Monno and Khakee, 2012). It is also important to emphasize, that trust is a variable that is determined by many other factors within the context of politics other than citizen participation. Citizen engagement offers ordinary people the opportunity to engage in political life regularly beyond voting in elections (Chingaipe and Msukwa, 2012).

Policies can be implemented with close participation of citizens thus enhancing legitimacy of policies and smooth implementation as there is buy in from citizens (OECD, 2001)¹⁴. Effective citizen engagement creates a conducive environment for conflict prevention and resolution as citizens are included in the process. "This inclusiveness promotes transparency and the distribution of information and eliminates doubt and mistrust which usually happens as a result of inadequate information" (Chingaipe and Msukwa, 2012 p.13).

¹⁴ https://www.oecd-ilibrary.org/governance/promise-and-problems-of-e-democracy/using-information-and-communication-technologies-to-enhance-citizen-engagement-in-the-policy-process_9789264019492-3-en

When Governments and service providers are engaged with citizens within structured systems to provide response and resources to act on citizens reports; service providers can be more responsive to the needs of the people hence delivering demand driven services (Gaventa and Barrett, 2012). For example, the Fix My Street platform in the UK ensures that citizens report on issues to do with service delivery and maintenance issues are reported to relevant authorities and acted upon¹⁵. Additionally, if the government is responsive to citizen needs; it enhances the legitimacy of development projects as they are defined by people for the people (King and Brown, 2007).

Citizens' voice and power can be amplified through citizen engagement (Gaventa, 2003). Citizens can become more informed and aware of public issues. Through engagement, a platform is created for citizens to examine and express their opinions and preferences on policy debates and public issues (Chinsinga, 2003; Bengtsson and Wass, 2010). Where citizens are on different sides of the public debate; engagement can bridge the divide and provide a platform for citizens to find common ground often using thicker forms of engagement that entail intense and intimate deliberations. For example in the National Dialogue on Mental Health in the USA¹⁶ citizens became more aware of issues pertinent to mental health and were able to share their views and concerns through thick and thin engagements ranging from intimate deliberative groups of 10 or more people to individual online engagements.

When a large mass of people are engaged; citizens voices can influence the political will necessary to affect policy hence change initial stance of politicians (Bratton, 2013). Again, this is just a possibility and dependent on political will hence it is not guaranteed as a direct output from citizen participation. Citizen engagement can further strengthen the capacity of groups to work together as it enhances the spaces of active participation both physical and virtual spaces (Kerr, 2013) Through citizen engagement; governments can implement demand driven development projects that are relevant to people's needs. The case of participatory budgeting in Rio de Grad do Sol in Brazil; where citizens vote on the allocation of resources to various development projects is a valid example where citizens can demand and define the implementation of relevant projects (Goldfrank and Schneider, 2006).

It must be noted that participatory budgeting initiatives that include people's views are those nwhere practitioners are not necessarily advocating for tokenism as a form of participation (Monno and Khakee, 2012). Beyond dealing with economic poverty or material poverty; citizen engagement deals with poverty from a multidimensional spectrum. Citizen engagement deals with social exclusion by

¹⁵ <http://fixmystreet.com>

¹⁶ <https://www.everyday-democracy.org/national-dialogue-mental-health>

amplifying citizen's voice. It is about balancing the inequalities that exist (Ravensbergen and VanderPlaat, 2010).

2.5. Conclusion

In this Chapter we have extensively examined citizen participation and citizen engagement where the former is a subset of the latter. We have sought to understand the types, typologies and forms of citizen participation and engagement. We have concluded with highlights on the benefits of citizen engagement. We note some of the key lessons for practitioners seeking to deploy citizen engagement initiatives as we intend to. First, identify the problem that is being solved using citizen engagement. Second, involve the people and gather feedback in defining the problem to relate to their needs. Third, involve citizens in getting input on the solution. Make use of citizens input and feedback. Consider combining both thick and thin forms of engagement. Share information on how citizen feedback has been considered and provide incentives for participation. Citizens are likely to participate further where there has been feedback on previous reports. For service delivery, feedback to citizens must be accompanied with action to demonstrate that there had been change as a direct result of the citizen's engagement (Peixoto and Fox, 2016).

In order to increase participation; there is a need to look beyond the costs and benefit analysis or the rational choice approach as research has proven that there are many reasons other than this that define or motivate citizen participation. To increase participation practitioners should consider other factors such as drivers of participation other than costs and benefits. It has been observed that social, political, cultural and technical factors are some of the key enablers of citizen engagement. While there is an anticipation of more meaningful citizen engagement in democratic states than authoritarian political regime and that there is not necessarily a linear relationship between democratic political dispensation and citizen engagement. Even where the political environment is not as conducive; it has been noted that citizen engagement initiatives have the potential to deliver positive results of building collective voices, trust and citizenship among others (Chingaipe and Msukwa, 2012).

Depending on the scenario and purpose for engaging citizens; there are various forms of mechanisms that can be employed. Face to face interactions, focus group discussions, social media aggregation, online forums, participatory budgeting meetings, wiki-based forums, surveys and polls, public deliberation forums, crowd sourcing contests, crowd funding, focus groups are some commonly used mechanisms. There is no 'blueprint' for what mechanisms work best, hence in some cases a combination of two or three mechanisms would be ideal (Brix, Lust and Woolcock, 2015).

As considerations for forms of citizen engagement are made; it is important to understand information will flow between participants and with decision makers. For low stakes issues, information can flow in one direction where the purpose of engagement is to inform; or it could flow in both directions to close the feedback loop (Gigler and Bailur, 2014).¹⁷ However, where the stake of issues are high, sensitive or hot topics; then deliberative communication may be employed. Deliberative communication focuses on problem solving, where participants come together and

reflect on a problem, weigh options, and arrive at decisions not just based on facts, data and technicalities but also consider values and emotions (Gigler and Bailur, 2014). Additionally, enhancing participant to participant flow of information, viewing of reports from other participants and making feedback from decision makers public is one way to enhance collective action and to enhance citizen engagement (Peixoto and Fox, 2016).

Lastly, the type of information to be shared is an element that defines the type of participation to engage in. Some modes of participation require more detailed or technical information whilst some require basic and simple information to be shared to participants (Chingaipe and Msukwa, 2012). For example, for budget monitoring there would be a need to share with participants the budgets beforehand. Such information may be regarded as complex depending on abilities of participants.

We learn that with Citizen engagement there is no one way that fits all scenarios as the context within which citizen engagement initiative is deployed significantly matters. The typologies, tactics and forms of engagement learnt in this Chapter should be considered as leads, rather than infallible tactics. What works and what does not work to get citizens to participate remains an empirical question that can be answered within the context that a citizen engagement initiative is deployed. Over the past years, there have been a wide range of citizen engagement initiatives across participatory budgeting, monitoring of public expenditures and service delivery across the world from Brazil to Germany to Tanzania to India to mention a few. Existing literature suggests that the experiences outcomes, and lessons learned from these deployments have not been fully documented and shared (McNeil and Malena, 2015). We thus anticipate that this research can contribute to the existent literature and empirical evidence of citizen engagement within the context it is deployed.

¹⁷ https://elibrary.worldbank.org/doi/full/10.1596/978-1-4648-0191-4_ch8

In the next Chapter we will delve into understanding the context within which our ICT for citizen engagement initiative is going to be deployed to ultimately contextualize the enabling and deterrent factors.

CHAPTER 3

Malawi's Local Government System

Introduction

In this chapter, we highlight Malawi's geo, socio political and economic context. We introduce and explain the structure of Malawi's local government system in order to fully immerse this research in the concept of citizen engagement in the Malawian context. We delve into the differences between local government and central government within the country's perspective. We highlight the roles of the various stakeholders within the local government system. We explore the literature into understanding the concept and practice of decentralization in general and ultimately the status of decentralization in Malawi. We finally conclude with a section on the status of citizen engagement in Malawi which makes a pathway into Chapter 4 highlighting the potential for ICTs to enhance citizen engagement.

3.1. Setting Context in Citizen Engagement Initiatives

All through existent literature, it has been highlighted that context is key in understanding citizen engagement in its totality. There is a growing recognition that context is critical in shaping and driving the success or failure of citizen engagement initiatives (Grindle, 2007; Levy, 2011). The socio, political, economic, and technical factors within which citizen engagement initiatives are deployed have been noted as key determinants of citizen engagement initiatives (Gigler and Bailur, 2014; Grandvoinnet, et,al, 2015). It has been acknowledged that the success or failure of citizen engagement initiatives is shaped by both the way in which citizen engagement is implemented and by the context within which citizen engagement is situated in (O'Meally, 2015).

“... all transparency and accountability initiatives unfold within complex, non-linear, contextually-specific social and political processes and it is these complex contexts and processes that they seek to change” (McGee and Gaventa, 2011 p.27).

We acknowledge that the context rarely reveals any generic solutions but that it has the opportunity to reveal the complexities within which the citizen engagement initiative is deployed (UNDP, 2016)¹⁸. As such, although there is unevenness in the specific context which may not be easily applied to generic contexts; reviews across several empirical evidence of diverse contexts present the opportunity to point to some common factors that may become useful in understanding citizen engagement in broader contexts (McGee and Gaventa, 2011). It is thus necessary that we have focused this Chapter to capture the Malawian context within which this research will be deployed.

3.2. Background on Malawi

Malawi is a land locked country located in Southern Africa. The country's highlands are split by the Great Rift Valley which is still geographically active. Malawi shares borders with Tanzania, Zambia, and Mozambique. The country boasts of a large freshwater lake called Lake Malawi that is host to a United Nations Educational, Scientific and Cultural Organisation (UNESCO) heritage site called the Lake Malawi National Park. Covering 118,484 square kilometres of land, Malawi has a population of 17,563,749 million people with over 84% living in the rural areas and 51% of the population below the Age of 18 (National Statistics Office, 2018).

Malawi is an Agro based economy with a Gross Domestic Product (GDP) of about 412 USD per capita as of 2019¹⁹. Agriculture accounts for about one third of the country's economy and makes over 80% of the country's export revenue²⁰. The country's top exports include tobacco, dried legumes, sugar, tea, cotton, peanuts, coffee, and soya beans. Present literature and ratings consider Malawi as one of the poorest countries in the world. Malawi's literacy rate was recorded to be about 62.1% in 2017²¹ and the country ranks 172 of 189 countries on the Human Development Index (HDI) of 2018²².

To date there are four telecommunication operators in Malawi namely Airtel, Telekom Networks Malawi (TNM), Access and Malawi Telecommunications Limited (MTL). The country has the lowest mobile phone penetration rates in the southern African region which translates to a combined 8 million subscriber base corresponding to 42% mobile penetration rate. This is in contrast to its neighbours Tanzania, and Zambia that have mobile penetration rates of 83% and 72% respectively. According to

¹⁸ https://www.undp.org/content/dam/undp/library/capacity-development/English/Singapore%20Centre/GCPSE_CitizenEngagement_2016.pdf

¹⁹ <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=MW>

²⁰ <http://www.fao.org/3/a-i4491e.pdf>

²¹ <https://www.macrotrends.net/countries/MWI/malawi/literacy-rate#:~:text=Adult%20literacy%20rate%20is%20the,a%203%25%20decline%20from%202014.>

²² <http://hdr.undp.org/en/content/table-1-human-development-index-and-its-components-1>

available data, only 14% of Malawi's population has access to the internet majority of whom are urban city dwellers that make up 17% of the country's population²³.

As a former British colony, Malawi fully attained independence in 1964. Between 1964 and 1994, the country was led by Dr. Hastings Kamuzu Banda as a one-party state. In 1994, the country ushered in multiparty democracy²⁴ and has since seen over 6 Presidents and 3 political parties between 1994 and 2020. The President of Malawi is both the head of state and the head of government. There are three arms of the government: The Executive, The Legislature, and The Judiciary. The Judiciary is independent of the executive and the legislature²⁵. Malawi's judicial system is modelled after the British judicial system. It encompasses the magistrate courts, a High Court, and a Supreme Court of Appeal²⁶. The cabinet is appointed by the President whereas Presidents are elected through the ballot every 5 years (Constitution of the Republic of Malawi, 2017).

The National Assembly has 193 elective seats for Members of Parliament²⁷. There are 28 districts across the country managed by the local government administrative units. District commissioners head the local government units at district level and are appointed by the central government (Malawi Local Government Guidebook, 2010).

3.2.1. The Independence of the three arms of Government

Malawi is a democratic state with functional and fairly independent systems, a strong parliament, a high level of judicial independence and separation of powers between the Executive, Legislature and Judiciary (Constitution of the Republic of Malawi, 2017)²⁸. This is evident by the display of judicial independence over the years²⁹. More recently the High Court followed by the Supreme Court of Appeal nullified the 2019 Presidential election making Malawi the second country in Africa to overturn an election in which an incumbent President was declared winner (High Court of Malawi, 2020). This was remarkable on a continent where countless elections have been allegedly rigged and where courts have invariably thrown out court applications on elections cases³⁰. Malawi's Parliament set a new date

²³ <https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2019/07/GSMA-State-of-Mobile-Internet-Connectivity-Report-2019.pdf>

²⁴ <https://thecommonwealth.org/our-member-countries/malawi/history>

²⁵ <http://sdnp.org.mw/lawcom/docs/roleofjudiciary.pdf>

²⁶ <https://www.nyulawglobal.org/globalex/Malawi1.html#e>

²⁷ https://www.parliament.gov.mw/#/electoral_system

²⁸ https://www.constituteproject.org/constitution/Malawi_2017.pdf?lang=en

²⁹ https://freedomhouse.org/sites/default/files/inline_images/Politics%20of%20Judicial%20Independence%20in%20Malawi_1.pdf

³⁰ <https://issafrica.org/iss-today/malawis-court-gives-electoral-justice-in-africa-a-much-needed-boost>

for the fresh elections despite efforts from the executive to hinder the process³¹. Subsequently, the Executive had tried to intimidate the Chief Justice into forced retirement, but the lawyer's association, civil society and other legal scholars and members of the judiciary from all over the world protested against the action³². The Civil society had been fiercely consistent in protest against the Executive's failure to deliver on social contracts and services for all Malawians because of alleged nepotism and corruption among others³³. The Military was a key institution that also demonstrated independence during this period as it stepped up to protect protesters at a time when the Malawi Police Service had lost the trust of the people due to the police allegedly being infiltrated and controlled by the Executive³⁴.

The recent situation demonstrates Malawi's functional systems with clear separation of powers and an admirable sense of independence. This is unlike authoritarian regimes where there are least constrained executives, weak parliaments, low levels of judicial independence, weak civil society and security agencies that are used as a force against those that speak out against the leadership. This is particularly common in the Middle East and North Africa region (Bixi, Lust, and Woolcock, 2015). It is on record that in such authoritarian regimes, citizens have limited opportunities to submit complaints or provide feedback on the performance of elected leaders, public officials and service providers to keep them accountable as the overarching political capture system does not allow the same (Bixi, Lust, and Woolcock, 2015).

Contrariwise, the assumption is that in a country like Malawi where the systems are more democratic, open, independent and doing well on freedom of speech; the ability of citizens to hold elected leaders, public officials and service providers accountable are perceived to be much easier than in authoritarian regimes. However, we acknowledge that there is no linear relationship between democracy and functional citizen engagement (Gaventa and Barrett, 2010). Malawi deploys the decentralised form of governance and as such we cannot talk about citizen engagement at the local level without understanding the Country's local government structures (Msewa, 2005).

³¹ <https://www.nyasatimes.com/parliament-sets-june-23-date-for-malawi-fresh-elections-govt-protest/>; <https://ewn.co.za/2020/06/09/malawi-new-presidential-vote-on-23-june-parliament>

³² <https://www.theguardian.com/global-development/2020/jun/16/forced-retirement-of-malawis-chief-justice-before-june-election-blocked>; <https://www.aljazeera.com/news/2020/06/malawi-lawyers-protest-chief-justice-pre-vote-forced-retirement-200617152705346.html>

³³ <https://www.africaportal.org/publications/malawians-support-2019-post-election-demonstrations-split-government-power-limit-protests/>; <https://africanarguments.org/2020/01/30/year-mass-malawi-protests-election-ruling/>

³⁴ <https://www.africanews.com/2020/03/03/malawi-s-army-praised-for-protecting-protesters/>; <https://www.news24.com/news24/africa/news/malawi-troops-protect-demonstrators-in-rare-african-exception-20200302>; <https://allafrica.com/view/group/main/main/id/00070278.html>

3.2.2. Structure of local government in Malawi

Local Government is an important structural element towards delivery of services at the local level (O’Neil, et al., 2014). The quality of service provision within a country is dependent on the national political, administrative institutions, social institutions, and local government practice (Brix, Lust, and Woolcock, 2015). It is therefore imperative that we understand the structure of the local government in Malawi.

The Malawi Constitution was adopted in 1995. It provides for civil, cultural, political, social and economic rights, democracy, good governance and rule of law (Constitution of the Republic of Malawi, 2017). Section 146 of the Malawi Constitution provides a legal framework for decentralization and establishment of local authorities. It further recognizes a viable local government system as an integral building block of a functional democracy, service delivery system, and economic development (Constitution of the Republic of Malawi, 2017)³⁵.

The responsibility of local authorities is to promote infrastructural and economic development. Local government is there to promote the “constitutional order based on democratic principles, accountability, objectives of local transparency and participation of the people in decision-making government and development processes” (Malawi Government, 2010). The concept of spearheading local development through district councils is based on the belief that sustainable socio-economic development can be achieved if there is a mechanism through which grassroots can be involved in local development (Malawi Local Government Guidebook, 2010). Citizen participation is further enshrined in Chapter Four of the Malawi Constitution that provides for the right of people to participate in governance through the bill of citizen rights (Malawi Constitution, 2017).

3.2.2.1. Composition of Local Authorities

Section 146 of the Constitution of Malawi and the Local Government Act of 1998 provide for the establishment of local authorities and councils within which local councillors are elected as ward representatives as provided for in the Elections Act (Malawi Government, 2010). The Constitution and the Local Government Act of 1998 are considered as the key foundation documents for the legal

³⁵ https://www.constituteproject.org/constitution/Malawi_2017.pdf?lang=en

implementation of decentralization in Malawi (Malawi Government, 2010). In 2010, an amendment was made to the local Government Act of 1998. According to the Local Government Act of 1998 and the Amendment of 2010; the Local government system is such that there is a local council at the top which consists of the following:

- a. Elected councillors,
- b. Members of Parliament (MPs)
- c. Chiefs and full Traditional Authorities
- d. Members of five interest groups
- e. An administrative body called council secretariat (Malawi Government, 2010).

The council secretariat is responsible for execution of all implementation decisions taken by the council. The council secretariat is composed of council employees led by the District Commissioner commonly called a DC, who is the controlling officer responsible for management of council resources (Malawi Government, 2010). In cities and municipalities, an equivalent of a DC is called a Chief Executive Officer. The council secretariat has directorates responsible for various departments among which are some as listed below: -

- i. Administration;
- ii. Director of Agriculture, Environmental Affairs and Natural Resources
- iii. Director of Planning and Development
- iv. Director of Education, Youth and Sports
- v. Director of Finance
- vi. Director of Health and Social Services
- vii. Director of Public Works. In cities and municipalities this directorate may be called Director of Engineering.

3.2.2.2. Voting Rights

According to the Malawi Local Government Guidebook (2010), voting rights at the council are given to MPs and councillors. MPs thus have double voting rights at council level and in parliament. However, only councillors can be elected in lead positions of chairpersons, deputy chairperson or mayors or deputy mayors of councils. Citizens can apply to attend proceedings of council meetings but cannot vote. The council secretariat is composed of permanent employees of the secretariat which

is headed by a District Commissioner at District level or Mayor or Chief Executive Officer in cities and municipalities. Under the DC, there are head of directorates such as Head of Administration, Head of Finance Planning and Development, Education, Youth and Sports, Finance, Health, Social Services and Public works. Directorates are not limited to these as they may be reviewed as needed from time to time (Malawi Local Government Guidebook, 2010).

District Commissioners and CEOs are appointed by the minister whilst the rest of the secretariat staff are employed by the Council's appointments and disciplinary committee or through the Local Government Service commission an umbrella board that manages recruitment and standards for all local councils.

3.2.2.3. Development and Service Committees

According to the Malawi Local Government Guidebook (2010), under the council; there are three committees namely the Area Development Committee (ADC), Village Development Committee (VDC) and Service Development Committees. VDC's formulate village action plans which speak to the key needs of a village. The Area Development committees consolidate all priorities from VDC's and merge them into a District Development Plan (DDP) which represents the needs and priorities of the district. The local council approves the DDP which is aligned to the overarching policy framework of the country, the Malawi Growth Development Strategy.

Within the local council, there are seven mandatory service committees established with provision from the Local Government Act of 1998. Service committees are grouped according to key thematic areas such as finance, health, development, education, human resources, town management and works committee. The role of the service committees is to do the following: -

- i. Translate national policy into relevant activities at council level.
- ii. Propose activities in a given sector to be undertaken at council level.
- iii. Formulate council bylaws that will help maintain order within a council.

Councils may form additional service committees at village, ward, and area level. Although council meetings are to be held four times a year; service committee meetings can meet more often as need arises (Malawi Local Government Guidebook, 2010).

3.2.3. Responsibilities of Local Councils

According to the Local Government Act of 1998; Local councils have the following responsibilities:

(a) To make decisions on the development of a local government area within a council's jurisdiction. Councils must ensure that development initiatives are relevant to the country's national policy in particular the medium-term development strategy called the Malawi Growth Development Strategy (MGDS). The MGDS is the country's overarching policy that outlines priorities within priorities from different sectors of development including the following:- Agriculture, Water Development and Climate change management; Education and skills development; Energy, Industry and Tourism Development; Transport and ICT Infrastructure; Health and Population. The Government funds development projects within these priorities and other development areas with support from development partners. Through implementation of such projects, Malawi contributes towards the attainment of the United Nations Sustainable development goals (SDGs).

(b) To consolidate and promote local democratic institutions and enhance democratic participation. Councils must be democratic by engaging citizens and all stakeholders in making decisions that affect the people. Decisions that are made must be a reflection of people's views likewise development initiatives that are implemented must be relevant to people's needs (Local Government Act of 1998)

(c) To promote infrastructural and economic development through the formulation, approval and execution of district development plans **councils must consolidate the needs of citizens** as stipulated in the action plans from Area Development Committees. Plans must also be aligned into district development plans for three years that incorporate measures to ensure there is continued infrastructure development in their local government area. The council must also find means to attract investors and trade into the local government area by promoting the advantages of their local government area e.g. fertile soils, proximity to the lake so that there can be growth in the economic activity and ultimate socio economic growth in the area (Local Government Act of 1998).

(d) Mobilize resources within the local government area for governance and development. Councils must raise funds for local development projects and enhancing service delivery. Councils must aim to attract investors and development partners to support local development (Local Government Act of 1998).

(e) To maintain peace and security in the local government area in conjunction with the Malawi Police Service. Through community policing and collaboration with the Malawi Police service; councils must

ensure that there is peace and order in the local government area to make it conducive for habitation and to attract investors (Local Government Act of 1998).

(f) Make by-laws for the good governance of the local government area. Councils in consultation with citizens through the local government structures can formulate by laws that govern certain elements within the local government area. Such laws are to be in line with national laws and require approval by the Local Government minister (Local Government Act of 1998).

(g) To appoint, develop, promote, and discipline its staff. Apart from the District Commissioner or Chief Executive Officer of cities or municipalities that are appointed by the Local Government service commission and the minister; all other council secretariat staff such as Directors, Secretaries and Tax collectors are appointed by the council. The council must have mechanisms within which to monitor performance and enhance discipline of staff (Local Government Act of 1998).

(h) Councils must co-operate and collaborate with other Assemblies in implementation, sharing of lessons learned and ideas (Local Government Act of 1998).

(i) Councils perform other functions such as registration of births, marriages, and deaths. Councils may also participate in coordination of other delegated national functions such as elections, public events, national immunization campaigns, disaster management (Local Government Act of 1998).

3.2.3.1. Councils as Service Providers

Supplying citizens with essential services such as education, water, roads is a shared responsibility of central government, local government and NGOs working in local government areas. However, there are specific services that Local government through councils are expected to deliver to citizens as stipulated in the Malawi Local Government Guidebook (2010) as follows: -

- i. Councils are responsible for sanitation and hygiene of local government areas through collection and disposal of refuse and sewerage and environmental civic education for citizens.
- ii. Councils are responsible for construction, maintenance and naming of roads that fall within the jurisdiction of the local government area.
- iii. Councils are responsible for crop and livestock extension, land and crop husbandry, food and nutrition support for communities, construction, managing and maintenance of dams, dip tanks and basic vet services.

- iv. Councils are responsible for construction and maintenance of water kiosks, boreholes, protected wells, gravity fed piped water.
- v. Councils are responsible for maintaining public recreation facilities such as community halls, parks, playgrounds, and other public areas.
- vi. Councils are responsible for issuing licenses to small and medium business enterprises such as groceries, rest houses, private clinics, and schools to operate within the local government area. The council also inspects such entities for conformance to stipulated standards or otherwise close those that are below set standards.
- vii. Councils also provide registration services such as birth, marriage, and death certificates.

It is a requirement that all plans and projects implemented at local government level must be aligned to the MGDS as the core policy framework.

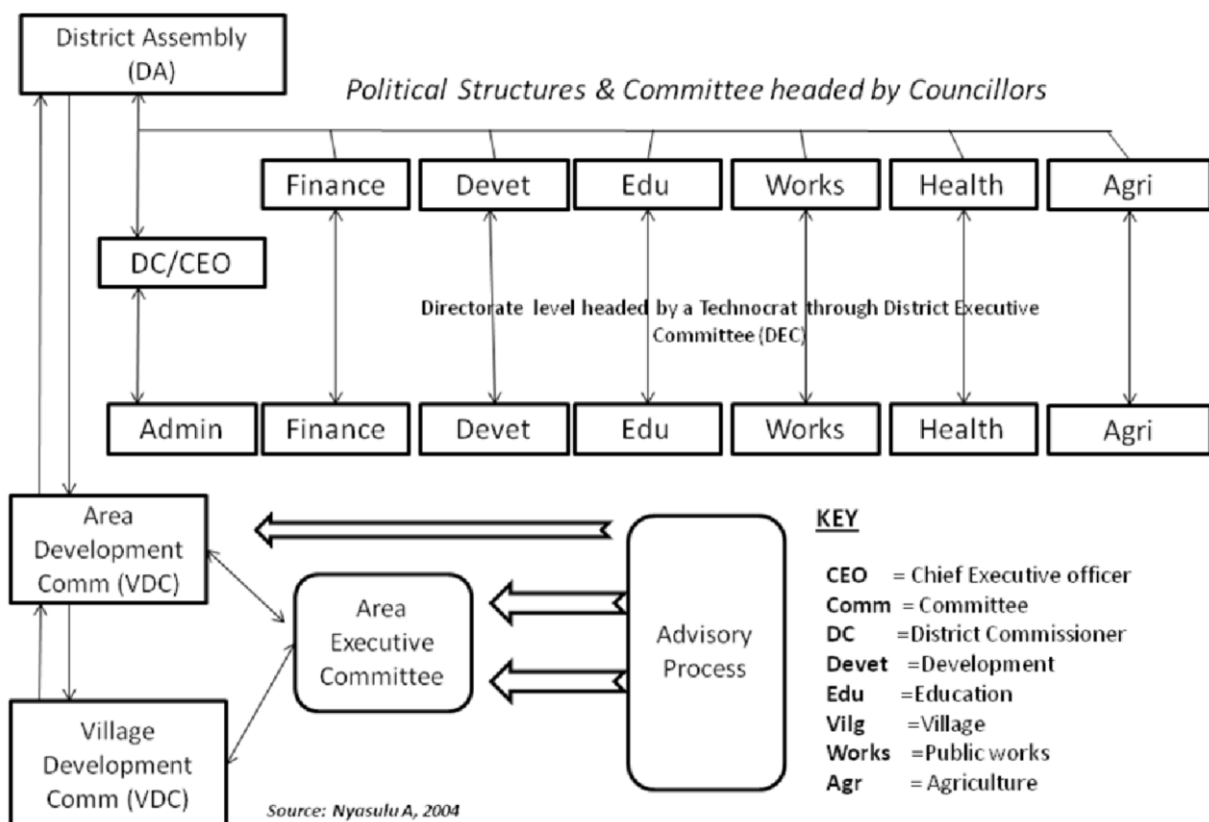


Figure 3.1: Institutional Framework for Local Government in Malawi Source: Chiweza (2010)³⁶

³⁶ <https://www.semanticscholar.org/paper/A-Review-of-the-Malawi-Decentralisation-Process%3A-Chiweza/972a22c3a8947abc745e111aef02f6da424f1daf/figure/0>

3.3. Relationship between central government and local government

The National Decentralization Policy (NDP) provides for central government to support local Councils with policy guidance, finance, and technical assistance. The Ministry of Local Government and Rural Development has a pivotal role in the management of the decentralization program. Central government has the primary responsibility of providing guidance and support to the Councils and acting as a link between central government and the councils. Some of Central government work is done through specialized local government institutions such as the National Local Government Finance Committee³⁷ (NLGFC) and the Local Government Services Commission (LGSCOM) (Malawi Local Government Guidebook, 2010).

The NLGFC was established in 2001 under Section 149 of the Malawi Constitution. The NLGFC is responsible for managing and monitoring the financial relationship (in terms of both recurrent and development finance) between Central and Local Government, among the Assemblies, and for supporting and monitoring the financial performance of Assemblies.

The LGSCOM was also established under the Malawi Constitution. The previous Local Government Act empowered LGSCOM to appoint Council employees from position of Director up to Chief Executive including recruitment, promotion, and discipline of Council personnel. However, the 2010 Local Government Act amendments have changed the provisions (Constitution of Malawi, 1994; Malawi Local Government Guidebook, 2010).

The Decentralisation Policy (1998)³⁸ also assigns line ministries the responsibility for policy formulation, policy enforcement, and inspectorate, establishment of standards, training, and curriculum development for their respective departments at the district level.

The Office of the President and Cabinet (OPC) provides overall guidance to the decentralization process through the Cabinet Committee on Local Government and Rural Transformation. The Cabinet Committee on Local Government and Rural Transformation (CCLGRT) is the main policy making body whose terms of reference include Local Government, devolution, and the administration of traditional authorities. The Committee has 11 members nominated by the President (Decentralisation Policy, 1998).

³⁷ [http://www.motpw.gov.mw/nlgfc/index.php/sports/profile#:~:text=The%20National%20Local%20Government%20Finance,\(Section%20149%20of%201994\).&text=In%20its%20Mandate%2C%20the%20new,local%20development%20in%20local%20governments%E2%80%9D](http://www.motpw.gov.mw/nlgfc/index.php/sports/profile#:~:text=The%20National%20Local%20Government%20Finance,(Section%20149%20of%201994).&text=In%20its%20Mandate%2C%20the%20new,local%20development%20in%20local%20governments%E2%80%9D)

³⁸ <https://cepa.rmportal.net/Library/government-publications/Malawi%20Decentralization%20Policy%201998.pdf/view>

Another policy level coordinating committee is the Inter-ministerial Technical Committee on Decentralization (IMTCD). This Committee is composed of technical experts from all devolving sectors and the Office of the President and Cabinet, Ministries of Local Government and Rural Development, Finance, Economic Planning and Development. The IMTCD on Decentralization is responsible for providing technical support to decentralization process. This Committee reports to the Cabinet Committee on Decentralization and Rural Transformation through the Ministry of Local Government and Rural Development (MLGRD).

The Committee is chaired by the Secretary for Local Government in the MLGRD (Malawi Decentralisation Policy, 1998). In the next section, we explore deeper into understanding the concept of decentralization in general and the status of decentralization in Malawi.

3.3.1. Decentralization

The concept of decentralization has been trending globally since the 1980's based on the rationale that it has political and economic gains that empower local government authorities with the authority, resources, and skills to achieve local development with participation of citizens³⁹. Meaningful decentralization is a combination of good politics and sound economic policies (Govender, 2013). Decentralization is the transfer of authority, power or responsibility in making decisions, planning, allocation of resources and execution of duties from a higher level to a lower level of government such as at district or regional level or through non-Government organisations, parastatals or private entities (Govender, 2013; Malawi Local Government Guidebook, 2010). Decentralization is founded on the principles of good governance and has been adopted in order to promote community participation in development and decision making among other policy objectives (Ikhide, 1999 p.165; Tordoff, 1994).

According to Crook (1994, p.339) policy advocates have justified decentralization as a key element in building good governance, which is generally interpreted as greater accountability, transparency, and pluralism. Politically, decentralization is considered as a means to promote community participation in policy formulation, which is taken as a right and a necessity of political democracy (Chiweza, 2010). Administratively, decentralization is regarded as a key strategy that facilitates effective coordination and promotes community participation in development planning and implementation of policies (Mutizwa-Mangiza and Conyers, 1996). The intention to promote citizen participation is meant to

³⁹ <https://www.usaid.gov/sites/default/files/documents/2496/200saz.pdf>

ultimately achieve accountable and transparent systems of government. Decentralization is meant to allow each local authority to develop relevant development plans that respond to community needs (Local Government Act, 1998).

3.3.1.1. Types of Decentralization

Various scholars and practitioners have categorized decentralization in various formats and typologies. Writing specifically on decentralization in Malawi, Hussein (2010) categorizes decentralization as being political and administrative. Political decentralization is considered as a “... means to promote community participation in the policy formulation, which is taken as a right and a necessity of political democracy..” (Hussein, 2010 p.2). While administrative decentralization is considered as a key strategy through which citizens are actively engaged in policy formulation, planning and execution of development projects. Other scholars have also considered a third dimension of decentralization called financial decentralization. It is considered as the shifting of financial power to the local level by transferring resources and authority to generate and manage own revenue at the local level⁴⁰.

There are various forms of decentralization that are outlined in literature. We focus on the following as articulated in (Meenakshisundaram, 1994; DPLG, 2003 p.28; Hussein, 2010):

3.3.1.2 Devolution.

Devolution is the transfer of authority or power to make administrative, financial and political decisions to low level units within an organisation’s hierarchy. This is considered as the strongest form of decentralization (World Bank, n.d)⁴¹.

3.3.1.3. Delegation

Delegation is the transfer of leadership or management for specific function from central government to local government or one arm of the government to another (Govender, n.d). There may be a separation in terms of financing and mode of delivery of a particular service yet catering for the same objectives.

3.3.1.4. Deconcentration

Deconcentration is the transfer of administrative authority or delegation of responsibilities within the

⁴⁰ <https://www.usaid.gov/sites/default/files/documents/2496/200saz.pdf>

⁴¹ <http://www1.worldbank.org/publicsector/decentralization/admin.htm>

same organisation and hierarchical level of accountability. There is a geographical disparity in terms of where a function is performed but most decisions are done at the center (Malan, 2008).

3.3.1.5. Privatization

Privatization refers to the transfer of government service to private sector entities. The practice in governance of countries around the world necessitates a balance between decentralization and centralization rather than it being a choice between one or the other (Hussein and Hussein, 2006). Ongoing research suggests that there are two forms of decentralization that relate the most to citizen engagement; being deconcentration and devolution (Hussein and Hussein, 2006).

3.3.2. The Framework for Decentralization in Malawi

In 1994, the Malawi government adopted the concept of decentralization fully as one of its overarching strategies towards poverty alleviation through the poverty alleviation program (Chiweza, 2012). Decentralization is articulated in several documents in Malawi legislature. Decentralization is enshrined in the Constitution of the Republic of Malawi. Chapter XIV of the Constitution provides for the establishment of local government, its functions, jurisdictions, duties and composition of the local government structures. There are several instruments that speak through decentralization in Malawi being the Local Government Act, the National Decentralization Policy, the District Development Planning System, and the Malawi Growth Strategy Paper, among others. “The underlying rationale for democratic decentralization as a vehicle for achieving sustainable good governance, development and poverty reduction is that it brings the government closer to the grassroots both in spatial and institutional senses, hence making it more representative, accountable and responsive, which in turn improves the appropriateness and effectiveness of development projects. Thus, the fundamental developmentalist logic of decentralization policy reforms is that local institutions can better discern local needs and aspirations and are therefore more likely to respond to them adequately.” (Chinsinga, 2008 pp. 2-3).

3.3.3. Context of Decentralization in Malawi

The advent of a multiparty democracy in 1994 stimulated the need to rearrange the distribution and exercise of power in Malawi. After a 30-year spate of centralized, one party rule; Malawi devolved certain political, social, and fiscal powers to local authorities following the adoption of the Decentralization policy in 1998 and the Local Government Act of 1998. The National decentralization

policy was instituted to advance principles of participatory democracy through decentralization of political and administrative authority to district level (Malawi Local Government Act of 1998). According to the National Decentralization Policy,⁴² the policy provides for the following functions: -

- (a) devolves administration and political authority to the district level.
- (b) integrates governmental agencies at the district and local levels into one administrative unit, through the process of institutional integration, manpower absorption, composite budgeting, and provision of funds for the decentralized services.
- (c) diverts the center of implementation responsibilities and transfers these to the districts.
- (d) assigns, functions and responsibilities to the various levels of government; and
- (e) promotes popular participation in the governance and development of districts.

The fifth purpose of the decentralization policy as stipulated above; emphasizes the need to engage citizens in identifying, planning and implementation of development activities. It has been anticipated that by integrating this sort of institutional change through citizen participation, there would be enhanced accountability, good governance, poverty reduction and ultimately economic development (Chingaipe and Msukwa, 2012).

3.3.4. The status of Decentralization in Malawi

Malawi adopted decentralization in the form of devolution of administrative and political activities to District level (Chiweza, 2012). Devolution meant that there would be transfer of political and administrative authority from the central government to the district level. Despite the establishment of the decentralization policy in 1998 and its review in 2010; the effectiveness and efficiency of the decentralized structures in creating an enabling environment for citizen participation is questionable (Hussein, 2012). Furthermore, there seems to have been more of administrative decentralization than political decentralization in Malawi (Hussein, 2010).

In 2005, the sector devolution started in health, education, and agriculture departments. Functions within these departments were delegated to district level such that central government started to disburse funds directly to the District Assemblies. However, some departments such as the Department

⁴² <https://cepa.rmportal.net/Library/government-publications/Malawi%20Decentralization%20Policy%201998.pdf>

of Energy and Mines are yet to be devolved which creates challenges in the implementation of local projects from these departments.

To ensure that local government had necessary funds for service delivery; an intergovernmental fiscal transfer formula was adopted by Parliament in 2002 to monitor service delivery. Despite commitment to devolving these sectors, literature and existing studies suggest that there has been more of deconcentration than devolution (Chiweza, 2010; Hussein, 2010; UNDP, 2015). Subsequently, there were assertions that the first crop of councillors did not perform which ultimately crippled the essence of decentralization, following which local government elections were suspended in 2005 and there were no councillors sworn in until 2014.

3.3.5. The implications of the absence of councillors between 2005 and 2014

In the year 2000, the first local government elections were held in Malawi and councillors were elected in 38 local government councils. However, at the end of their term in 2005, Government and other sectors were of the view that this group of councillors was inefficient and not effective in promoting grassroots development. It was further noted that there was truly little value addition made to local development that would be attributed to these councillors (Malawi Electoral Commission, 2014).

The local government elections were thus not held in 2005 and subsequent years until 2014. The Government cited the need to review the legal framework and operations of local councils before holding the next local government elections. This led to the review of the Local Government Act of 1998. Reviewing the act was done in consultation with citizens, chiefs, past councillors, MPs, the civil society and lessons learned from other countries. The result of the review was the amended Local Government Act of 2010.

Some analysts alleged that withholding local government elections during this period was unconstitutional and as a result of a lack of political will (UNDP, 2015)⁴³. Consequentially, Malawi was side lined from other international opportunities on local governance as a result of this anomaly. The absence of councillors created a scenario where MPs took over some roles of councillors (Chasukwa, Chiweza and Chikapa-Jamali, 2014; Chingaipe and Musukwa, 2012). For example, the

⁴³ <https://info.undp.org/docs/pdc/Documents/MWI/Final%20NDP%20II%20Review%20Report%20-25%20July%202015.pdf>

voting rights at the council were amended to suit the situation such that MPs assumed councillor voting rights creating double powers. MPs now had voting powers at local and national level. This may have seemed convenient between 2005 and 2014 when there were no councillors, but it creates duplication and confusion of roles and powers of MPs and local councillors. As a result, there were concerns in the management of the constituency development fund that was initiated in 2006 to replace the community development fund. The community development fund was meant to be managed by wards where councillors were meant to be the elected representatives.

3.3.6. The Constituency Development Fund

The Constituency Development Fund was established in 2006 to suit the prevailing scenario of the absence of councillors (Malawi Parliament, 2006)⁴⁴. MPs thus assumed the role of managing local development funds with District Commissioner's as controlling officers. Although the setup of the fund was meant to follow through the process of decentralization; it is alleged that the funds have become more politicized by MPs who have proposed their own projects by passing ADCs⁴⁵. There have also been reports that DC's have been forced to disburse the fund in the absence of councillors. The Local Development Fund (which is supposed to cater for local projects as determined by communities initially through village action plans) has largely been used to implement projects determined by central government. This has defeated the purpose of decentralization which is to give power to the people as the trademark slogan of the initiative is widely known⁴⁶. As such, there is no fund available for community development at ward level presently.

We have outlined the depth of the structure of Malawi's local government systems in a quest to understand the environment within which local councils operate. This research is particularly interested in the concept of citizen engagement and how we can enhance citizen engagement with local government structures in the form of councils; councillors and service provision entities such as waterboards and ESCOM. In the next section, we present some of the definitions of the key stakeholders of interest to this research apart from the local councils introduced primarily.

⁴⁴ https://malawi.actionaid.org/sites/malawi/files/cdf_budget_tracking_report_2017.pdf

⁴⁵ <https://times.mw/k4-billion-haunts-government/>

⁴⁶ <https://www.ndi.org/sites/default/files/Power%20to%20the%20People%20Guide%20CHICHEWA.pdf>

3.3.7. Citizen

According to the Constitution of the Republic of Malawi (1994) a citizen is a person who is entitled by birth, descent, marriage, registration, naturalization or any other means prescribed by an Act of Parliament to be called a Malawian. The person is entitled to all legal rights as enshrined in the constitution of the Republic of Malawi including the right to participate⁴⁷.

3.3.8. Councillor

A councillor is an elected representative of a ward within a constituency that represents peoples' needs at the council level (Malawi Local Government Guidebook, 2010). Councillors are citizens of the country, with no specific academic qualification but expected to ably represent and serve communities interests. Councillors are not paid for representing the community but are just considered for transport and upkeep allowances. Most councillors are elected on party tickets but this does not mean that they only serve the interests of their party supporters or areas where they consider strongholds (Malawi Local Government Guidebook, 2010).

3.3.9. Water Boards

The Water boards are parastatal organisations established under the Act of Parliament and Water works Act of 1995⁴⁸. The boards are mandated to source and supply portable water to specified geographic areas. There are four water boards in Malawi namely: Blantyre Water Board, Lilongwe Water Board, Central Region Water Board and Northern Region Water Board⁴⁹. For example, Blantyre Water Board serves the city of Blantyre and surrounding areas. Lilongwe Water Board serves water to Lilongwe city and surrounding areas. Northern Region Water Board serves Mzuzu city and surrounding districts in the Northern region whilst the Central Region Water Board serves water to other districts around the central region.

In recent years, the water levels at water reservoirs of the water boards have significantly dwindled courtesy of population growth and climate change against the rising demand in volumes of water needed⁵⁰. The capacity of water boards to supply water to the growing population has significantly been affected. Consequentially, there have been recurrent water shortages and constant water rationing

⁴⁷ https://www.constituteproject.org/constitution/Malawi_2017.pdf?lang=en

⁴⁸ <http://extwprlegs1.fao.org/docs/pdf/mlw119423.pdf>

⁴⁹ <https://libguides.lib.uct.ac.za/GovtPubsWaterResources/WaterMalawi>

⁵⁰ <https://www.jica.go.jp/malawi/english/activities/c8h0vm00004bpzlh-att/water.pdf>

across the cities of Blantyre, Lilongwe and Mzuzu. The respective water boards grapple to provide adequate water to meet the demand from households, corporations, and industries and people have been forced to seek water from unsafe sources (Mkandirwe and Mpakati-Gama, 2015).

3.3.10. Electricity Supply Commission of Malawi – ESCOM

The Electricity Supply Commission of Malawi (ESCOM) is a public statutory corporation constituted under the Companies Act of the Republic of Malawi in 1998. ESCOM is the sole provider of hydroelectric power in Malawi and generates 95% of all power in the country with an estimated capacity of 384MW catering for 10.8% of the country's population⁵¹. Power is generated from interconnected hydroelectric power plants located on the middle part of Shire River and a mini hydro power plant on Wovwe River. The utility company reports to the Ministry of Natural Resources and Environmental Affairs on energy affairs. On technical and policy related matters, the utility company reports to the Department of Statutory Corporation, whilst on budgetary and other financial matters the utility company reports to the Ministry of Finance.

The level of electrification is significantly low catering for an estimated 46% of the urban population and less than 1% of the rural population⁵² which makes up over 82% of the country's population⁵³. In recent years, power generation has not met the demand and blackouts are scheduled almost on a daily basis and can go for as long as 7 hours or more in a day⁵⁴.

3.4. The Status of Citizen Engagement in Malawi

Despite having a comprehensive legal framework and policies that support citizen engagement as outlined in sections above; the effectiveness and efficiency of the decentralized structures in creating an enabling environment for citizen engagement is still questionable (Chingaipe and Msukwa, 2012). Malawi's current decentralization reforms show a shift of emphasis from deconcentration or administrative decentralisation to devolution or political decentralization (Chiweza, 2010 p. 35). Malawi has not attained the desired aspirations of decentralization (Smoke, 2003 p.12). As a result, citizen's role in participating in local development has not been fully attained. There is a striking

⁵¹ <https://www.usaid.gov/powerafrica/malawi>

⁵² <https://www.usaid.gov/powerafrica/malawi>

⁵³ <https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS?locations=MW>

⁵⁴ <https://malawi24.com/2020/03/22/escom-says-increase-in-demand-has-led-to-7-hour-blackouts/#:~:text=The%20Electricity%20Supply%20Corporation%20of,increase%20in%20demand%20for%20electricity.>

mismatch between the theories of citizen engagement and the actual status of citizen engagement in Malawi (Hussein, 2010). Consequently, the professed commitments on citizen engagement are reduced to being merely rhetoric (Chinsinga, 2003).

For purposes of this research, we examine citizen engagement from two angles: participation during elections and participation after elections. This helps us to understand the gaps that exist in citizen engagement. In 2002, Malawi ranked sixth of forty-three countries in Africa on voter turnout by percentage (Rafael, et al., 2002). About 18 years later, Malawi's voter turnout remained consistently high as collaborated by the International Institute for Democracy and Electoral Assistance (IDESA)⁵⁵. Table 3.1 shows data on voter turnout from 1994 to 2020 in the Presidential elections in Malawi.

Table 3.1: Voter turnout for Presidential elections in Malawi. Source: (IDEA,2020)

Presidential							
Year	Voter Turnout	Total vote	Registration	VAP Turnout	Voting age population	Population	Invalid votes
2020	64.81 %	4,445,699	6,859,570	44.32 %	10,030,988	21,196,629	1.29 %
2019	74.44 %	5,105,983	6,859,570	52.83 %	9,664,710	20,509,317	1.46 %
2014	70.75 %	5,285,278	7,470,806	64.66 %	8,173,669	17,377,468	1.07 %
2009	78.28 %	4,595,902	5,870,819	73.93 %	6,216,432	14,268,711	2.55 %
2004	63.59 %	3,296,711	5,184,086	58.46 %	5,639,009	11,651,239	2.60 %
1999	93.76 %	4,755,422	5,071,822	93.96 %	5,060,902	10,839,431	1.90 %
1994	80.54 %	3,040,665	3,775,256	68.38 %	4,446,670	9,461,000	2.00 %

From Table 3.1, it is evident that there are significantly high levels of participation in elections by Malawians. This is collaborated by Khaila and Chibwana (2005) who conclude that; Malawians are keen to participate in open and honest elections to choose political leaders. This research is built on the idea that, participation of citizens in elections alone is not enough to deepen democracy if the elected leaders are not held accountable of their performance in between one election and the other. Malawians consider elections as a way of assessing the performance of elected leaders for a term of

⁵⁵ <https://www.idea.int/data-tools/country-view/219/40>

office that has already passed (Khaila and Mthinda, 2006). However, “for the deepening of democracy in Africa, surveillance of government also has to happen in between the ‘ritual of elections’”(Wasserman, 2011). The need to foster continued citizen engagement beyond elections, is further reiterated by (Heller, 2009) who poses the following question: - “Citizens can vote, but can they participate consequentially?”. This question is critical and clearly applies to Malawi’s case. Malawian citizens indeed participate in elections and can vote; but can they engage beyond the elections?

3.4.1. Citizen Participation Beyond Elections

It is ironic that the remarkable levels of citizens’ participation in voting during elections plummet soon after elections. There is very minimal engagement between citizens, elected leaders, and local government after elections (Chingaibe and Msukwa, 2012; Hussein, 2010). Table 3.2 shows data gathered from three Afro barometer Surveys conducted by (Khaila, and Mthinda, 2006) in 2005; (Tsoka, and Chinisnga, 2008) in 2008 and (Tsoka, and Chunga, 2012) in 2012. The Afro barometer Surveys showed the level of citizen engagement between elections. The data in Table 3.2 is clear evidence that there is a deficiency in the participation of citizens with elected leaders, local government, and civil society beyond elections.

Table 3.2: Citizen Engagement beyond elections

Year	Engaged with Local Council	Engaged with MP	Engaged with Govt Official	Engaged with Party Official	Engaged with Traditional leaders	Engaged with Religious Leaders
2012	18%	15%	11%	14%	No Data	No Data
2008	9%	15%	8%	No Data	36%	34%
2005	18%	12%	9%	14%	35%	35%

There are several reasons why the status of citizen engagement has been unsatisfactory. Firstly, Village Development Committee’s (VDC) are the local structures where citizens can directly participate in local government processes, yet they are largely dominated by chiefs (Chiweza, and

Tembo, 2012; Chingaipe, and Msukwa, 2012). As a result, citizens are not free to participate fully at the VDC level for fear of reprisals in case of holding contrary views to those of chiefs who are in charge of disbursement of customary welfare benefits and the allocation of customary assets such as land (Chingaipe and Msukwa, 2012).

Secondly, there were no local councillors in place between 2005 and 2014 following a Presidential directive to postpone local Government elections until the local government legal framework was reviewed (Malawi Local Government Guidebook, 2010). The absence of councillors created a gap in the representation of citizens at the local level (Chiweza and Tembo, 2012; Chingaipe and Msukwa, 2012; Tilitonse Fund, 2013). This void could have also aggravated a culture of non-participating citizens.

MPs were the only formally elected representatives of citizens at the local council taking on some roles of local councillors such as voting rights at the local council (Chiweza and Tembo, 2012). However, most MPs are generally unwilling, shy, afraid, or uninterested to engage with citizens (Chingaipe and Msukwa, 2012). Most MPs are rarely available within the constituency, are non-responsive or delegate duties and engagement to political party governors or officials and sometimes intimidate citizens (Chingaipe and Msukwa, 2012).

It is evident that there is a deficiency in mechanisms for direct citizen participation at the local level. We recognize that citizens require tools and techniques to facilitate engagement. We also consider the fact that online and mobile technologies are continuously being used to increase transparency and accountability (Avila, et al., 2011). ICTs have the potential to enhance citizen engagement transparency and accountability (CIPESA, 2012; McGee and Carlitz, 2013). In particular, mobile technology is the ultimate touch point with the last mile (GSMA, 2019).

We, therefore, propose a mobile based technology platform that facilitates meaningful and direct citizen engagement with elected leaders, local government, and service providers in between elections as one way of overcoming the challenges that exist in citizen participation in Malawi. We do this cautiously, considering the fact that technology is not the panacea of all the challenges that exist in a lack of citizen engagement but with consideration that it has potential to challenge the dominant order of how things are done (Ngwenyama, et al., 2010).

3.5. Conclusion

This Chapter sought to highlight the context within which this research is situated, in acknowledgement of the fact that context is a key set of multiple variables that can determine the success or failure of citizen engagement initiatives. We have highlighted the structure of Government in Malawi; with an articulation of the status of independence of the three arms of Government and the perceived expectation on citizen engagement. We have also probed deeper into the structure of Local Government where the element of citizen engagement is fully embedded through enhanced community participation at the local level. The concept of decentralization as a means of actively delegating power to local councils (with an emphasis to facilitate community participation) has been discussed at length. However, we have also learnt that the status of decentralization has not been fully attained to create a conducive environment that can facilitate community participation.

The ultimate aspiration to delegate authority and decision making to local government is yet to be fully attained. We note that there has been more of deconcentration than devolution. We have highlighted, that among others; the absence of councillors between 2005 and 2014 is one of the challenges that had crippled the functions of the local government system and ultimately impeded community participation. Some scholars have clearly called out the professed commitments on citizen engagement as mere rhetoric.

We have also highlighted the difference in participation of citizens by voting in elections and the subsequent participation of citizens in between elections. There is clearly a high voter turnout in elections in Malawi yet, very minimal engagement with local government structures and elected leaders in between elections. This deficiency in citizen engagement in between and beyond elections is the impetus of why we intend to situate this research in between elections to enhance citizen engagement and service delivery improvements.

It is also well known that there are service delivery problems with water, electricity, and sanitation. This research thus seeks to explore if we can leverage the use of mobile technology to

1. Enhance citizen voice with councillors and the local government.
2. To enhance engagement with service providers of essential services such as water and electricity which are extremely poor.

The selection of mobile technology is based on the premise that reaching the last mile using ICTs can only happen using mobile phones. We acknowledge that there are other specific areas within local

government roles such as participatory budgeting which could also be improved by using mobile technology, but this is not our core objective. However, before we can institute the development of the mobile technology platform for citizen engagement, it is necessary that we seek to learn from other ICT led initiatives for citizen engagement. In the next chapter we will thus examine case studies where ICTs have been used for citizen engagement to capture lessons learnt.

CHAPTER 4

ICT for citizen engagement

Introduction

In this Chapter, we explore the concept of using Information and Communication Technologies (ICTs) for citizen engagement as a mechanism to overcome the challenges and gaps identified in citizen engagement in Chapter 3. This Chapter seeks to answer the question on whether ICTs can enhance citizen engagement. In the context of this research; we define ICTs as a combination of the tools, applications and systems used to enhance communication such as mobile phones, computers, internet, social media platforms, web and mobile applications (Michiels and Van Crowder, 2001; Heeks, 2002). We highlight examples of ICT led citizen engagement initiatives deployed in three thematic areas namely: policy making, monitoring and implementation; participatory budgeting; and service delivery. The examples of the initiatives are drawn from across the world. From South Africa to Kenya, Peru, United Kingdom to the Philippines and Indonesia amongst others. We further unearth some of the key lessons learned in the deployment of these ICT led citizen engagements and other ICT led citizen engagement initiatives for purposes of informing the design and deployment of the Mzinda platform which we will build and deploy in Malawi as part of this research.

4.1. Background on the use of ICT for Citizen Engagement

In the last decade, there have been a number of initiatives where ICT has been used as a tool for citizen participation (Hellström and Karefel, 2012; Cegarra, Cegarra and Córdoba Pachón, 2014; Omenya, 2013; Thinyane and Coulson, 2012; McGee and Carlitz, 2013; CIPESA, 2012; Peixoto and Fox, 2016). ICTs have been used to increase transparency and accountability for the speed with which data can be collected and information shared (Avila, et al., 2011).

Over time, there has been an increase in innovative ICT platforms and methods through which people can participate in decision making and be a part of political and social change (Van der Merwe and Bohler-Muller, 2013). Using ICT as a tool for communication and collaboration creates the opportunity for otherwise disenfranchised citizens to participate in political life and to challenge the dominant order (Ngwenyama and Morawczynski, 2010). ICTs enable democratic appearance in ways that have not been imagined before and that are not limited to physically accessible places, thereby almost literally opening the world (Van der Merwe and Bohler-Muller, 2013).

ICTs offer unprecedented options to expand the scope, depth and breadth of how governments can further engage with citizens in policy making, participatory budgeting and service delivery (Cabannes, 2004). Simultaneously, there are emerging questions around the deployment of innovative ICTs in a way that ensures that governments can provide assurance of equal hearing and assured listening to large numbers of the population (Misuraca, 2007).

Other questions relate to how to integrate diverse citizens voices into policy and the evolution of the roles of traditional mediators of public voice such as representatives, CSOs in the dispensation of direct citizen engagement using ICTs (OECD, 2003). An example of the evolution of the roles of traditional mediators is how the Indian government has acknowledged that the expanded use of ICT in the public sector can offer important benefits. They saw benefits such as improved planning and monitoring mechanisms, cost savings through rationalisation, and more effective administration and delivery of certain public services (Madon, 2014).

Use of ICTs for citizen engagement has been touted to provide an opportunity to reinforce citizens voice, enhance transparency, accountability, and more targeted outcomes (Gigler and Bailur, 2014). Although some scholars have suggested that there is no causal link between transparency and accountability (Peixoto and Fox, 2016; Nabatchi, 2012; World Bank, 2014a).

ICTs also present an opportunity to transform interrelationships amongst individuals, organisations, public institutions, and citizen's political participation. Virtual spaces have become local e-engagement spaces using ICTs (National Democratic Institute, 2013). These spaces are engagement spaces where ICTs are used have the potential to enhance community participation, strengthen community networks and active citizenship (OECD, 2003). ICTs also present new opportunities for civic networking. ICTs offer a great platform and opportunity for citizens to understand their rights and responsibilities and to also hold governments accountable for their responsibility in upholding citizens' rights (Gigler and Bailur, 2004).

It has also been identified that some barriers of participation are lowered because of using ICTs as citizens can access information and engage remotely and individually bypassing traditional intermediaries which can be subject to bias (Gigler and Bailur, 2014). It must however be noted that, ICTs can also present barriers to participation to those that do not have access to them, cannot afford them or do not know how to use them (Ndou, 2004).

ICT led citizen engagement platforms can be classified or differentiated based on a number of factors such as whether they collect individual citizen reports or collective reports, whether citizens initiate

reporting or whether citizen reports are based on solicitation of input. They can further be classified according to whether the citizen reports are published publicly, whether institution responses are published and whether the status of each response or action is also published. ICT led citizen engagement initiatives could also further be distinguished by the entities that lead or champion the initiative as some are led by government whilst other platforms are led by CSOs or service providers. Understanding the additive value and effects of these factors on the success of ICT led citizen engagement initiative is crucial (Peixoto and Fox, 2016).

An example, as shown in section 4.5 establishes how it is individual citizen reports on service delivery that would trigger institutional responsiveness. The reports themselves are published and so are as the institutional responses. Often, individual citizen reports are enough to trigger response or action while the collective disclosure of evidence on repeated failure patterns of a particular service may well trigger collective action in order to address service delivery problems (Peixoto and Fox, 2016). In other cases, it is the collective mobilization of citizens views that would trigger government responsiveness that triggers response (Peixoto and Fox, 2016).

4.2. Amplifying voice

Access to technology, and knowledge on how to use technology, are some of the drivers for ICT led citizen engagement (Selwyn, 2003). However, there are different views on whether ICTs encourage new participation from traditionally non-participating citizens who may already have access to technology and knowledge (including those that do not have access to either knowledge or technology) (McGee, et al., 2018). The notion that ICTs enable citizen engagement as raised by Van Der Merwe and Bohler-Muller (2013) is relevant to the theory on political mobilization which suggests that access to information enables citizen engagement as illustrated in (Bimber, 2001). While Van Der Merwe and Bohler-Muller (2013) claim that access to technology would enhance citizen participation in national politics, local service delivery and ultimately strengthening democracy. Suarez-Balcazar, Balcazar and Taylor-Ritzler (2009) suggest that providing access to the internet alone will not increase political participation. Suarez-Balcazar, et al., (2009) further asserts that access to technology does not necessarily inform people that were previously an apathetic electorate. People that use technology such as the web to search for political news would be politically oriented individuals already and likely heavy users of other media.

Toyama (2011) also suggest that the transformative effect of ICTs, particularly the internet, was mostly felt by people already involved in politics as it permits quick access to political information and

enhanced communication between like-minded people and facilitated easy formation of coalitions. While ICTs facilitate the distribution of political documents and provide a virtual space for citizens to discuss and engage in local political processes, this does not necessarily result in widespread participation (Toyama, 2011; Cegarra, Cegarra and Córdoba Pachón, 2014). A contrary study by Weare (2002) argued that citizens who have access to ICTs are more likely to participate in the political process. There is clearly a difference in thought on whether ICTs enhance citizen participation or not by authors in literature.

As much as ICTs have been purported to be transformative, it must be noted that ICTs could also potentially enhance the ills of elite manipulation (Barber, 1984). ICTs amplify existing inequalities due to costs tied to access (amongst other factors) (Toyama, 2011). The views of a subset of citizens who engaged using ICT enabled platforms may or may not actually be representative of the views of citizens who do not have access or knowledge on the use of ICT enabled platforms (Peixoto and Fox, 2016). It appears that ICT enabled platforms provide an easy platform for those that already have access and knowledge on use of ICTs.

In the case of citizen engagement platforms, ICT access should not be a limiting factor for citizens who are concerned with and impacted by the policy, budgets, or service delivery. For example, in Uganda, 47% of participants in U-Report had some university education and a quarter of the participants were found to be government employees (U-Report, 2015). This ‘elite’ demographic segment is far from being representative of the majority of the population classified as low income rural citizens who may not even have access to essential services yet their voices are not heard just because they are not using ICTs to report (Mellon, et al., 2015), (Peixoto and Fox, 2016).

It is important to note that ICTs must be considered as a complementary tool to facilitate engagement since social and political problems cannot be resolved by simply introducing technology (Wilhem, 2000). ICTs cannot induce political will for duty bearers to become more responsive to citizen’s voices neither can ICTs enhance availability of resources for duty bearers to improve service delivery (Toyama, 2011). ICTs can amplify citizen voices, but technology cannot influence institutional intent. If the intention is to be corrupt and not provide services; then technology in itself is not going to change service delivery or responsiveness of duty bearers or prevent the intent to be corrupt (Toyama, 2011). While ICT enabled citizen engagement platforms have increased the capacity of policymakers’ to be responsive; research shows that ICT led enabled platforms are yet to influence actual willingness to be responsive (Peixoto and Fox, 2016).

The amplification theories of ICTs perceive ICTs as primarily being an amplifier of existing

institutional forces (Toyama, 2011). Toyama (2011) built on top of existing theories from technology in politics, education, and mass media where it was established that ICTs have a rather multiplicative, and not an additive effect on human and institutional intent and capability. The theory suggests that technology cannot substitute deficiencies in intent and capability of project stakeholders.

The main question then becomes; how effective are ICTs in facilitating citizen engagement? In, the next section, we investigate further and examine some examples of case studies where ICTs have been used as a tool for citizen engagement for the purpose of achieving the following outcomes: -

- enhanced citizen voice with government in policy making,
- implementation and monitoring.
- reporting on service delivery.
- enhanced Government responsiveness on service delivery to ultimately improve service delivery.
- and in participatory budgeting.

We examine literature on case studies and lessons learned from ICT led citizen engagement initiatives that have been deployed in the aforementioned outcome areas.

4.2.1. Policy making, implementation and monitoring of policies.

Despite the inherent theoretical promises of democracy touting citizen engagement as a key component of democratic states, it has become clear in both mature and immature democracies that citizen engagement remains a challenge (Gaventa and Barrett, 2012). There is clearly a need to facilitate spaces within which citizen's voices can be amplified, heard, and taken on board in defining policy, implementation, and monitoring of the policy's thereof. The ability of citizens to be involved or engaged in policy making is important as it ensures that policies resonate with the needs of the citizenry they intend to serve (UNDP, 2016).

There have been a number of citizen engagement initiatives where technology has been used in policy making and monitoring of the implementation. It has been learnt that most policy led engagements have been perceived as a form of placation where users are consulted yet their insights and feedback has not been adequately integrated in the output policy (Tritter and McCallum, 2006). In other instances, it has been a case of the difficulty in hearing from all voices (Mellon, et al., 2015). Sometimes governments are perceived to have already made up their mind on what the policy should be (Shah, 2007). However, there have also been cases where citizen input has clearly steered the

formulation of the policy (Moynihan, 2003). Use of ICTs has enhanced remote participation and collation of citizens views on certain policies. ICTs have also provided an opportunity to collate and make public in certain cases citizen's views on policy formulation, implementation, and monitoring (Macintosh, 2004). Below we present some examples of citizen engagement initiatives where ICTs have been used in policy formulation, implementation, and monitoring.

4.2.2. Use of ICTs to collate citizen's input on the Civil Internet Bill of Rights in Brazil

In 2009, the Ministry of Justice in Brazil sought to use digital technology to engage with citizens in developing a civil internet bill of rights. An online blog was created in partnership with the Centre for Technology and Society of the Getulio Vargas Foundation. The online blog was used to collate citizen input before the bill was drafted and also to collate citizen feedback after the bill was drafted. It must be noted that, the Ministry did complement online and non technology engagement with citizens on the process. The bill was passed into law but only represented about half of the citizens views as collated from the online platform (Gurumurthy, et al., 2017). The bill had been watered down when it was debated in parliament due to pressure from the Internet intermediary and creativity industry lobbies. Nonetheless, the initiative was perceived to be a success (Herringshaw, 2018).

4.2.3. U Report: Uganda

U-Report is UNICEF's social monitoring system, which by the year 2020 had been deployed in countries such as Rwanda, Burundi, the Democratic Republic of Congo (DRC), South Sudan, Nigeria, Mexico, Malawi and Uganda⁵⁶. The SMS based platform was deployed in Uganda in 2007 and the platform runs weekly polls with registered users on a broad range of issues to do with early marriage, education, health, and other social services (U-Report UG, 2007)⁵⁷.

U-Report Uganda aims to leverage the use of technology to amplify and include the views and voices of the youth in decision making. The platform is also used to raise awareness on critical issues that resonate with UNICEF's priorities such as child protection and education. UNICEF uses an automated classification system that disaggregates messages into distinct thematic areas such as education, child protection, employment, and violence (Melville, et al., 2013). Messages are referred to relevant units within UNICEF, MPs, CSOs, District Councils or service providers to take action and inform policy

⁵⁶ <https://www.unicef.org/innovation/U-Report>

⁵⁷ <https://ureport.ug/about/>

decisions. It is anticipated that the use of mobile technology can minimize the distance between MPs and their constituents (U-Report UG, 2020).

In 2014, the U-Report platform won an award at the World Summit Awards as the best mobile application in the category for m-Government and Participation (Peixoto and Sifry, 2017). In 2015, the number of registered reporters on the U-Report platform in Uganda was estimated to be almost 299,000 (U-Report UG, 2015). In a study on U-Report by Berdou and Lopes (2016), it was found that there was no systematic evidence that the great uptake of U-Report corresponds to institutional responsiveness, policy and level of representation by MPs. It has also been established that 47% of U-Reporters have university education and a quarter are government workers. The representation of U-Report users in Uganda stimulates critical thought on the relevance of the issues captured on the platform to the issues that affect people without access to technology like the majority of rural populations whose voices are missing (Peixoto and Fox, 2016).

4.2.4. TRAC FM Uganda

TRAC FM started off in 2010 in Kampala, Uganda's capital city. TRAC FM⁵⁸ is an innovative software platform used to solicit opinions of citizens and amplify citizen voices using a combination of radio, SMS, and a web platform. Citizens participate in interactive radio shows by sending their vote on polls and opinions via SMS. TRAC FM seeks to promote responsive dialogue between citizens and policy makers on the needs, efforts, and perceptions of citizens. TRAC FM Uganda aims to "strengthen public debate and mechanisms of accountability by analyzing data gathered from a wide range of people and feeding this data back into the public debate (McGee, 2013).

The custom-built online platform is deployed by radio stations. Every week, NGOs, CSOs and radio stations transmit an opinion poll on topical issues related to policies, public services, or other prevalent topics (TRAC FM, 2020). Some of the key policy issues tackled on TRAC FM have been the national budget, the marriage and divorce bill, land rights, and issues of service delivery of social services (TRAC FM, 2020). The poll questions⁵⁹ are broadcast during live talk shows or other recorded radio programs. Listeners respond to the polls via SMS to a short code number and can opt to be registered

⁵⁸ <https://tracfm.org/s/about/>

⁵⁹ <https://tracfm.org/p/>

on the platform for subsequent polls. Public opinion polls are also posted on Facebook and Twitter (TRAC FM, 2020).

TRAC FM thus caters for all listeners who have mobile phones, regardless of whether some are smartphones or feature phones. Use of SMS ensures that citizens can still access the platform even without internet access. Each user can only participate in one poll. TRAC FM also provides a channel of communication between politicians, who are often invited onto talk-shows to react to the poll results, and people who have feedback to give them. Poll participants effectively become citizen monitors of a wide range of services and the radio stations become hubs of debate and information circulation on services, monitoring processes and the responses of government actors.

Ultimately, data from citizen responses to the polls is collated and can be visualized on the platform in real time. The radio presenter can see poll responses in real time on the platform and together with a co-host; present the latest results to listeners to stimulate discussion. Through such polling and interactions, valuable feedback from citizens on topical policy issues is collected. The TRAC FM platform is a user-friendly platform designed for low internet resource settings. No installation is required on local computers. TRAC FM offers training to local radio stations on use of the software, connection of local SMS short codes, customisation of the software, data analysis and graphic design.

4.2.5. Buharimeter Nigeria

In Nigeria, the Buharimeter is an accountability tool for citizens, civil society, media, academia, practitioners, political parties, and other stakeholders to keep track of the promises that President Buhari of Nigeria made during his election in 2015 general elections⁶⁰. The platform provides citizens the opportunity to track governance, service delivery, policy implementation and civic participation using a web application (Africa Portal, 2018). Data is gathered and analysed through multiple sources. There have been similar platforms to track Presidential campaign promises such as Obameter, MackyMeter and MorsiMeter (for US President Barack Obama), Macky Sally of Senegal, and Morsi of Egypt (Africa Portal, 2018).

⁶⁰ <https://africacheck.org/2015/06/18/buharimeter-tracking-president-buharis-promises/>

4.2.6. 131 VOICES Peru

In Peru, an online platform called 131 Voices has been used to engage citizens with their elected Members of Parliament (MP) on pending legislation, policies and prevailing debates (131 Voices, 2012). 131 Voices was named after the 130 members of parliament signifying an additional voice from the citizens making it 131. The initiative was created by Citivox in partnership with the National Democratic Institute (131 Voices, 2012)⁶¹.

Citizens express views on topical issues and are able to get feedback from their elected leaders as a way to keep the MPs informed of citizens views on certain policies and to ensure accountability of the MPs. Interaction with the platform is accessible to citizens through SMS, web forms and social media platforms such as Facebook and Twitter (131 Voices, 2012).

Through this initiative, closer links were established between citizens, MPs and Civil Society Organisations (CSOs). The platform includes a page for each MP where citizens can follow a member's work history, information on pending legislation and a comment box where citizens can indulge on new laws and proposals.

4.3. Participatory Budgeting

In a quest to enhance transparency and accountability, participatory budgeting has been used to integrate citizens in deliberation and determination of priority areas for government to invest in, formulation of budgets, approval of budgets and monitoring of the same (Wampler, 2010).

Participatory budgeting programs have been built on the premise that incorporation of citizens in budgeting empowers the people, enhances governance, and has the potential to improve social wellbeing (Rose and Lippa, 2010; Wampler and Touchton, 2017). Through participatory budgeting, citizens demand, priorities and interests are likely to be accommodated hence moving citizens from the confines of passivity to active participation. Because of participatory budgeting, governments are persuaded to allocate and spend public resources on issues that matter most to the people in a more transparent manner (Souza, 2001; Sintomer, Herzberg and Röcke, 2008). For this study, we hypothesize and anticipate that there is also an opportunity to curb corruption and fraud through collusion in public institutions on public programs through participatory budgeting programs.

⁶¹ <https://www.ndi.org/government-accountability-peru>.

Over the years, we have seen an increase in participatory budgeting programs across the world. Comparisons that have been made between municipalities that adopt participatory budgeting and those that do not adopt participatory budgeting; demonstrate that participatory budgeting produces positive impacts on wellbeing (Baiocchi, Heller and Silva, 2011; Goncalves, 2014; Toucton and Wampler, 2014). Such positive impacts were observed in urban participatory budgeting initiatives such as the Porto Alegre initiative set in Brazil. The Porto Alegre initiative was rolled out in 1989 and is the best known and longest participatory budgeting experience on record. The Porto Alegre participatory budgeting initiative also won a United Nations prize for the best urban governance practice (World Resources Report, 2018)

Some of the common principles identified in participatory budgeting include public deliberation in forums, voting on prioritization of public projects that the government should invest in to implement; and ultimately monitoring of public works in alignment with the budget allocated (Rose and Lippa, 2010). In most participatory budgeting programs, consensus is the common route for making decisions although voting is also used especially where consensus cannot be reached (Wampler, 2000). Extant literature suggests that there are both traditional and conventional participatory budgeting programs (Sintomer, Röcke, and Herzberg, 2014). In the next section, we present a discussion on the use of ICTs in participatory budgeting and explore examples of ICTs in participatory budgeting.

4.4. Use of ICTs in Participatory Budgeting

In recent years, we have seen participatory budgeting programs adopt the use of ICTs to facilitate citizen engagement (Pexioto, 2009). ICTs have been used as a tool for recruiting citizens, for having citizens deliberate on online forums on proposed budgets and projects, as a tool for citizens to vote for projects and budgets; and as a monitoring tool (Shirazi, Ngwenyama, and Morawczynski, 2010). The focus of most ICT led citizen engagement initiatives has been on citizen voice (Herringshaw, 2018; Wampler and Touchton, 2017; Rose and Lippa, 2010). Wampler and Touchton (2017) contend that most of participatory budgeting initiatives still leverage the use of traditional engagement through face to face interactions between government officials and CSO leaders. Herringshaw (2017) also suggests that some preliminary budget processes still require face to face interaction.

However, there has been complementary use of technology in the form of short message service (SMS), Unstructured Supplementary Service Data (USSD), web, mobile applications, and social media to enhance efficiencies in participatory budgeting. It has been suggested that the cost of engaging citizens, CSOs and the state in participatory budgeting can be lowered through the use of technology

(Wampler and Touchton, 2017). Whilst acknowledging the potential benefits of using ICTs in participatory budgeting, there is also a common assertion that use of technologies in participatory budgeting can be prone to elite capture segregating marginalized demographic segments that have limited or no access to technology (Wampler and Touchton, 2017).

In a recent study by Making All Voices Count on participatory budgeting, it is noted that there appears to be less investment in the use of ICT for participatory budgeting in low income countries whose context is similar to the premise of this research (Wampler and Touchton, 2017). It was also noted that the enablement of ICTs in participatory budgeting has not been fully addressed (Rose and Lippa, 2010). It has been established that majority of participatory budgeting initiatives where technology has been used has been in wealthier countries such as France, Germany and Portugal (Sintomer, Herzberg, Röcke, 2008; Röcke, 2014). However, we are aware that in recent years there has also been change in policy to enact participatory budgeting in developing economies and non-western states where we predict that ultimately, participatory budgeting shall transition to use of ICTs (Moynihan, 2007 in Shah, 2007).

Relevant examples have been documented to support participatory budgeting in developing countries. In South Africa, participatory budgeting has been experimented as early as the year 2000 in the city of Durban (Diga, 2017). In Uganda, there have been participatory budgeting initiatives deployed in recent years although majority of them is only open to selected citizens at the invitation of government (Kasozzi-Mulindwa, 2013). Citizens are merely consulted but do not have the power to suggest projects to be implemented or to vote for projects they want. In Kenya, national legislation for counties to use participatory budgeting was approved in 2011.

With support from the World Bank, local governments have been supported to integrate participatory budgeting at the local level (Muriu, 2013). The majority of participatory budgeting programs are small scale projects in rural areas that use a consensus-based model. In Mozambique, participatory budgeting uses the consensus-based approach. The initiative has been deployed in local councils with independent assistance from an organisation called IN LOCO. The World Bank has been instrumental in supporting local government in the use of participatory budgeting in Mozambique since 2008. There have also been independent NGOs that are involved in supporting local government to implement participatory budgeting (Wampler and Touchton, 2017). In the next section, we will share on participatory budgeting use cases where ICTs have been used.

4.4.1. Belo Horizonte in Brazil

The Municipality of Belo Horizonte is the capital state of Minas Gerais in Brazil. As of 2019, the municipality had a population of over 2.4 million inhabitants. Belo Horizonte has been implementing participatory budgeting since 1993 and subsequently, in 1996, due to increasing demand for housing; a Housing Participatory Budgeting (HPB) was created. Assemblies are held where citizens allocate budgetary resources and scrutinize public expenditures (IDB, 2005)⁶².

Using an online platform, citizens registered as electors vote exclusively for 1 out of 4 public works in each of the 9 districts of the city. The first instance of using ICTs in participatory budgeting involved 7 times more participants than is the case with traditional participatory budgeting yet on a budget that was about 7 times smaller (Souza, 2001). It has been learnt that use of ICTs has offered citizens an opportunity to extend the window of voting which reduces the costs of participation for citizens and affords citizens the liberty to vote at their convenience either during the day or night (Souza, 2001). The city strategically placed 187 voting points and a mobile voting unit in addition to the traditional voting points such as work or home (Peixoto, 2009).

4.4.2. Kota Kita in Indonesia

In Indonesia, a civil society organisations (CSO) called Kota Kita with expertise in urban planning and citizen participation in the design and development of cities, has been running participatory budgeting programs since 2000. Kota Kita has been operating although national legislation on participatory budgeting was passed into law in 2004 (Rifai, Asterina and Hidayani, 2016). In Indonesia, the participatory budgeting initiative is called “musrenbang”. The word “musrenbang” draws its meaning from the Indonesian words for community consensus-building, planning, or budgeting and development (Solo Kota Kita, 2019)⁶³.

Research on participatory budgeting and the use of ICTs in participatory budgeting was conducted in six cities in Indonesia with a track record of taking a progressive approach to participatory budgeting (Kota Kita, 2019). The six cities were Solo, Yogyakarta, Surabaya, Makassar, Kebumen and Bandung.

⁶² <https://publications.iadb.org/publications/english/document/Assessment-of-Participatory-Budgeting-in-Brazil.pdf>

⁶³ <https://solokotakita.org/en/planning-tools/musrenbang/#:~:text=Musrenbangtherefore%20refers%20to%20the%20process,priorities%20for%20short%2Dterm%20improvements.>

Kota Kita acts as an intermediary between citizens and local government, promoting democratic and participatory approaches where there is a willingness for local government to engage with citizens on budgeting (Rifai, Asterina and Hidayani, 2016; Kota Kita, 2019). It has been observed that citizens have largely taken the role of influencing the allocation of local government budget. It is also evident that it is still difficult for citizens to track the extent to which their input goes into the budgeting and expenditure process as the government remains the decision maker as the center of power (Feruglio and Rifai, 2017). The irony is that, although Indonesia has a high mobile penetration rate and internet coverage; citizens still prefer the use of phone calls or face to face engagement. Generally, participation is happening outside of technology platforms as there is minimal use of digital channels due to low digital literacy (Feruglio and Rifai, 2017).

4.4.3. Participatory budgeting in Philippines

In 2013, the national government of the Philippines adopted participatory budgeting (Shah, 2007). The government hoped to incorporate new voices from citizens into local policy processes at the city and municipal levels. Participatory budgeting was initially piloted in 600 municipalities and the initiative had support from one of the co-founding entities of the Open Government Partnership (Wample and Touchton, 2017). Participatory budgeting was initially led by the National Anti-Poverty Commission, before the Department of Interior and Local Government took over (Ateneo de Manila Institute, 2013). Government budgets and expenditure reports are put on the OpenBub portal where civil society organisations support communities to select their most pressing needs and projects through meetings and online fora (Roberts and Hernandez, 2017).

Check My Barangay (2015)⁶⁴ is another great civil society initiative for citizens at the village level to play an active role in selection of projects, planning, monitoring and evaluation of expenditure. Check My Barangay was initiated by the NGO called Affiliated Network for Social Accountability-East Asia Pacific (ANSA-EAP). Although ANSA-EAP had intended to utilise the mobile app and web apps, the use of technology to engage on the budgets, selection and expenditure monitoring proved futile. As such ANSA-EAP resorted to traditional means of engagement such as meetings.

⁶⁴ <https://www.makingallvoicescount.org/project/ansa-eap-check-my-barangay/>

4.4.4. Berlin-Lichtenberg in Germany

This participatory budgeting initiative was first introduced in by the Mayor of Lichtenberg—Ms. Christina Emmrich in late 2005. This followed the establishment of a new regulation passed in Berlin's Parliament in 2005. The regulation required that citizens were to be consulted by the boroughs of Berlin in all matters concerning the borough (Participedia, 2017).

The Berlin-Lichtenberg is a participatory budgeting platform that is open to all citizens where the lead media for participatory budgeting is an internet platform. The internet platform is a medium that provides information, facilitates discussion, collects, archives proposals and ultimately serves as a platform that supports voting of the best ideas from citizens (Kubicek, Lipa and Westholm, 2007). The borough provides broader details on funds available and areas where funds can be allocated. The online platform contains sections with detailed information on suggestions, a section where moderated discussions are done, a budget-calculator, proposal wikis, preference polling, newsletter, and editor's interviews with politicians, among others (Participedia, 2017).

With the borough platform, no special outreach efforts are made to engage citizens as the borough council conducts a citizen assembly in each district (Participedia, 2017). Citizen assemblies offer the opportunity for citizens together with public officials to discuss the budget and the consequent implications of the budget for each of the 13 districts. Ultimately, citizens vote for the best suggestions at each district assembly. For each district, there are top ten suggestions selected from the online discussion and top five suggestions from the district assembly making a total of up to 75 suggestions raised online and offline (Participedia, 2017).

The city's central assembly of representatives would consider fundable and realisable ideas from the list of winning citizens ideas into the final budget. Each citizen, whether collected online or otherwise, is assigned to a number that a citizen can use to track their idea all through the discussion and decision stages at the assembly. The assembly provides a report on citizen ideas or proposals that have been accepted and reasons for not accepting other ideas. As of December 2009, it was reported that over 90% of citizen's ideas had been budgeted for and implemented.⁶⁵

The majority of participants to the online forum had attained an education higher than the general population and were mostly younger or middle-aged citizens of up to 50 years old. It is important to

⁶⁵ <https://www.neues-deutschland.de/artikel/160457.mit-dem-buergeretat-durch-die-lande.htm>

note that the borough had also initiated other non-technological awareness raising mechanisms on the participatory budget initiative such as publicity on local media, holding information stands and events at local festivals and distribution of posters and leaflets.

4.5. Citizen Engagement in Service delivery

The ultimate point of contact between citizens and the government has often been at the pinnacle of service delivery (Joshi, 2010, Reddy and Govender, 2013). Apart from having the political legitimacy, one of government's litmus test is often the ability to provide quality and timely essential services to the people (Christensen and Lægreid, 2005). For this study, we hypothesize that there would be significant citizen satisfaction of the government particularly where citizens are satisfied with service delivery even though citizens may not have been engaged in formulation of policies or participatory budgeting. This assumption is not meant to overshadow the importance of citizen engagement in budgeting and policy processes but to emphasize the fact that policies and budgets all ultimately impact service delivery; and that citizens common contact with government is in the services a government provides.

Additionally, in the case of traditionally non-participating citizens, with no interest to engage in formulating policies or budgeting, they are by default consumers of services (Wittemyer, et al., 2014). In effect, service delivery has the loop back to policy formulation and budgeting processes. As such, we have seen a proliferation of cases where ICTs have been used to enhance citizen engagement in service delivery where citizens have used ICTs to report on quality of services, and in rating services (Huggins and Izushi, 2002; Peixoto and Fox, 2016).

Alternatively, governments have used ICTs as a means to collate citizens views and perceptions on services delivered in real time for timely response and action to citizens as was seen in Brazil (Wampler, 2010) and the Philippines (Shkabatur, 2012). However, the impression that real time reporting on service delivery faults translates to timely action and resolution is not guaranteed by use of ICTs but rather is dependent on many factors such as political will and the availability of resources. Below we present examples of citizen engagement initiatives where ICT has been used.

4.5.1. Map Kibera in Kenya

Map Kibera is a community mapping initiative within the slums of Nairobi City in Kenya established

in 2009⁶⁶ (Map Kibera, 2009). Young community members from the slums of Nairobi collect data with GPS devices to map general features of the slum such as pathways, clinics, schools, water points and markets among others (Map Kibera, 2009). Young mappers use Open Street Map, an open source mapping platform. Some community members have also been trained to use open source software like QGIS and a non-open source platform called QGIS to produce specialty (Map Kibera, 2009)⁶⁷. Community mappers also conduct community surveys collecting data e.g. on location of pharmacist or clinics, services offered and hours of operation. The focus of Map Kibera is on mapping the slums and collating public information not household information. In order to amplify the voices of the community, Map Kibera uses blogging with Word Press and Ushahidi to further report on issues that affect service delivery and the community at large (Map Kibera, 2009)⁶⁸.

A team of community reporters in each slum report on anything happening in the community such as breaking news, critical development issues, local talents, and events. The reporters edit the sites and write articles. With the integration of SMS, community members are also engaged as they can send in real time reports through the Ushahidi platform using keyword Kibera and Mathare to indicate location. Reports range on issues to do with security, water, sanitation, health, and education among others (Map Kibera, 2009)⁶⁹

4.5.2. Maji Matone in Tanzania

Maji Matone is a Swahili term meaning ‘Raising the Water Pressure’. The program is deployed in the southern part of Tanzania by a civil society organisation called Daraji Maji (2010/2011). The Maji tone system piggy backs on an existing government project called the National Rural Water Supply Infrastructure Monitoring System (2004). The Maji tone system provides a platform for citizens to send text messages to a central number on issues of water supply and access (Williams, 2017)⁷⁰ The Maji Matone team then subsequently forwards the citizens reports to the relevant water supply authorities. In addition, reports are also shared with the media in order to enhance the attention of authorities.

⁶⁶ <https://mapkibera.org>

⁶⁷ <https://mapkibera.org/work/tools/>

⁶⁸ <https://www.mapkibera.org/blog/>

⁶⁹ <http://blog.voiceofkibera.org/>

⁷⁰ <https://www.makingallvoicescount.org/blog/who-what-where-wateraid-discuss-their-new-research-on-how-icts-improve-access-to-water/>

As of 2019, there were plans to include a mobile application as a part of the system in order to allow district water engineers to report on the status of water points; particularly those that would have been reported broken. The Tanzanian government has increased support to enhance access to water supply in rural areas by 400% since 2006. At the onset, low literacy, and poor access to electricity to charge mobile phones were anticipated as key obstructions in the uptake of the Maji Matone initiative (Daraja, 2012). However, in practice, it was established that uptake was also obstructed by apparent apathy and low expectations of responsiveness. It also became clear that the main challenge was persuading people to engage with technology and not necessary a hardware or software problem (Daraja, 2012b). This finding is corroborated by Hutchings, Palaniappan, Srinivasan, Taylor and Ramanathan (2012) who concluded that mobile phones and SMS are considered high-tech for rural Tanzanians. The responsiveness of the water service agency is actively monitored by Water Services Regulatory Board. The board can trigger legal actions against water service providers if pre-established quality standards are not met (Belcher and Lopes, 2016).

4.5.3. I paid a Bribe

I paid a Bribe is a web platform where private citizens send reports on bribes. The platform was first deployed in India in 2010 (I paid a Bribe, 2010).⁷¹ The platform has since been replicated and deployed in 14 other countries. Through the web platform, citizens who have been victims of corruption report on cases of paying bribes or where they did not pay a bribe or where they met an honest officer (I paid a Bribe, 2010). Citizens can report details such as where they paid the bribe, the type of service rendered and the bribe amount among other detail. Data is aggregated on the platform on maps and charts showing the state of corruption across the country. Although, the I paid a Bribe platform has the potential of bringing to light cases of corruption; the platform alone is still insufficient in combating corruption without action to curb corruption (I paid a Bribe, 2010). There have been suggestions to have posts include the location of the bribe requesters. Some schools of thought have suggested that a more effective anti-corruption focused system would be one where reports disclose specific information about the size of the bribes and the location of their requestors and that these reports are ultimately followed up by action (Ryvkin, et al., 2017).

⁷¹ <http://www.ipaidabribe.com/en#gsc.tab=0>

4.5.4. MobiSAM in South Africa

In South Africa, Thinyane and Coulson (2012) and Reynell, Thinyane, and Siebörger (2015) have been piloting MobiSAM since 2011. MobiSAM is a mobile polling methodology that enhances citizen participation in local government processes based on the Social Accountability Methodology (SAM). The platform has been piloted in Makana Municipality in the Eastern Cape Province in South Africa (Thinyane, 2015). Through MobiSAM, citizens have been able to log in reports on service delivery of water, electricity and sanitation to the local municipality using SMS, mobile internet browser, web forms, email, Facebook and native mobile applications for Android, Blackberry, Windows, Java ME and iOS. The platform has also facilitated a two-way communication between citizens and the municipality through the MobiSAM site, Email and SMS (MobiSAM, 2017⁷²). MobiSAM is the mentor project for this piece of research.

4.5.5. Check My School in the Philippines

Check My School (CMS) (2011) is a community monitoring project that seeks to promote transparency and social account ability primarily within the education sector in the Philippines. CMS uses a blended approach in tracking the provision of services in public schools by combining on-the-ground community monitoring with the use of a information and communication technology (ICT) platform. Information on service provision in the education sector can easily be accessed, shared, and monitored on the ICT platform (Shkabatur, 2012). Data from the Department of Education on all public schools is obtained from the Department of Education and published in a user-friendly format on the CMS website. Community leaders and socially active individuals also called “*infomediaries*” are recruited to establish contacts with local schools and to identify volunteers from the community (Check My School, 2011).

Infomediaries and volunteers validate the official data from the Department of Education after visiting the actual schools. They visit the selected schools and validate the official data from the Department of Education by comparing the actual conditions at these schools and what is collated from the Department of Education (Shkabatur, 2012). Discrepancies between the official data and what is on the ground are noted, highlighted and all data is thus published on the CMS⁷³ website revealing the

⁷² <http://www.blog.mobisam.net/>

⁷³ <https://www.worldbank.org/en/news/feature/2013/02/06/check-my-school-monitoring-made-easy-with-dedicated-volunteers-and-ict-tools>

service delivery shortfalls experienced by schools and pointers on how service provision can be improved.

4.5.6. Fix My Street in the United Kingdom

In 2007, FixMyStreet.com was launched in the UK by an organisation called MySociety. The platform provides a mechanism for which citizens can report street problems to the local government, for issues such as broken streetlights, potholes and blocked drainage. As of 2019, FixMyStreet had covered over 400 local authorities and collated over 200,000 reports from over 87,000 citizens of which 52% of the reporters had never reported an issue to their local authority prior to using FixMyStreet platform. Majority of reporters on Fix MyStreet are ‘first timers’ to engage with their local authorities (Sjoberg, Mellon and Peixoto, 2015).

FixMyStreet was established to achieve three main goals:

- Firstly, there was need to remove the need to know who to write to make a report.
- Secondly, it was necessary to make these reports public and to give local governments a chance to explain some things.
- Thirdly, there was need to encourage citizen engagement with local government (FixMyStreet, 2007).

4.5.7. PorMiBarrio in Argentina

Por Mi Barrio is a mobile and web based Uruguayan version of the UK FixMyStreet platform created in 2016. The platform is one of many examples that have been built from the FixMyStreet platform model around the world. Por Mi Barrio allows citizens in the city of Montevideo to report street problems such as vandalism and breakdown of public facilities to their local government using a web platform accounting for 5% of the reports that the city council currently receives. As of 2019, it was estimated that of all the reports that come through Por Mi Barrio; 54% of reports would have been resolved and 30% were in progress of being resolved. All citizen reports are made public and the

publication of the feedback, makes it possible for Montevideo citizens to hold the local government accountable (Sjoberg, Mellon and Peixoto, 2015).

4.5.8. Ushahidi

During Kenya's 2007 General Election cycle, an unprecedented amount of violence was witnessed with more than 1,500 people killed and 250,000 displaced (Human Rights Watch, 2007). At the height of the violence, the government banned live media broadcasts, self-censorship within

mainstream media was rampant, and there was a general lack of information on what was occurring across the country (Human Rights Watch, 2007). Within this environment, Ory Okolloh, a Kenyan blogger and founder of Ushahidi; asked people to send her information on what was occurring across the country – information that she would then post on the internet. From this initiative, the Ushahidi platform was born (Okolloh, 2009).

The volume of reports necessitated the creation of a dedicated website where people could anonymously report incidents of violence online or via mobile phone text messages (SMS). The information gathered then mapped in order to enable the public to visualize and understand what was occurring (Okolloh, 2009). Despite the risks of misreporting and misinformation, Okolloh felt that “having a vehicle where some information could be shared was better none – and that relying on local resources was a good way to do this....The Ushahidi website was not intended to be wholly accurate, the main focus was the immediate need to get information out” (Okolloh, 2009 p. 65)

Ushahidi's objective was to harness the power of crowd sourcing information to facilitate the sharing of information in an environment where rumors and uncertainty were dominant (Rotich, 2017). As usage and reporting increased, the platform became an important source of information in a time of crisis and communication challenges. It also formed a platform around which peace interventions could be strategized and implemented (Okolloh, 2009). As with any crowd sourcing social media tool, Ushahidi's primary challenge was verifying the information received on the platform. When possible, Ushahidi called or emailed reporters to try to verify reports where people reported anonymously (Okolloh, 2009). Stories were counter-checked through comparisons with other available sources. Information that appeared credible but could not be verified was posted on Ushahidi with a note stating that it had not been verified (Okolloh, 2009). In addition to preventing the dissemination of inaccurate information, reports were also monitored to avoid publishing inflammatory and propaganda-like materials (Okolloh, 2009).

In addition to providing crowd-sourced information in a time of chaos, Ushahidi was also intended to be a ‘*memorial*’ of the events that happened “...a reminder of just how bad things got – so that Kenyans would hopefully avoid repeating history at future elections” (Okolloh, 2009 p.65). The Ushahidi platform has since been further developed as a crisis-mapping tool. It has been utilized in other humanitarian crisis situations around the world in countries like the DRC, Haiti, Chile, New Zealand, India, Japan, Armenia, and the Middle East among others. The Mzinda platform has the citizens reports section that was built on top of the Ushahidi platform.

4.6. Lessons learned from use of ICT in citizen engagement initiatives

It has been established that the demand for better services, accountability, transparency and the need to communicate with elected officials are some of the top and recurring objectives in most technology led citizen engagement initiatives (CIPESA, 2012). ICTs have been used by citizens to highlight poor service delivery and to demand proper accountability and transparency from leaders (CIPESA, 2012; Reynell, Thinyane and Siebörger, 2015). In the long term, such initiatives have had the potential to create a more engaged citizenry, a responsive state, accountable leaders, and improved service delivery (Twinomurinzi and Visser, 2004; Wampler, 2010, Peixoto and Fox, 2016). We combed through several literature on ICT for citizen engagement initiatives to extract some key lessons learned from previous deployments of ICT for citizen engagement initiatives. We engaged several authors in the field of ICT for citizen engagement but would like to specially acknowledge the depth of insights that we were able to extract from in depth study reviews that have been done on ICT led citizen engagement initiatives.

4.6.1. There are knowledge gaps in ICT for Citizen Engagement Initiatives

Despite the growing coverage in the media of ICT led citizen engagement platforms, social science research on the use of ICTs for citizen engagement is still lagging behind (Peixoto and Fox, 2016). Evidence and data that is available on the impact of technology led initiatives in citizen engagement, is still uneven to justify the optimism of transformation that is often affiliated with use of ICTs (McGee and Carlitz, 2013; National Democratic Institute, 2013; Peixoto and Fox 2016; Emmer and Kunsti, 2018; Peixoto and Sifry, 2016). There are still outstanding research questions and gaps on the impact of some technology led citizen engagement platforms that must be addressed (McGee and Carlitz, 2013). There is also a need for more institutional experimentation and innovation to understand ICT led Citizen engagement, its effects, and benefits (Peixoto and Fox, 2016).

The Collaboration on International ICT Policy in East and Southern Africa (CIPESA) (2012) analysed ICT led citizen engagement initiatives in Uganda and concluded that many initiatives did not have a feedback mechanism that allowed users to comment on the applicability of the technology tools. Feedback mechanisms within the ICT tools are key to gain public confidence since users expect responsiveness by giving a voice (McGee and Carlitz, 2013). Failure to meet citizen expectations on responsiveness may have a lethal effect on the trust that citizens have in government, service providers, elected officials, and ultimately democratic development (National Democratic Institute, 2013). Responsiveness thus appears to be one of the greatest incentives for citizens to participate yet by using technology it is not automatically guaranteed that there will be responsiveness. There is no direct correlation or link between citizen use of ICTs to engage and institutional responsiveness (Peixoto and Fox, 2016). What drives responsiveness could be a wide range of factors such as political will, institutional incentives to respond, publicity of citizen reports among others (Sjoberg, Mellon and Peixoto, 2015; Peixoto and Fox, 2016).

4.6.2. There is need to focus on the user

Other reviews of technology led initiatives for citizen engagement have highlighted the need to focus on the user in designing and developing citizen engagement technology solutions to enhance relevancy, legitimacy and easy use of such technology platforms by the users (McGee and Carlitz, 2013; CIPESA, 2012). Furthermore, McGee and Carlitz (2013) prescribes the need for more empirical evidence in understanding users and their experiences on technology led citizen engagement initiatives. In fact, designing with the user has been adopted as one of the principles of digital development⁷⁴.

4.6.3. Technology is not the ultimate solution

Literature suggests that there may have been over emphasis on technology as the panacea of all citizen engagement challenges. The assumption that technology is what would ultimately enhance citizens to engage or the state and service providers to be responsive and actionable has constantly been dispelled by extant in literature (Toyama, 2011; Peixoto and Fox, 2016). Simultaneously, even if there seems to be higher uptake on use of technology by citizens and higher uptake of an ICT led citizen engagement platform, that does not ultimately translate into institutional responsiveness as has been the assumption (Peixoto and Sifry, 2017).

⁷⁴ <https://digitalprinciples.org/>

Firstly, it is important to note that issues of access, affordability and usability of ICTs create various disparities that hinder certain demographic segments from engaging using ICTs. Some scholars have iterated on the elitism concept with regards to the use of ICTs as for example, certain demographic segments fall short of the economic muscle to afford and use certain ICTs. The notion that use of ICTs can actually perpetuate elitism, discrimination and gender bias among others has been discussed by several authors such as (APC, n.d; Heeks, 2000; Hellstrom, 2008; Etzo and Collender, 2010; Toyama, 2011; Wasserman, 2011; CIPESA, 2012; Hellstrom and Karefelt, 2012; McGee, 2013; Peixoto and Sifry, 2017).

Secondly, it has been noted that what stimulates traditionally non-participating citizens to transcend from a state of non-participation to an engaged citizenry, is not just the use of technology as many be assumed (Cegarra, Cegarra and Córdoba Pachón, 2014). Some scholars suggest that it can be anticipated that citizens that are already engaged before deployment of technology in citizen engagement initiatives, participate after the deployment of technology than traditionally non-participating citizens to engage (Toyama, 2011). Other authors question how citizens that commonly participate or engage with the Government using informal methods and have limited access and capabilities to use the mobile phones can transcend to engaging with government just because of using ICTs. Hellstrom (2008) questions whether mobile phones actually empower citizens to engage. It is important to note that technology is just a complementary tool and not the end in itself to all citizen engagement problems (Toyama, 2011). Wilhem (2000) argues that social and political problems cannot easily be solved by merely introducing technology into the process.

Regardless of the availability of mobile phones and other ICTs to enhance engagement, there is still need for that inherent willingness and capability within citizens for them to engage using ICTs. In addition, Daraja (2012b) suggests that even where citizens may be willing to engage using ICTs, having trust in the state or service provider that they will act on their reports is a key determinant for engagement. The OECD (2003) also intimates that any approach to online engagement that proves successful in a given context must be adapted to the culture, traditions, and objectives of the relevant stakeholders. We can conclude that despite the fact that ICTs have great potential to transform citizen engagement, ICTs are just complementary tools for participation (OECD, 2003; Toyama, 2011; Peixoto and Fox, 2016).

4.6.4. Uptake does not necessarily lead to responsiveness

Although the common measure of success of ICT led citizen engagement platforms in literature has been the measure of the level uptake, it has emerged that institutional responsiveness is more critical in closing the feedback loop (Sjoberg, Mellon and Tiago Peixoto, 2016; Peixoto and Fox, 2016; Gigler and Bailur, 2014). Uptake works as a measurement metric for subsequent government responsiveness especially where petitions are concerned. The higher the number of people that sign a petition, the more prospects for institutional response. For example, in 2010, the UK Government launched an online petition platform that links directly to Parliament. Petitions that recruit 100,000 signatures are considered for debate in Parliament whereas petitions that solicit over 10,000 signatures are eligible for a response from government (Dubow, Devaux and Manville, 2017).

In non-petition related citizen engagement, high uptake would not necessarily lead to corresponding institutional response. Amplification of citizen voice cannot be treated as an end in itself without consideration of institutional response and actual action. Responsiveness is a factor of many other elements other than uptake (Peixoto and Fox, 2016). It is thus worthwhile considering uptake in ICT led citizen engagement initiatives as an output, whereas institutional response be considered as an outcome. The distinction of the two, provides conceptual clarity to unpack hypotheses about what factors actually influence institutional responsiveness (Peixoto and Fox, 2016). In analyzing 23 ICT platforms from 17 countries; Peixoto and Sifry (2017) conclude that there is no generic type of ICT platform for citizen engagement that leads to a generic type of response. The differences that make for institutional responses are more institutional than influenced by technology. Evidence in literature, so far indicates that most of the ICT platforms that leverage responsiveness somehow directly involved government.

It has also been suggested that institutional responsiveness is key in fostering an active citizenry. It has been established in some ICT enabled citizen engagement platforms that responsiveness and actionability of the state or service providers stimulates subsequent and continued use of ICT led citizen engagement platforms by citizens. The more responsive institutions are the more the citizenry participate and engage (Sjoberg, Mellon and Peixoto, 2015; Finkel, 1985; Abramson and Aldrich, 1982). For example, it was established that where a pothole had been fixed after being reported, there was an associated 54 percent increase in the possibility of an individual submitting a second report using the FixMyStreet platform. The responsiveness of government to reports has a predictive power over subsequent future reports (Sjoberg, Mellon and Peixoto, 2015). However, it is also important to note that evidence of the interrelation between institutional responsiveness and citizen engagement

remains scanty and anecdotal. It is thus a question that must continuously be tested in various citizen engagement platforms and contexts.

It is important to study the intrinsic motivations for institutional responsiveness as in certain cases they do not appear to be directly influenced by use of ICT platforms. It has been learned that the reports are likely to be responded to if routed through personnel that have the capacity and incentive to respond. We have also learnt from platforms such as the Dominican electricity agency and Maji Voice in Kenya, that linking governmental feedback reception systems to internal work systems can increase the capacity of policy makers to respond and act (Peixoto and Fox, 2016).

4.6.5. Online and non-technological citizen engagement

Extant literature has reaffirmed the potential of ICTs to enhance governance by overcoming the shortfalls of collective action (Heeks, 2000; Hellstrom, 2008; CIPESA, 2012; McGee and Carlitz, 2013). Some authors distinguish particular technologies, as having more potential in enhancing collective action in citizen engagement specifically in contexts such as developing countries (Olorunnisola and Martin, 2012). However, it is also noted that although ICTs may create spaces for otherwise disenfranchised or vulnerable citizens that would not have otherwise participated in collective means; there is a nuance that collective action is also key in certain scenarios to enhance cohesion and fortify citizen's views (Herringshaw, 2018). For example, the effect of collective physical protests may not be the same as remote protest via technology. Likewise, there comes a time when the state and other operatives can monopolise and control the use of technology by shutting down the internet or putting excessive restrictions and monitoring controls on online spaces and other ICTs as has happened in recent times in countries such as Tunisia, Egypt, Zimbabwe, DRC, Uganda and China among others (Stepanova, 2011; Wilson and Corey, 2012; Mare, 2019).

In the aforementioned cases, collective action in physical spaces may become key. Although, online spaces were key in mobilizing citizens to protest in the Arab uprising (2010), it was the actual collective action of citizens to protest physically that led to the culmination of the uprising and fall of the regimes. The challenge is to develop tools for online engagement that provide citizens with an opportunity both to participate in, and to understand, collective decision-making and to develop the skills for active citizenship (NDI, 2013⁷⁵).

⁷⁵ <https://www.ndi.org/sites/default/files/Citizen-Participation-and-Technology-an-NDI-Study.pdf>

4.6.6. Trust is key

Cordial relationships are key between donors, grantees, the state, service providers, civil society organisations, the media and other stakeholders involved in the deployment of ICTs for Citizen Engagement initiatives (Peixoto and Fox, 2016). In the absence of strong relationships, trust can erode, decisions may be delayed, and results may never be attained (Holzer, 2004). ICT for citizen engagement initiatives ought to take off at a position of mutual trust between all parties to engage. Otherwise, ICT for citizen engagement initiatives may be considered to run as a policing tool to simply expose the ills of the state or service providers without their buy in (Hudson and Feruglio, 2018).

In the absence of trust, there could be low willingness to be responsive and actionable from service providers but rather to become defensive. There must be a collaborative, non-policing and trusting relationship between all stakeholders to enhance meaningful citizen engagement (Hudson and Feruglio, 2018). It has been learnt that where citizens do not trust the government, citizens have had no incentive to engage (Daraja, 2012b). In order to build trust, Governments also need to take a holistic view of the citizen engagement cycle and design technology to support the processes of informing, consulting, participating, analysing, providing feedback and evaluating citizen inputs received at each stage of the engagement cycle (Hudson and Feruglio, 2018). Engaging citizens online raises legitimate expectations that public input will be used to inform decision making. Governments, service providers and duty bearers need to adapt their structures and processes to ensure that the results of online consultations are analysed, disseminated and used. This commitment must be communicated widely, demonstrated in practice, and validated regularly (Holmes, 2011).

4.6.7. Developing a common understanding takes time

It is imperative for donors, grantees and implementing partners of ICT led Citizen Engagement initiatives to design and develop a shared understanding of the theory of change, expectations and requirements (Flor, 2015). A shared expectation of the theory of change can align partners on how to address complicated political accountability problems. Without such an alignment on the theory of change, there can be unrealistic, unattainable expectations that ICTs are the panacea of all citizen engagement problems (Flor, 2015). Realistic assumptions must be set at the onset. For example, the assumption that by making citizen reports public using ICTs such as a public web portal, would make the state or service providers more responsive; has been dispelled not to be entirely correct and expected (Hudson and Feruglio, 2018). The assumption that those that are tech savvy, have access to

ICTs and currently participate using conventional methods will automatically transcend to using ICTs to engage with the state and service providers has also been dispelled by scholars and practitioners (Daraja, 2012b). It is thus important to develop a common understanding on the theory of change by all partners stressing on the current status quo, the activities to be undertaken by relevant stakeholders, assumptions therein and ultimately expected outcomes and goals of using ICTs to enhance citizen engagement (Flor, 2015).

4.6.8. Change takes time

By nature, the use of innovative ICTs in citizen engagement can be inherently risky, uncertain and require adaptive approaches to succeed. Hudson and Feruglio (2018) noted that the majority of the ICT led citizen engagement platforms were deployed to tackle highly complex and political challenges. Often, innovators did not recognize at the onset, the level of complexity until deployment started. It is important to note that it takes longer term investment to attain significant impact in using innovative ICTs. It is necessary to assess the varying appetites to adopt innovative ICTs by both citizens and duty bearers. It is also necessary to understand the capacities of citizens, the state, service providers to take on risks and the real assumptions to be managed effectively.

The majority of ICT led citizen engagement initiatives documented by Hudson and Feruglio (2018) achieved the governance outcomes they were set to attain. However, most of the innovative projects were rather an episode in a longer process of creating social value while real impact would have taken longer. Long experience of participatory budgeting in Indonesia generates particularly important learnings about the vital importance of considering dynamics over time and scale (Feruglio, 2017). Using ICTs for citizens to engage with duty bearers is a new norm and still evolving. In subsequent years, it is anticipated that there will be changes in how ICTs are used as generations transition to younger, more tech-savvy citizens.

4.6.9. Clearly defining the ultimate goals and expected change

In any research, it is critical that what gets measured and monitored needs to be what matters for effectiveness and impact (Edwards, Anderson, McGee, and Brock, 2018). A theory of change must be developed to clearly articulate the current state and ultimate goal the project seeks to achieve. In between the implementation, the theory of change must provide clear logical articulation of the activities to be undertaken, realistic assumptions and expected outputs (Edwards, et al., 2018). A log frame that outlines the indicators to be monitored and used to measure ultimate impact must be

developed in sync with the theory of change. Indicators must be Specific, Measurable, Realistic, Attainable, Relevant and Time bound (SMART).

In analyzing the 72 innovative ICT led projects for citizen engagement in the Making All Voices Count initiative (MAVC); Hudson and Feruglio, (2018) noted that, although program reach was considered as a key indicator across the MAVC projects; it was not aligned with the ultimate goal that the theory of change sought to reach. It was established that despite the emphasis that projects had put on enhanced reach of the projects; the number of citizens reached was not the ultimate measure of impact but rather changes in systems and improved service delivery would have been among the more meaningful measures of impact (Hudson and Feruglio, 2018).

Engaging citizens online raises legitimate expectations that public input will be used to inform decision making. Governments, service providers and other duty bearers need to adapt their structures and processes to ensure that the results of online consultations are analysed, disseminated and used. This commitment must be communicated widely, demonstrated in practice, and validated regularly (Michels and De Graaf, 2010).

4.6.10. Leveraging partnerships and Political will are key

In majority of ICT led citizen engagement initiatives that have registered success, it has been noted that such initiatives have not been solo operations by citizens alone or by the civil society organisations or indeed initiated by the state alone (Check My School, 2011;Thinyane, 2015). Often, it has taken multiple players and stakeholders to effect meaningful change. For example, the Check My School initiative has been implemented by several partners including school management, intermediary volunteers from communities, civil society organisations and citizens (Check My School, 2011). The Ushahidi platform was developed by a team of developers at Ushahidi, however it is the ability of other implementing partners (such as NGOs) to leverage the use of the technology platform in other regions that has ultimately made the platform to scale and succeed (Ushahidi, 2009).

4.6.11. A combination of online and non-technological engagement is desirable

While many of the barriers to such innovative forms of online engagement may be technical, others are more closely related to non-tech barriers such as cultural resistance to new forms of partnership with citizens and civil society and traditional processes within representative democracies (Omenya, 2013; Van der Merwe and Bohler-Muller, 2013). According to Hudson and Feruglio (2018) ICTs are

rather effective, enabling or amplifying than generative of change in themselves. ICTs cannot be considered to replace non-tech activities. In Check My School (2011) it was a combination of ICTs and non-technological engagement between schools and citizens that made it a success. Spain established an ambitious online participation platform called Decidem Barcelona which was launched in 2016 (Decidem, 2016)⁷⁶. Citizen's views posted to the platform were essential in drafting Barcelona's 2016-2019 strategic plan. Using open and collaborative approaches; the platform was developed, and citizens used it to create profiles, engage and monitor all activities of the City that ultimately influence policy planning and decision making (Decidem, 2016)⁷⁷.

A combination of online and non-tech processes are therefore key components to foster collective inputs, deliberation, and answerability in citizen engagement initiatives. It has been established that in many deployments of ICT led citizen engagement initiatives, online action did not necessarily translate into action in non-technological spaces (Peixoto and Fox, 2016). This awareness has invigorated the need to complement online actions with non-tech actions where possible, for more effective and efficient results. It is well known that, although there is often a spotlight on online engagement in ICT led citizen engagement initiatives; both online and non-technological interventions are key to enhancing the adoption, use and ultimate success of ICT led citizen engagement initiatives (Peixoto and Fox, 2016). ICT led initiatives are likely to have a greater impact when implementers harmonize both online and non-tech engagement (Fatimah, et al., 2017; Peixoto and Fox, 2016).

Online engagement faces specific challenges such as: the in-built self-selection of participants who already have access to new ICTs – thereby raising the risk of over-representation of a small cross-section of the population (Falco and Kleinhans, 2018). However, such risks can be reduced by serious efforts to enable wider access through other non-technological mechanisms or other traditional ICTs like radio, TV, community meetings or focus group discussions (Falco and Kleinhans, 2018). An adequate investment by governments and their partners from civil society in promoting and supporting ICT led citizen engagement initiatives can also reduce ICT risks. There is a need for engagement and mass deliberation by citizens beyond deliberation by elected representatives alone (Fishkin, 1995; Coleman and Gotze, 2001).

⁷⁶ <https://www.decidim.barcelona/>

⁷⁷ <https://www.decidim.barcelona/>

4.6.12. Amplifying individual voices using ICTs can be challenging

When amplifying individual voices using ICTs, it is important to think through scale. From a citizen's perspective, questions should be asked such as: how can technology enable an individual's voice to be heard and not be lost in the mass debate? (McGee, et al., 2018). There is a need for policy measures and technologies to promote and maintain virtual public spaces that enable an individual's voice to develop into a community or public voice (McGee, et al., 2018). From a government perspective, there is the challenge of how to listen, and respond appropriately to each individual contribution. Fostering online communities and developing ICT tools to support such communities could enable a more collective approach (McGee, et al., 2018).

4.6.13. Consider the role of Intermediaries

In exploring existent literature, we have found that intermediaries, being organisations and mostly civil society organisations that facilitate citizen engagement in communities, are key in the deployment of ICT led citizen engagement initiatives (Gigler and Bailur, 2014). Among other things, intermediaries do the following: they develop, deploy, and publicize ICT led citizen engagement platforms. Intermediaries facilitate the interface between citizens and duty bearers, complementing online with non-tech engagement (Norris, 2003; Gigler and Bailur, 2014). For example, the role of intermediary organisations has been documented to yielding success in some of the following initiatives:- Check My School in the Philippines, KotaKita in Indonesia, Map Kibera in Kenya, MobiSAM in South Africa, Fix My Street in the UK and U-Report in Uganda. An ICT led citizen engagement initiative must have a home, a champion and an entity that sets the theory of change and puts it into practice, iterates and documents lessons learned (Check My School, 2011; Thinyane, 2015; Map Kibera, 2009; Rifai, Asterina and Hidayani, 2016). An ICT led citizen engagement platform is likely to do better if it is institutionalized within an organisation(s) that can champion the cause of citizen engagement in general, use of ICTs and facilitate the interface with stakeholders (IDS, 2003; Norris, 2003).

4.6.14. Context is key

In all deployments, there must be an in depth understanding of the context within which ICT led citizen engagement platforms are deployed (DFID, 2012a). Context must be viewed from a much broader sense of other socio-economic dynamics other than just from an ICT perspective. For example, although Indonesia has a high mobile penetration rate; the assumption that people would use mobile

phones to engage did not hold (Feruglio and Rifai, 2017). In Daraja (2012) people still opted to use face to face interaction with service providers despite there being mobile channels.

4.7. Conclusion

There is no doubt that ICTs have been proven to complement citizen engagement efforts. The most prevalent areas where ICTs are being used to enhance citizen engagement are for purposes of amplifying citizen voice with government; to improve government responsiveness; in participatory budgeting and to capture citizen feedback on service delivery. We have examined extant literature on the benefits of ICT led citizen engagement initiatives and we have delved further into various examples of ICT led citizen engagement initiatives. Ultimately, we have highlighted some key lessons learned from ICT led citizen engagement initiatives. Some key issues to takeaway include that ICTs can be transformational to citizen engagement efforts through the speed with which data is collected and by opening spaces for citizens to engage remotely.

It is important to understand that ICTs are also not the panacea of all citizen engagement challenges. It is also important to understand the users of the ICT systems before they are designed and deployed. Another key issue to takeaway is that it is important to understand the context within which ICT enabled systems shall be deployed including the political and socio-economic dynamics. Additionally, it is also vital to complement ICTs with traditional mechanisms for engagement for the best results. It must be highlighted that political will and resources by the state or service providers or duty bearers to be responsive and actionable to citizen's voices, is critical in closing the feedback loop in any citizen engagement initiative. There must be ways to understand and influence internal systems within duty bearers that can incentivize responsiveness and action.

Use of ICTs to make citizen's input public, may not necessarily stimulate the state or service providers or duty bearers to be responsive or actionable. We also now know that citizens are likely to trust systems where response and action are guaranteed than simply because ICTs are used. As we probe further into the development and deployment of the Mzinda ICT platform designed for citizens to engage with duty bearers, we take into consideration all the lessons we have learnt. Figure 4.1 below thus captures some of the emerging themes of lessons we have learned.



Fig 4.1: Lessons Learned from use of ICT in Citizen engagement

CHAPTER 5

Theories of Technology Adoption Theories

Introduction

The premise of this research is to understand the factors that influence citizen's use of ICTs to engage with local government, councillors, ESCOM (Electricity Supply Corporation of Malawi) and waterboards in Malawi. We will explore some of the theories that have been proposed in Information Technology research to help understand the drivers that influence people's acceptance and use of technology. This Chapter presents some of the common theories that have been proposed and used to understand technology acceptance and use. We will ultimately present the Unified Theory of Acceptance and Use of Technology (UTAUT) (which is a combination of eight models) as the theory to be used for the purposes of this study and substantiate the rationale for why we intend to use it in this research. We present the modified version of the UTAUT which we have justified for the context of this research.

In order to plan for deployment of the Mzinda platform, we also present a Theory of Change that articulates the pathway from the current status of citizen engagement, activities to be undertaken and anticipated outcomes.

This chapter presents eight different models of technology acceptance and use, highlighting benefits and drawbacks of each model and indicating how they can be applied to information technology,. The chapter then presents the UTAUTs model which explains 70% of the variation in usage intention and acceptance of technology greater than when each of the eight models and their extensions are applied individually (Venkatesh, et.al., 2003).

5.1. Models

5.1.1 Theory of Reasoned Action

The Theory of Reasoned Action (TRA) is among the earliest models used to explain, predict, and influence human behavior. The theory was developed within the social psychology field by Ajzen and Fishbein (1967). The theory is used to predict a wide range of behaviours including health behaviours and consumer spending behaviours. The theory of reasoned action presents two social

constructs that determine a person's behavioural intention that ultimately leads to a specific behavior as detailed in table.

Table 5.1: Theory of Reasoned Action Social constructs and definitions

Social Construct	Definition
Attitude Towards an act or behaviour	“an individual's positive or negative feeling about performing the target behaviour" (Ajzen and Fishbein, 1977).
Subjective Norm	“The person's perception that most people who are important to him think he should or should not perform the behaviour in question" (Ajzen and Fishbein, 1977).

Ajzen and Fishbein (1980) propose that the TRA model predicts and explains influence on human behavior. Figure 5.1 illustrates the TRA model demonstrating how human behaviours are influenced. The TRA model proposes that the attitude of a person towards an act or a behaviour when combined with the person's perceptions of what other people think about that behavior determine the behavioral intention. The behavioural intention is thus a key factor that ultimately determines actual behavior. The TRA model has been used by various scholars in Information Systems research to understand factors influencing adoption of ICT (Suh and Han, 2003; Mishra, Akman and Mishra, 2014).

The TRA model assumes that behavior can be explained by behavioral intention; meaning that every behavior is thought out before being implemented. This is an anomaly when one considers human behaviours such as irrational decisions, impulsive reactions, habitual actions and spontaneous decisions as they are not explained by this model. We will thus not use this model alone in this research due to these limitations as it does not fully explain all the facets of human behaviour.

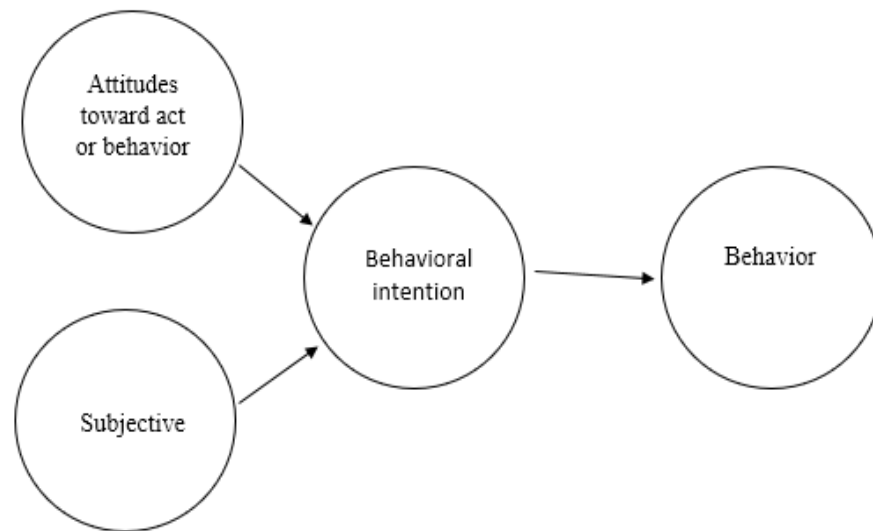


Figure 5.1: Theory of Reasoned Action (TRA) illustration

(Source: Ajzen and Fishbein, 1980).

5.1.2. The Technology Acceptance Model, TAM (Davis, 1989)

The Technology Acceptance Model (TAM) developed by Davis in 1989; is one of the most widely used models to explain users use and acceptance of IT systems. The model was developed based on the TRA (1967) to further explain the beliefs that affect an individual's attitudes to adopt and use computer systems. Davis (1989) explained that some of the constructs that could be used to explain acceptance and use of the system include perceived usefulness and perceived ease of use. Davis proposed that the two constructs determine the behavioral intention to use the system which ultimately determines the behaviour to adopt and use the system.

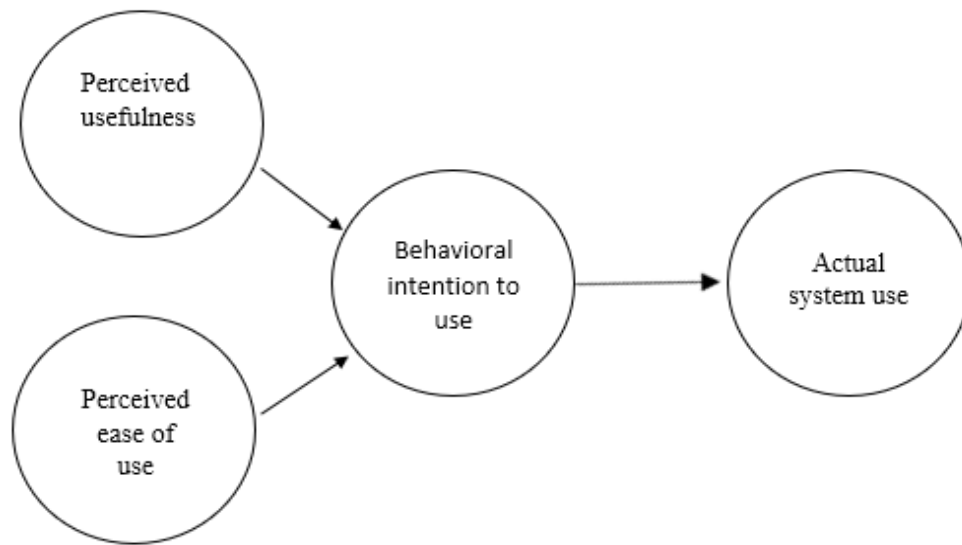


Figure 5.2. Theory of Technology Acceptance Model illustration

(Source: Davis, 1989; Venkatesh, et al., 2012).

Table 5.2: TAM social constructs and definitions

Social Construct	Definition
Perceived Usefulness	“the degree to which a person believes that the use of a particular system would enhance his or her job performance” (Phang, et al., 2005).
Perceived ease of use	“the degree to which a person believes that using a particular system would be free of effort” (Phang, et al., 2005).

As TAM evolved, new variables were added as external variables that affect Perceived Usefulness and Perceived Ease of Use and actual behaviour. These variables included: system quality, compatibility, computer anxiety, enjoyment, computing support and experience (Lee, Kozar and Larsen, 2003). TAM has been touted as a well-developed, dynamic and validated theoretical model used to understand user acceptance of technology (Venkatesh and Davis, 2000). In most studies where TAM has been used; perceived usefulness has been identified to significantly influence the intention to adopt and use technology as compared to perceived ease of use which obviously subsidizes in its impact the more the user uses the technology (Venkatesh, 2003). There have been several studies where TAM has been used to explain user behaviour, use and acceptance of technology. Pikkarainen, Pikkarainen, Karjaluto and Pahlila (2004) used the TAM model to understand user behaviour acceptance of online banking. Lin, Fofanah and Liang (2011) validated TAM in their study which aimed to assess citizen adoption of e-Government initiatives in Gambia.

TAM does not make any considerations for constraints or facilitating conditions which may be deterrents or enablers for a user to accept and use technology. TAM has also been widely reported to be reliant on self-usage reporting and assumes that self-usage reporting reflects on actual usage (Legris, et al., 2003). The TAM model was extended to add social influence and cognitive instrumental processes as determinants of perceived ease of use and user intention. Venkatesh and Davis (2000) developed the extended model of TAM and tested it on users from four systems; where two systems were mandatory and two were voluntary. Social influence includes the following: subjective norm, voluntariness and images as sub social constructs. Job relevance, output quality, result demonstrability and perceived ease of use were added as part of cognitive instrumental processes. Venkatesh and Davis (2000) established that both social influence and cognitive instrumental processes significantly influenced user acceptance of technology.

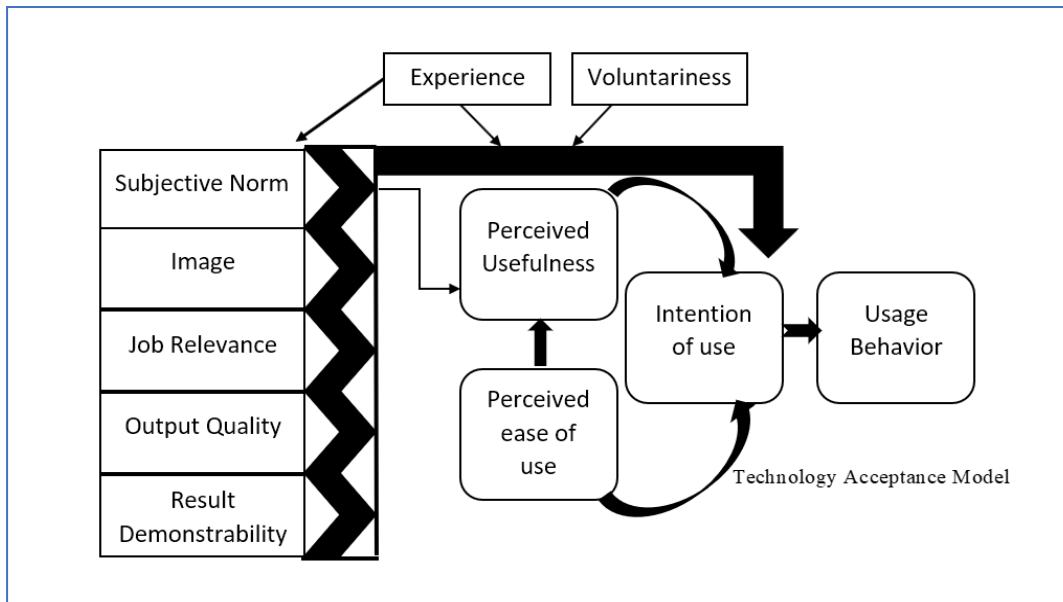


Figure 5.3: A Theoretical Extension of the Technology Acceptance Model

5.1.3. The Diffusion of Innovation Model, DOI

The Diffusion of Innovation Model is an improvement of the Diffusion of Innovation Theory which was developed by Rogers (1995) and has been used since the 1960s. The Diffusion of Innovation (DOI) theory states that “The adoption of innovation is modelled as a process of information gathering and uncertainty reduction with a view to evaluate the technology (Rogers, 1995).

Rogers (2003) proposed a general model of adoption from the DOI theory which differentiates adoption from the diffusion process. The model proposes that the process of adoption happens at an individual level whereas the diffusion process happens at a group level. The model describes the five stages that an individual or other entity takes to go through the process of adopting or rejecting an innovation. The model also suggests four elements that influence the diffusion of an innovation namely: the innovation itself, channels of communication, time, and a social system.

The process of diffusion of an innovation is dependent of people whilst adoption happens at an individual level. In instances where there is a higher rate of adoption of the innovation, there is a likelihood to reach a critical mass. Innovativeness is defined as the degree to which an individual adopts a new idea (Rogers, 1995). There are five categories of adopters of an innovation which include the innovators, early adopters, early majority, late majority, and laggards.

Rogers' (1995) model classifies five characteristics of innovations from the perception of users that may influence the diffusion and adoption of the innovation. The characteristics are:

- 1) **Relative advantage** refers to the belief that a new innovation or system has better benefits that supersedes a previous innovation. The “betterness” maybe measured in terms of economic value, social status, convenience, and satisfaction. The greater the relative advantage of an innovation, the greater the adoption rate.
- 2) **Compatibility** refers to the degree which an innovation is perceived to be consistent with the existing needs, values, and past experiences of potential adopters. The more compatible an innovation is, the higher the adoption rate.
- 3) **Complexity** refers to the degree with which an innovation is difficult to understand and use. The more difficult an innovation is perceived to be the lower the adoption.
- 4) **Trialability** refers to the ability to try a new innovation before using it. New innovations that can be tried by users are likely to be adopted more than those that are not tried.
- 5) **Observability** refers to the degree to which the results of an innovation are visible to others. The more visible the results of an innovation are to others; the more likely the innovation is to be adopted.

The DOI model is irrelevant to the current study as DOI does not foster a participatory approach and it assumes the effect of the person's social support and resources in adoption. It does not cover other factors like government trust and internet trust that may affect citizens from using e- Government services.

5.1.4. The Theory of Planned Behaviour, TPB

The TRA was extended to develop the Theory of Planned Behaviour (TPB) by Fishbein and Ajzen (1977). The model was developed by adding a construct on perceived behavioural control (PBC) as an additional determinant of intention and behaviour. The PBC is defined as “the perceived ease or difficulty of performing the behaviour” (Ajzen, 1991, p.188). The PBC refers to perceptions of internal and external constraints on behaviour (Taylor and Todd, 1995).

The TPB addresses the shortfall of the TRA by addressing conduct over which users possess unwillingness to be regulated. The TBP explains behaviour as a function of salient beliefs relevant to that behaviour. The model considers the role of individual members in an organisation and social circles (Ajzen, 1991). The TPB seeks to account for situations where the individual has less control over their behaviour by introducing an additional construct; Perceived Behavioural Control; PBC. PBC is held in a general framework that relates beliefs, attitudes and intentions. PBC is proposed to explain both behaviours directly and behavioural intention meaning that where behavioural intention is not adequate to explain behaviour; it is likely that PBC explains the behaviour. According to the TPB model, there are three constructs that are determinants of behaviour and intention:

- i. Attitude towards behaviour,
- ii. Subjective norm and,
- iii. Perceived behavioural control.

The first two constructs are adapted from the TRA

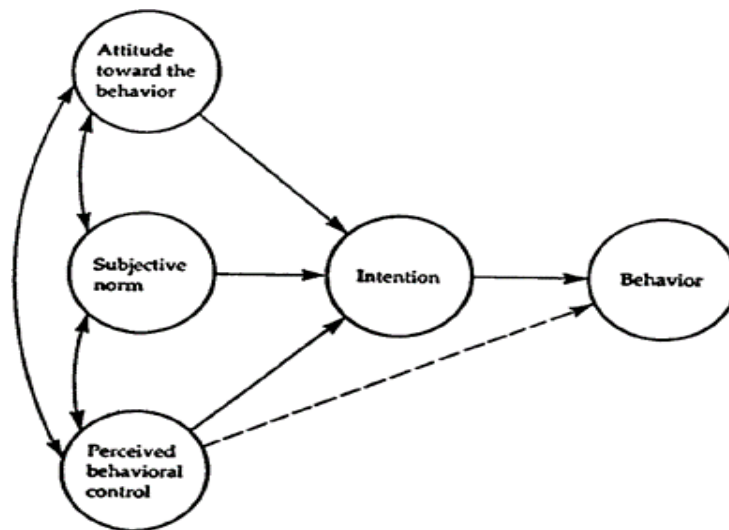


Figure 5.4: Diagram depicting the Theory of Planned Behaviour (TPB)

(Source: Ajzen, 1991)

5.1.5. Model of PC Utilization

According to Venkatesh, et.al., (2003) the Model of PC Utilization (MPCU) is derived from Triandis' 1977 theory of Human Behaviour. The theory of human behaviour was adapted and refined to suit Information Systems contexts to and to model and predict the utilization of personal computers, PCs by Thompson, et al., (1991). However, the nature of the model makes it suited to also predict individual acceptance and use of information technologies; not just the PCS. Venkatesh (2003) further suggests that the MPCU model is a competing theoretical perspective to TRA and TPB. Below are the six constructs that influence use of PCs as proposed by Thompson, et al., 1991:

- i) **Social Factors:** "the individual's internalization of the reference group's subjective culture and specific interpersonal agreements that the individual has made with others in specific situations" (Thompson, et al., 1991 p. 126).
- ii) **Job Fit:** is described as the extent to which an individual believes that using a technology can enhance the performance of his or her (Thompson, et al., 1991).
- iii) **Long-term consequences:** "Outcomes that have a pay-off in the future" (Thompson, et al., 1991 p. 129).
- iv) **Complexity:** Based on Rogers and Shoemaker (1971), "the degree to which an innovation is perceived as relatively difficult to understand and use" (Thompson, et al. 1991 p. 128).
- v) **Affect towards PC use:** Based on Triandis' affect toward use is "feelings of joy, elation, or pleasure, or depression, disgust, displeasure, or hate associated by an individual with a particular act" (Thompson, et al. 1991 p. 127).
- vi) **Facilitating conditions:** Objective factors in the environment that observers agree make an act easy to accomplish. For example, returning items purchased online is facilitated when no fee is Facilitating Conditions 1 charged to return the item. In an IS context, "provision of support for users of PCs may be one type of facilitating condition that can influence system utilization" (Thompson, et al., 1991 p.129).

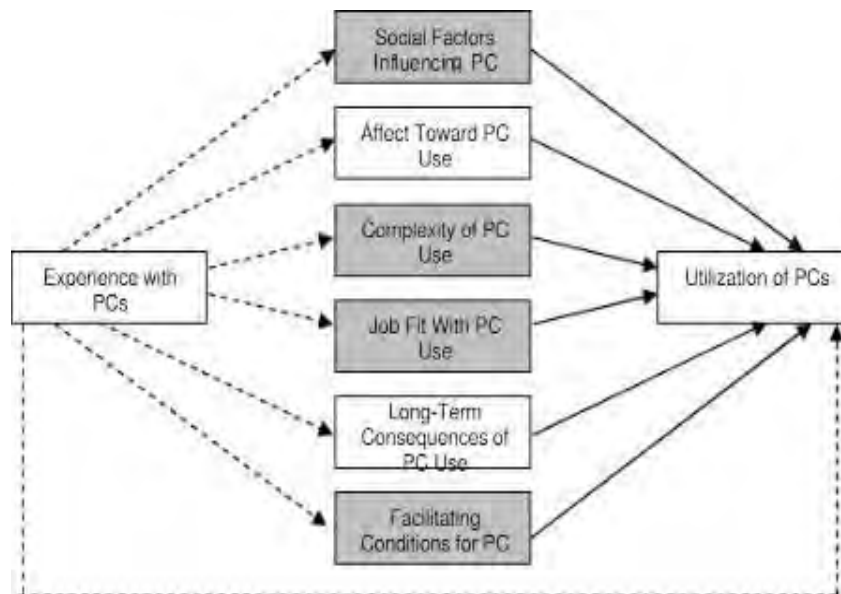


Figure 5.5: Model of PC Utilization (MPCU) (Source: Thompson, et al., (1991 p.131); Aldajani 2011).

5.1.6. Motivational Model

The Motivational Model (MM) explains general user behaviour. The MM has two constructs:

- **Extrinsic Motivation:** “The perception that users will want to perform an activity because it is perceived to be instrumental in achieving valued outcomes that are distinct from the activity itself, such as improved job performance, pay, or promotions” (Davis, et al., 1992 p.1112).
- **Intrinsic motivation:** “The perception that users will want to perform an activity for no apparent reinforcement other than that of the process performing the activity peruse” (Davis, et al., 1992 p.1112).

However, the Motivational Model (MM) relies heavily on perceptions of users, so it is not considered as the appropriate model for this research.

5.1.7. Social Cognitive Theory

The Social Cognitive Theory (SCT) is considered to be among the most prevailing theories of human behaviour (Venkatesh, 2003). Although some theories of human behaviour focus on the initiating behaviour and not the maintenance thereof; the SCT emphasizes that human behaviour occurs in a social context where there is interaction of the person and the environment

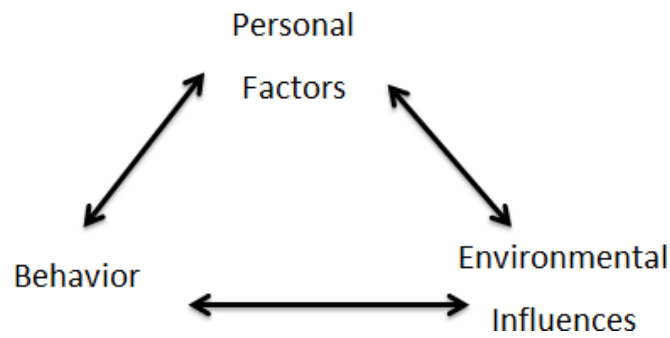


Figure 5.6: Social Cognitive Theory

The SCT takes into consideration a person's past experiences, it emphasises on both internal and external social reinforcement and social influence. The theory suggests that past experiences influence reinforcements and expectancies which ultimately determine whether a person will engage in a certain behaviour (Babdur, 2001).

Below are the five social constructs of the Social Cognitive Theory as adapted from (Venkatesh, 2003):

- Outcome Expectations Performance: The performance related to consequences of the behaviour.
- Outcome Expectations Personal: The personal consequences of the behaviour
- Self-Efficacy: Judgment of one's Ability to use a technology to accomplish a particular job or task.
- Affect: An individual's liking for a particular behaviour.
- Anxiety: Evoking anxious or emotional reactions when it comes to performing behaviour”
(Venkatesh, et al., 2003 p.432)

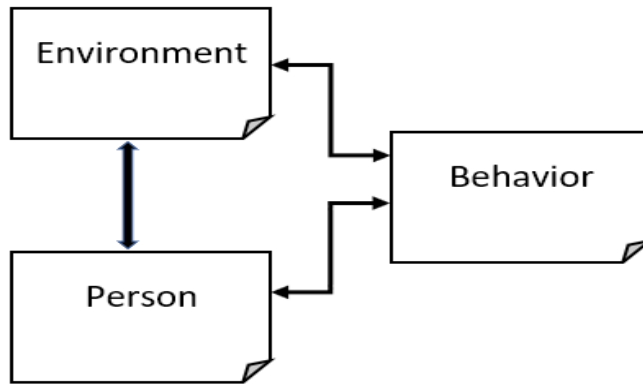


Figure 5.7: Social Cognitive Theory (SCT) (Source: Bandura, 1986).

5.2. Unified Theory of Acceptance and Use of Technology

In the preceding sections we have presented 7 models and theories that have been used in understanding user acceptance of technology. Although, there are many such theories, each comes with various limitations and strengths as such applying one or two would not adequately explain technology acceptance and use. Venkatesh and Davis (2003) consequently leveraged the strengths and limitations of each of the seven aforementioned models to develop a comprehensive model rightfully named the Unified Theory of Acceptance and Use of Technology (UTAUT). The UTAUT model is a comprehensive model that is used in determining factors that influence or constrain human beings from using technology (Venkatesh, 2003).

The model encompasses eight models that seek to explain human behaviour, intent and use of technology. The eight models being; the theory of reasoned action (Davis et al., 1989), the technology acceptance model (Davis, 1989) the motivational model (Davis et al., 1992) the theory of planned behaviour (Ajzen, 1991) a combined theory of technology acceptance model and theory of planned behaviour (Taylor and Todd, 1995) the model of PC utilization (Thompson, et al., 1991), the innovation diffusion theory (Rogers, 1995) and the social cognitive theory (Compeau and Higgins, 1995). In the original paper, the UTAUT model explained 70% of the variation in usage intention and acceptance of technology which is greater than when each of the eight models and their extensions are applied individually (Venkatesh, 2003).

The UTAUT model presents four key social constructs that have proven to be direct determinants of user behaviour and acceptance of technology. These are Performance Expectancy, Effort Expectancy, Social Influence and Facilitating Conditions. The social constructs are moderated by gender, age, experience and voluntariness of use. These moderating factors are particularly expected to be relevant to the context of citizen engagement; where citizens are from different demographic segments such as male or female; varying age groups; varied experiences in political participation and technology. Within, each social construct there are psychometric statements that gauge user’s perception.

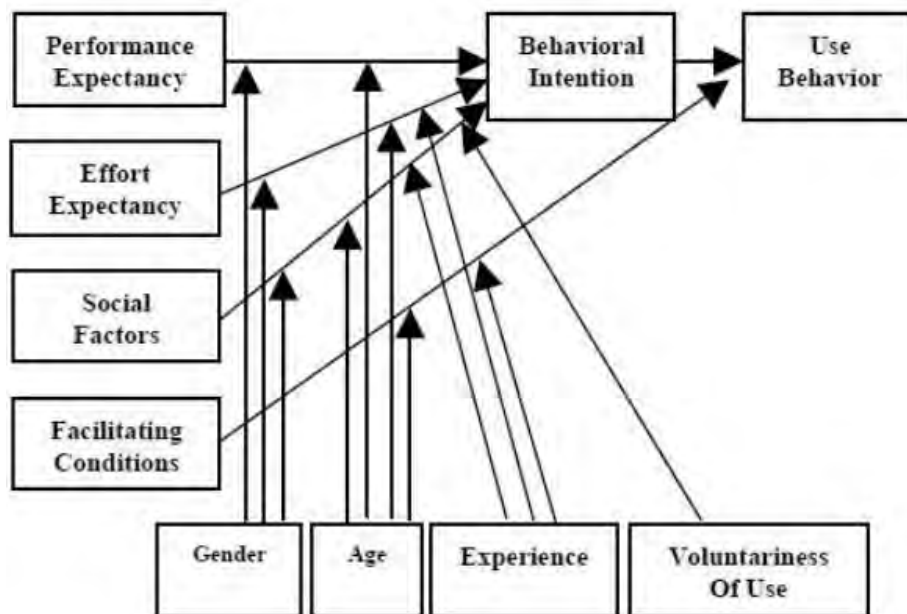


Figure 5.8: Unified Theory of Acceptance and Use of Technology

We consider the UTAUT model as a cross cutting model that incorporates critical elements that we can use to explain citizens’ behaviour, intent, and usage of technology as a tool for citizen engagement without having to apply individual frameworks at a time. The UTAUT explanatory power of the factors that influence acceptance and use of technology is higher than other technology acceptance theories (Venkatesh and Zhang, 2010).

Table 5.3 presents each social construct of the UTAUT model, the formal definition, our empirical definition, and proposition as aligned to the context of citizen engagement to show how the framework can be applied to a citizen engagement use case.

Table 5.3. Contextualising the UTAUT Model to the context of using ICT for Citizen Engagement

Construct	Formal Definition	Empirical Definition	Empirical Proposition
Performance Expectancy	Degree to which an individual believes using the system will help him or her attain gains in job (Venkatesh, 2003)	Degree to which a citizen believes that using the system will help him or her make an influence as a citizen	Performance expectancy will have more influence on the intention to use technology depending on the gender and age of the citizens. It is expected that performance expectancy will be stronger for younger men.
Effort Expectancy	The degree of ease associated with the system (Venkatesh, 2003)	The degree of ease associated with the system	The ease with which citizens find technology easy to use is moderated by gender, age and experience in technology and politics. Younger males will find using the system easier at early stages though with less experience.
Social Influence	The degree to which an individual believes that it is	The degree to which a citizen believes that it is important to others	Citizen's social influence to use technology engaging the government, elected leaders

	important to others that they use the system (Venkatesh, 2003)	that they use the system	and service providers is dependent on gender, age and experience of the citizen. Social influence is expected to be more salient in older women at early stages of using the technology.
Facilitating Conditions	The degree to which an individual believes that an organisational or technical structure exists to support the use of the system (Venkatesh, 2003).	Believes that there is an organisational structure to support use of the system and provide feedback.	(a) Facilitating conditions such as access to technology will not have a significant influence on citizens to use the system (b) Facilitating conditions will have a significant influence on citizen's usage of the system when moderated by age and experience. The effect will be stronger for older citizens with increasing experience

5.2.1. Hypothesis to test the UTAUT model

Some of **the null Hypothesis (Ho)** we will be testing based on the data collected in the baseline and post deployment assessment studies of this research include:

H1: Performance Expectancy will have a positive influence on Behavioral Intention of citizens to use ICTs to participate.

H1a: Gender differences shall positively moderate the relationship between Performance Expectancy and behavioural Intention.

H1b: Age will positively moderate the relationship between performance expectancy and Behavioural Intention.

H2: Effort expectancy will have positive influence on behavioural intention of citizens to use ICTs to participate.

H2a: Gender differences positively moderates the relationship between effect of Effort Expectancy and Behavioural Intention.

H2b: Age positively moderates the relationship between effect of Effort Expectancy and Behavioural Intention.

H3: Social influence will have a positive influence on behavioural intention of citizens to use ICTs to participate.

H3a: Gender differences positively moderates the relationship between Social Influence and Behavioural Intention.

H3b: Age positively moderates the relationship between social influence and Behavioural Intention.

H4: Facilitating conditions will have a positive influence on behavioural intention of citizens to use ICTs to participate.

H4a: Gender differences positively moderates the relationship between Facilitating Conditions and Behavioural Intention.

H4b: Age positively moderates the relationship between facilitating conditions and Behavioural Intention.

H4c: Experience positively moderates the relationship between Facilitating Conditions and Behavioural Intention.

H5: Facilitating Conditions will have a positive influence on citizens use ICTs to participate.

5.2.2. Summary of studies where UTAUT has been used to test user acceptance and use of technology

Since its publication in 2003, UTAUT has been cited in many studies that have sought to understand user acceptance and use of technology. The UTAUT model has been applied in various contexts, settings and sectors showing the diverse applications. For example, in the education sector, the model has been used to understand the use of technology by students and teachers in education institutions as seen in Göğüş and Nistor (2012); Fatema and Akbar (2013) and Birsch and Irvine (2009).

The model has also been used to understand acceptance and use of technology in the health sector and was used in studies by Venkatesh, Sykes, and Zhang (2011); Ifinedo (2012); Alam, Hu and Barua (2018); Boontarig, et al., (2012) and Gao, et al., (2015). The UTAUT model has been used in organisations to understand employees' use of technology (Venkatesh, et al., 2003; Anderson and Schwager, 2004; Zhan, Wang, and Xia, 2011). The UTAUT model has also been used to understand the adoption and use of e Government services by citizens in Qatar (Al-Shafi, Weerakkody and Janssen, 2009), in Abu Dabi, Dubai (Al Mansoori, 2017) and in Saudi Arabia (Alshehri, 2012). The model has also been tested to understand people's use of e-Banking services in Zambia (Daka and Phiri, 2019) and in India (Sarfaraz and Alzubi Jahangirabad, 2017).

The model has also been used to understand people's use of citizen participation initiatives (Naranjo-Zolotov and Oliveira, 2018; Van Belle and Cupido, 2013; Foli and Van Belle, 2015). Among the studies mentioned and in the wider application of the UTAUT model elsewhere, some authors have used the UTAUT model in its totality whereas others have modified it to add new constructs or removed certain constructs to suit context. For example, the original authors of the UTAUT model recommended adding additional social constructs to the original UTAUT model in a paper on consumer acceptance and use of information technology (Venkatesh, et al., 2012). Al Mansouri (2017) also used a modified version of the UTAUT to understand use of e-Government services by Emirati citizens; whereas Van Bell and Cupido (2013) used a modified version of the UTAUT model to understand individual intention to use mobile phones to engage with the government.

5.2.3. Moderating factors of the UTAUT model

Among the eight models that we have presented; it is only the UTAUT model in the series of technology acceptance models that highlights a combination of age, gender, experience and voluntariness as moderating factors that would help explain utilization and acceptance of technology (Venkatesh, et.al., 2003). The UTAUT model considers that the influence conditions on behavioural intentions to use technology, could be moderated by age, gender, experience, and education. These moderating factors are among the elements that make the UTAUT model stand out from applying

each of the eight models separately (Venkatesh, Thong and Xu, 2012). Below we extract a summary of each of the eight models and the limitations therein as regard consideration of the moderating factors that the UTAUT considers.

Table 5.5: Role of moderating factors in Technology Acceptance Models as adopted (Venkatesh, 2003)

Table 2. Role of Moderators in Existing Models				
Model	Experience	Voluntariness	Gender	Age
Theory of Reasoned Action	Experience was not explicitly included in the original TRA. However, the role of experience was empirically examined using a cross-sectional analysis by Davis et al. (1989). No change in the salience of determinants was found. In contrast, Karahanna et al. (1999) found that attitude was more important with increasing experience, while subjective norm became less important with increasing experience.	Voluntariness was not included in the original TRA. Although not tested, Hartwick and Barki (1994) suggested that subjective norm was more important when system use was perceived to be less voluntary.	N/A	N/A
Technology Acceptance Model (and TAM2)	Experience was not explicitly included in the original TAM. Davis et al. (1989) and Szajna (1996), among others, have provided empirical evidence showing that ease of use becomes nonsignificant with increased experience.	Voluntariness was not explicitly included in the original TAM. Within TAM2, subjective norm was salient only in mandatory settings and even then only in cases of limited experience with the system (i.e., a three-way interaction).	Gender was not included in the original TAM. Empirical evidence demonstrated that perceived usefulness was more salient for men while perceived ease of use was more salient for women (Venkatesh and Morris 2000). The effect of subjective norm was more salient for women in the early stages of experience (i.e., a three-way interaction).	N/A
Motivational Model	N/A	N/A	N/A	N/A

Table 2. Role of Moderators in Existing Models (Continued)

Model	Experience	Voluntariness	Gender	Age
Theory of Planned Behavior	Experience was not explicitly included in the original TPB or DTPB. It has been incorporated into TPB via follow-on studies (e.g., Morris and Venkatesh 2000). Empirical evidence has demonstrated that experience moderates the relationship between subjective norm and behavioral intention, such that subjective norm becomes less important with increasing levels of experience. This is similar to the suggestion of Karahanna et al. (1999) in the context of TRA.	Voluntariness was not included in the original TPB or DTPB. As noted in the discussion regarding TRA, although not tested, subjective norm was suggested to be more important when system use was perceived to be less voluntary (Hartwick and Barki 1994).	Venkatesh et al. (2000) found that attitude was more salient for men. Both subjective norm and perceived behavioral control were more salient for women in early stages of experience (i.e., three-way interactions).	Morris and Venkatesh (2000) found that attitude was more salient for younger workers while perceived behavioral control was more salient for older workers. Subjective norm was more salient to older women (i.e., a three-way interaction).
Combined TAM-TPB	Experience was incorporated into this model in a between-subjects design (experienced and inexperienced users). Perceived usefulness, attitude toward behavior, and perceived behavioral control were all more salient with increasing experience while subjective norm became less salient with increasing experience (Taylor and Todd 1995a).	N/A	N/A	N/A

Table 2. Role of Moderators in Existing Models (Continued)

Model	Experience	Voluntariness	Gender	Age
Model of PC Utilization	Thompson et al. (1994) found that complexity, affect toward use, social factors, and facilitating conditions were all more salient with less experience. On the other hand, concern about long-term consequences became increasingly important with increasing levels of experience.	N/A	N/A	N/A
Innovation Diffusion Theory	Karahanna et al. (1999) conducted a between-subjects comparison to study the impact of innovation characteristics on adoption (no/low experience) and usage behavior (greater experience) and found differences in the predictors of adoption vs. usage behavior. The results showed that for adoption, the significant predictors were relative advantage, ease of use, trialability, results demonstrability, and visibility. In contrast, for usage, only relative advantage and image were significant.	Voluntariness was not tested as a moderator, but was shown to have a direct effect on intention.	N/A	N/A
Social Cognitive Theory	N/A	N/A	N/A	N/A

It is clear that with the exception of the UTAUT model; none of the 7 models listed above makes consideration of all four moderating factors; age, gender, voluntariness, and experience in explaining human behavior in use and acceptance of technology. We will delve further to highlight a summary of the limitations of the 7 other models other than the UTAUT model in Annexure

5.2.4. Justification of using the UTAUT model

Although the UTAUT model has been widely used to understand technology acceptance as articulated above, there have been no studies where the UTAUT framework has been used to understand acceptance and use of technology by Malawian citizens in general, let alone for participation with local government, councillors, ESCOM and water boards on service delivery.

This study therefore offers ground-breaking insights to enhance theoretical knowledge on user's acceptance and use of technology by citizens to engage duty bearers on service delivery in a Malawian context. The lessons could be applicable beyond Malawi's context, and considered in other developing countries with similar circumstances to Malawi. Ultimately, there is an obvious opportunity to enhance the validity of the UTAUT model within the context of using ICTs for citizen participation. It is evident that there are many theories and models used to understand the acceptance and use of technology. The eight models that we have highlighted in this Chapter have each been used to explain acceptance and use of technology in diverse studies. However, there are many limitations that applying each of the models separately brings as highlighted in Annexure 1. Some of the models when applied individually, do not fully explain certain aspects of the user behavior intention, behaviour and ultimate use of technology; neither do they make consideration for all possible conditions that are likely to influence, facilitate or moderate the use of technology. However, the UTAUT model offers a comprehensive collation of eight models that have been widely used in the field of Social Psychology and Information Systems to understand citizen's behaviour intention and acceptance of technology.

The UTAUT model offers the opportunity to apply all eight models simultaneously in one model. The UTAUT model explained 70% of the variation in usage intention and acceptance of technology which is greater than when each of the eight models and their extensions are applied individually (Venkatesh, 2003). The model also fully accounts for moderating factors like age, gender, experience, and voluntariness which have not been adequately integrated as moderating factors in any of the models. We thus find the UTAUT model a more comprehensive fit to use in this research for us to understand the use and acceptance of technology for citizen engagement with local government, councillors, ESCOM and waterboards in Malawi for the first time.

5.2.5. Modifying the UTAUT Model

The original UTAUT model presented four key social constructs that have proven to be direct determinants of Behavior Intention and User Behavior of technology. These are: - Performance Expectancy, Effort Expectancy, Social Influence and Facilitating Conditions. The four social

constructs are moderated by gender, age, experience, and voluntariness of use (Venkatesh, 2003). The four constructs were arrived at after a rigorous model development testing that pruned off certain variables that had made the initial model. Among the pruned variables that did not make the final model were three constructs namely: Attitude, Self-Efficacy and Anxiety. Where Attitude is defined as an individual's positive or negative feelings about using the system. Self-Efficacy is defined as Judgment of one's ability to use a technology (e.g. a computer) to accomplish a particular job or task. Anxiety is defined as Evoking anxious or emotional reactions when it comes to performing a behaviour (Venkatesh, 2003).

Some of the limitations of the UTAUT model that were highlighted by the developers of the model include concerns around the scales that were used to measure the core constructs. Venkatesh (2003) mentions that the model developers operationalized the model's four constructs using the highest loading items from each of the scales as is recommend in the psychometric literature by Nunnally and Bernstein (1994). "However, one danger of this approach is that facets of each construct can be eliminated, thus threatening content validity. Specifically, we found that choosing the highest-loading items resulted in items from some of the models not being represented in some of the core constructs (e.g. items from MPCU were not represented in performance expectancy). Therefore, the measures for UTAUT should be viewed as preliminary and future research should be targeted at extensively fully developing and validating appropriate scales for each of the constructs with an emphasis on content validity, and then revalidating the model specified herein" (Venkatesh, 2003 p.467).

Although the UTAUT model is considered to be robust in explaining user acceptance and use of technology; several authors have highlighted the limitations of the model due to the effects of leaving out Attitude and Self Efficacy from the UTAUT model amidst other limitations.

"UTAUT model does not consider Self-Efficacy, as a direct determinant of intention. While previous research revealed that an individual with a high level of Self-Efficacy intention might be more likely to facilitate goal achievement and perceived overall Self-Efficacy contributes significantly to the motivation and performance of an individual (Bandura and Locke, 2003; Bandura, 1994, 1997). Another concern is that the UTAUT model does not consider Attitude as a direct determinant of intention, which is an important factor in Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB), and Technology Acceptance Model (TAM). In addition, most prior studies have found Attitude to be a salient direct determinant of behavioral intention (Louho, et al., 2006; Oshlyansky, et al., 2007; Dijk, et al., 2008; Yuen, et al., 2010; Moghavvemi, 2014 p.2). Whereas (Dwivedi, Rana, Jeyaraj, et al., 2019 p.1) notes that "...Attitude: was central to behavioral intentions

and usage behaviors, partially mediated the effects of exogenous constructs on behavioral intentions and had a direct influence on usage behaviors.”

We thus build on the suggested research area by Venkatesh (2003) to validate appropriate scales for each of the selected constructs of the final model including Attitude and Self-Efficacy as highlighted by other authors above, to enhance content validity and to revalidate the UTAUT model in the context of citizen participation using ICTs in Malawi. As suggested by (Venkatesh, 2003), we will consider the final constructs of the original UTAUT model as preliminary and would like to target this research to fully developing and validating appropriate scales for each of the constructs to attain content validity and validate the model or otherwise (Venkatesh, 2003). In doing this, we will load the items from the constructs of Attitude towards using technology and Self-Efficacy in combination to the final four social constructs of the UTAUT model. We will leave out Anxiety because we hypothesize that being a voluntary platform; there must be less of an anxiety effect to using the system as compared to where the user does not have a choice such as in the cases of institutional systems.

We shall also build the model without experience and voluntariness as moderating factors because most users have no experience using a platform like this one neither do they have experience on using ICTs for engagement as this is the first ICT platform for citizen engagement in Malawi. We leave out voluntariness as a moderating factor because the use of the Mzinda platform by citizens is actually voluntary. Van Belle and Cupido (2013) also conducted a similar study to understand factors influencing citizen’s use of mobile phones for political participation in Cape Town South Africa. They also removed the variable Use Behavior and moderating factors Experience and Voluntariness of use for the same reasons we have given above.

5.3.The Theory of Change

A Theory of Change is an articulation of the current status of a situation, how and why certain interventions will lead to a desired outcomes and goal. A Theory of Change is theory of how and why an initiative works (Weisis, 1995). A Theory of Change (ToC) has long been used by social and development practitioners in programs for various purposes such as strategic planning, program description, monitoring, evaluation, and learning. Theories of change are part of a broader program analysis and have stemmed from traditional logical models such as the logical framework (Stein and Valters, 2012). Extant literature and programs have denoted theories of change by diverse names such as theory of action, roadmaps, result frameworks or blueprints (Reisman, Gienapp and Stachowiak,

2007). However, the underlying commonality to describe a ToC lies in the definition by (Weisis, 1995) which states that a theory of change is a theory of how and why an initiative works.

Theories of Change come in diverse variations and representations, as a product or physical document or as an ongoing process tool (Cathy, 2011). A ToC normally articulates the current status or need for which an initiative is being deployed, the activities to be conducted as a pathway to achieving change, the underlying assumptions within which such activities are undertaken, the anticipated outcomes and finally the ultimate goal which represents the change that is sought after (Cathy, 2011). Theories of Change are presented in various formats but most commonly using diagrams with buckets of statements under each component of the ToC. However, some scholars still complement diagrammatic representations of ToC with logical model statements using *If...Then* statements (CARE International UK, 2012).

Stein and Valters (2012) highlighted four broad categories of the purposes of Theories of Change from extant literature. The categories identified were strategic planning, monitoring and evaluation and description and learning. We adapt these four categories to situate our ToC accordingly for the purpose of the Mzinda project. The purpose of the ToC for this research is:

- 1. Strategic planning:** The ToC will help us to practically map how change in the use of ICT for citizen engagement can materialize denoting the activities to be undertaken and the expected outcomes.
- 2. Monitoring and evaluation:** We intend to use the ToC as a basis to assess our contributions to the change we seek to see in the use of ICTs for citizen engagement. We shall assess the influence of the activities we intend to conduct on the outcomes of the use of ICTs for citizen engagement and understand whether the assumptions hold for the use case scenario.
- 3. Description:** We will use the ToC to communicate our understanding and propositions on how change is going to happen internally with the team managing the deployment of the project, with donors of the project and externally with partners of the project.
- 4. Learning:** We use the ToC as a living document to provide clarity to the theory behind enhancing citizen engagement and use of ICTs for citizen engagement. As a thinking tool, we can come back to the ToC and make adjustments subsequently along deployment to quickly adapt to emerging scenarios.

5.3.1. Ownership of the Theory of Change

Taking on from lessons learned in Chapter 4 on the role of intermediaries as highlighted in 4.6.13, the ToC for this research is owned by an intermediary, and the implementing organisation of the Mzinda

project is mHub. mHub is Malawi's first technology and innovation hub started in Lilongwe in 2013. mHub will be the custodian of the ToC through funding support from the Open Society Initiative for Southern Africa (OSISA). As an intermediary, mHub will lead on planning, coordination, and execution of activities. mHub will also play the facilitator's role in engaging with diverse stakeholders and partners of the project such as councillors, MPs, City councils, Water Board, ESCOM and other NGOs operating in the space. The researcher will be the Team leader of the team at mHub. Other members of the team will include a Project Manager, a Project Officer and other adhoc staff such as research assistants who are engaged when needed.

Figure 5.9 illustrates the ICT for Citizen Engagement Theory of Change for Malawi's 3 cities of Blantyre, Lilongwe and Mzuzu. We call it the Mzinda Theory of Change to align with the name of the project. The Mzinda ToC is an articulation of the current status of citizen engagement, the activities to be conducted to stimulate and enhance citizen engagement and use of ICTs for engagement, the anticipated outcomes, and outputs of the interventions. The theory also captures the activities that will be deployed, actors involved, expected outcomes, and also include the assumptions made that lead to the ultimate goal of improved citizen engagement, responsive and actionable duty bearers.



Figure 5.9 Mzinda Theory of Change

5.3.2. Logical Statements

As mentioned in section 5.3, ToC are often complemented by logical “If...Then” statements to further explain the ToC as a variant of the logic model (Stein and Valters, 2012). Below are some logical statements that complement the ToC for the Mzinda project. These statements may also be viewed as null hypothesis, with underlying assumptions and accompanying activities. The null hypothesis can be tested as part of the monitoring, evaluation and learning process of the project to measure the efficacy of the initiatives deployed and the project at large.

Logical statements of the ToC for the Mzinda Project:

- If Citizens are made aware of their rights to engage with duty bearers through community campaigns, radio programs, Mzinda project flyers and other avenues; then citizens will be able to engage with their elected leaders and service providers using both non-technological mechanisms and using the Mzinda ICT platform channels.
- If citizens are made aware of the Mzinda platform, and can afford, and have access as well as the knowledge to use mobile phones or computers and the internet; then citizens will be able to report on service delivery of essential services and community problems using SMS or web or mobile or Facebook or Twitter platforms or other social media platforms created by the Mzinda platform.
- If Citizens report on service delivery and community problems using the Mzinda platform then duty bearers will be responsive and act on reports that require action where resources are available. Because of the rating mechanism on the Mzinda platform; duty bearers will be more responsive to citizen’s reports in order to gain good ratings.
- If duty bearers have adequate resources; then they will be more actionable to citizen reports that require action and resources.
- If citizens report using the Mzinda platform and duty bearers are committed to review and respond to citizen’s reports, and duty bearers have adequate resources to resolve reports that require action such as faults or maintenance or installation of service delivery structures or development initiatives within communities; then citizens will receive responses on their reports and action will be taken where necessary to resolve service delivery challenges and community problems.

5.3.3. Theory of Change Assessment Guide

To complement the ToC, we present the theory of change assessment guide in the Appendix as a collation of key questions underlying each component of the ToC. Some of the questions highlighted

in the ToC assessment guide are the fundamental research questions of this entire research study on the use of ICTs for Citizen Engagement as highlighted in Chapter 1.

5.4.Conclusion

This Chapter has introduced theoretical models that have been widely used in Social Psychology and Information Systems research to explain user behavior and intention to use technology. The models presented are the theory of reasoned action (Davis, et al., 1989); the technology acceptance model (Davis, 1989); the motivational model (Davis, et al., 1992); the theory of planned behavior (Ajzen, 1991); a combined theory of technology acceptance model and theory of planned behaviour (Taylor and Todd 1995); the model of PC utilization (Thompson, et al., 1991); the innovation diffusion theory (Rogers, 1995); the social cognitive theory (Compeau and Higgins, 1995) and the unified theory of acceptance and use of technology (UTAUT).

We have explored each theory and model to understand the constructs of each of these models assessing its strengths and limitations and relevance to this research study. We have also presented the UTAUT model, a comprehensive compilation of eight models in the field on Information Systems that explains over 70% of user acceptance and technology. The UTAUT model evens out most of the limitations that each of the eight models presented when applied individually. The UTAUT model also makes consideration for social influence and facilitating conditions. Finally, the UTAUT model also integrates gender, age, experience and voluntariness as moderating factors for use and acceptance of technology (Venkatesh, 2003).

We have thus concluded with a justification of why this research shall consider the Modified UTAUT model to test the content validity and perform full development of the modified model with two additional social constructs of Attitude and Self-Efficacy. We will describe the Statistical processes that we shall undertake in Chapter 6 and present the results of the analysis in Chapter 10.

The Theory of Change has been articulated as a guide helping us to understand the current status of citizen engagement, how and why certain interventions will lead to the desired outcomes and goal of improved citizen engagement as well as the responsiveness and actionability of duty bearers. The ToC acts as a guide for strategic planning, monitoring, describing, and learning from the Mzinda project. We have highlighted a collation of key questions for our consideration all through implementation from the current status, activities, assumptions, outcomes, and the ultimate goal of this project using the ToC Assessment guide. The ToC Assessment guide is also a reflection of some of the research questions that this research has undertaken to answer as highlighted in Chapter 1. We shall subsequently revisit the ToC at the end of this research to gauge if this research answered the questions

therein. Lastly, we have highlighted the need to understand the factors that influence citizen's acceptance and use of the Mzinda platform. This is an important aspect of this research as it seeks to contribute to the theory of what influences people to use technology for engagement with duty bearers.

CHAPTER 6

Methodology

Introduction

The preceding Chapter marks the end of the Literature review chapters. In Chapter 5, we introduced theories that have been used in understanding people's use and acceptance of technology platforms. We delved further to highlight the UTAUT model (2003) as a comprehensive model that we intend to use to understand the factors that influence use and acceptance of the technology platform we intend to build as part of this research. In Chapter 4, we documented a number of lessons from ICT led citizen engagement initiatives. We intend to make use of these lessons as we explore the design and deployment of the ICT led citizen engagement platform in Malawi's three cities of Blantyre, Lilongwe and Mzuzu.

To ensure that the Mzinda platform can be relevant and adaptable to the context within which it is deployed, we need to have an understanding of the prevailing context of citizen engagement in Malawi, how citizens use ICTs and an understanding of the perspectives of citizens towards the use of ICTs for engagement. All through Chapters 2, 3 and 4 we have collated various insights from extant literature on the subject matter.

We aim to complement the desk-based research insights captured therein, with empirical evidence collated from practical research. In order to collate the data from the desk-based research and empirical evidence, we need to have clear research strategy and methodology outlining why, what, how, when and where we do certain tasks in this research.

6.1. Defining research, objectives, and classifications

We begin by understanding what research entails. According to Collis and Hussey (2013), research is a systemic and methodical process of inquiry and investigation with a view to increasing knowledge. A Research Question is the specific question that the research is designed to investigate. The research question we seek to answer in this work is "What are the factors that influence citizen's Behavior Intention to use of ICTs in engaging with councils, councillors, ESCOM and the Waterboards in Malawi's three cities?" This is the larger question and to answer this question, there are other smaller research questions that we shall seek to answer as articulated in Chapter 1. Collis and Hussey (2013) further outline the typical objectives of a research project into eight potential objectives which are:

- To review and synthesize existing knowledge
- To investigate some existing situation or problem
- To provide solutions to a problem
- To explore and analyse more general issues
- To construct or create a new procedure or system
- To explain new phenomenon
- To generate new knowledge, and to
- Create a combination of any of the above objectives.

We adapt the general research objectives as suggested by Collis and Hussey (2013) to the context of this research and outline our research objectives as below:

- To review existing knowledge on citizen engagement
- To investigate status of citizen engagement in Malawi.
- To develop an ICT platform that can facilitate citizen engagement.
- To generate new knowledge on ICTS and citizen engagement in Malawi by understanding the factors that influence citizens to use ICTs for engagement.

The potential users or audience of this research will include the Governments, CSOs, Service Providers, Practitioners in ICT4D, Researchers, Academics, and Technology Practitioners.

6.1.1. Classifying Research

Collis and Hussey (2013) classify research according to four main facets: **Purpose, Process, Outcome and Logic**. We thus classify our research accordingly to these facets as follows:

The purpose of this research is to understand the factors that influence use of ICTS by citizens to engage with duty bearers.

The Process we shall undertake is to synthesize existing literature on citizen engagement, ICTs in Citizen Engagement and Malawi's context to find the premise of this research (We have done this in Chapters 2, 3, 4 and 5) and to collect empirical evidence on the status of citizen engagement prior to the development of an ICT platform (The Baseline study in Chapter 7). We will use some of the data collected in the baseline study to inform the design and development of an ICT platform called Mzinda to be used for citizens to engage with councils, councillors, ESCOM and the water boards (This is captured in Chapter 8).

We will then deploy the ICT Platform in all three cities and publicize the platform amongst citizens, councils, councillors, ESCOM, the Water Boards, Civil Society organisations and other relevant stakeholders. We will collate lessons learned from using the platform and the impact of the activities undertaken in deploying the platform through partnerships with other stakeholders, non-technological and online activities. We will also capture actual data on the use of the Mzinda platform, highlighting citizen's reports, responsiveness and actionability of councils, councillors, ESCOM and the Water Boards disaggregated by sector (This is done in Chapter 9). We subsequently collate data on perceptions of citizens, councillors, councils, and other stakeholders in the post deployment assessment to gauge whether the Mzinda platform had made any significant changes or short term impact considering the limited deployment period. For this research, impact is defined as improvements in service delivery, responsiveness and actionability of councils, councillors, ESCOM and the Water Boards.

We will further conduct a comparative study of the factors that influence citizen's use of ICTs to engage with councils, councillors, ESCOM and the Water Boards. We use the UTAUT (2003) model to understand the causal relationship on the intention to use technology by either Performance Expectancy, Effort Expectancy, Social Influence and or Facilitating Conditions. The social constructs are moderated by gender, age, experience and voluntariness of use. We shall compare the results of the factor analysis conducted at baseline and at the time of the post deployment assessment to fully understand the factors that influence citizen's intention to use ICTs in engaging with councils, councillors, ESCOM and the waterboards.

The Logic of this research is the deductive approach, as we start from a known theory and test the specific. We start with the UTAUT (2003) model to test the Malawi context case of citizens using ICTs for engagement based on the known theory.

The Outcome of this research is an ICT platform and deployment process of the platform as a solution to the existing problem of minimal citizen engagement in Malawi. This research contributes knowledge on use of ICTs for citizen engagement in the context of Malawi's three cities which may be applicable in similar contexts. In the next section, we will look at the research onion as a model to illustrate the stages of the research process specific to this research.

6.2. Research Onion

In this section, we present the research onion as an illustration of the research philosophy, strategy, design, approaches, methods, timelines, and techniques we shall undertake in deploying this research. The research onion was developed by Saunders, et.al., (2007). Each layer of the research onion describes detailed stages of the research process, allowing it to be customised to various contexts and research types (Bryman, 2012). The research onion includes layers of: - the research philosophy, research approach, research strategy, time horizon and data research methods. Each of these layers will be described separately in each section.

6.2.1. Research Philosophy

A research philosophy is what defines the nature of knowledge. A research philosophy is a belief about the way in which data should be collected, processed and used to explain a certain phenomenon. The research philosophy refers to the set of beliefs concerning the nature of the reality being investigated (Bryman, 2012, Collis and Hussey, 2013). There are two fronts of such knowledge which are **What is known as true** and **what is believed to be true**. Science is what transforms knowledge or things that are believed to become things that are known.

The assumptions created by a research philosophy provides the justification for how the research will be undertaken (Flick, 2011).

There are three main research philosophies that have been identified to inform the research process. The research philosophies are positivism, interpretivism and realism (Monette, et al., 2005). These philosophies are sometimes referred to as empiricism, constructivism and pragmatism respectively. They are however similar and likely relate to corresponding descriptions (Bryman, 2012).

Positivism assumes that the reality can be observed independently without interfering with the phenomena as it already exists. Whereas the **Interpretivism** philosophy suggests that reality can only be fully understood by studying the phenomenal in its natural environment. Interpretivism also suggests that each observer group creates the meaning of the social phenomena observed (Å–student, et al., 2011). In Interpretivism, there is an understanding that the interpretation of what is observed is different between participants such that the key approach is to actually examine the differences and nuances in the respondents understanding. **Realism** on the other hand is a philosophy that lies in between the Positivist and Interpretivism philosophies. Realism focuses on identifying solutions using existing theories and frameworks (Collis and Hussey, 2013).

Although these research philosophies are fundamentally different, none is superior to the other. The choice of a particular philosophy by a researcher is often based on the sort of phenomena being studied. The methodology is justified by the research philosophy (Collis and Hussey, 2013).

In the case of this research, we apply the **Realism philosophy**. We seek to observe the use of ICTs for citizen engagement in Malawi where the concept of citizen engagement already exists. By identifying solutions and using an existing theory to understand factors that influence people's use and acceptance of technology, the realism approach will yield the results we intend to achieve.

It is worth noting that while we apply the Realism philosophy; in recent years, a new philosophy called critical realism has emerged from a critique of positivism by philosopher Roy Bhaskar. Critical realism philosophy suggests that although what we observe can be close to reality; it is however, always a fallible, social and subjective account of reality. This understanding of critical realism disputes the assumption that humans have the full knowledge and are infallible to measure reality (Collier, A., 1994))

6.2.2. Research Approaches

According to Saunders, et al., (2007) there are two types of research approaches identified in literature: **the deductive** and **the inductive** approach. **The deductive approach** is where specific knowledge gained from the research process is tested against general knowledge that is already known (Saunders et al., 2007; Collis and Hussey, 2013). The deductive approach thus develops a research approach to test if certain hypothesis is true based on an existing general theory. Thus, hypothesis and statistical tests can be done on a new phenomenon in relation to an existing theory. Often, deductive approaches relate to the positivist approach and quantitative approaches with the nature of the positivist approach where reality exists and the intention being to study the new phenomena (Collis and Hussey, 2013). Qualitative research may also be used within a deductive approach. In contrast, the **inductive approach** is characterized as seeking general knowledge from specific knowledge. Often, there is no framework for data collection in inductive approaches as data collection and observations come first whereas the research framework is formed afterwards (Saunders, et al., 2007). The data analysed may not only lead to new theories but can also point to existing theories. This method is often used to avoid researcher bias by preselecting certain theories to inform data collection but rather collect data, analyse and examine the data for patterns that inform a particular existing theory (Saunders, et al., 2007).

For this research on the Mzinda project, the deductive approach will be used as we seek to test certain hypothesis on the social constructs that influence citizen's use of ICTs to engage with Councils,

councillors, ESCOM and the Waterboards. We will use an existing comprehensive general theory of Unified Acceptance and Use of Technology.

6.2.3. The Quantitative vs Qualitative Approach

According to Saunders, et.al., (2007) **the quantitative approach** is where quantitative data is collected from respondents. The quantitative approach is ideal for projects where there is a large number of respondents and where there are possibilities to structure the research questions and answers in quantified measures than open ended questions and answers (Saunders, et al., 2007). The quantitative approach also depends on the availability of quantitative data and statistical analysis techniques (Collis and Hussey, 2013).

The qualitative approach is where the researcher avoids imposing their understanding of a social phenomenon on subjects (Saunders, et al., 2007). The researcher does not impose their bias on certain topical subjects by predefining the structure of responses to standard measures and quantities but rather keeping it open ended for subjects to express their views and perceptions unstructured, and in their own words. Through qualitative approaches, subjects describe social phenomena in their own way. This approach is often used where one seeks to describe and examine social phenomena rather than explaining causative relationships (Saunders, et al., 2007).

Both quantitative and qualitative approaches will be used in this research in order to unearth both quantified elements of the research and to open up for subject's understanding of the social phenomena without imposing the researcher's views through quantitative approaches. We will group qualitative data into thematic areas according to emerging responses and ultimately use the frequency of certain themes as main leads to our analysis.

6.2.4. Research Strategy

The research strategy describes how the researcher intends to carry out the work (Saunders, et al., 2007). There are various types of research strategies or approaches which include: systematic literature reviews, experimental research, action research, case study research, interviews, and surveys (Saunders, et al., 2007). We explain the various research strategies below as adapted from (Saunders, et.al, 2007; Collis and Hussey, 2013).

A Systematic literature review is where a researcher combs through existing, documented knowledge to understand certain phenomena or apply the existing knowledge summation to a specific

phenomenon or even to prove disparity between existing knowledge and an existing social phenomenon.

Experimental research involves actual deployment of an experiment to test out certain defined parameters. Often, an experiment can document results to study certain phenomena or to compare with a set of expected results.

Action research as the name suggests is a more practical approach to research. Action research involves the comparative study of practice(s) to set or defined benchmarks.

Grounded theory is commonly used in the social sciences where results of the research are derived from research, drawing patterns from data. Often, grounded theory is affiliated with qualitative data that is coded and grouped to various emerging common themes from the data collected.

Surveys involve sampling of representative portions of the population to collect data on certain phenomena. Often, quantitative data collection methods are used in surveys. Surveys are often used to examine causative variables between different types of data.

A case study is the type of research that captures data from real people in real situations.

Ethnography is where the researcher observes society and seeks to understand people, culture and other social phenomena

In this research study, we will conduct a **systematic literature review**, **surveys**, and a **case study approach**. We have completed the literature review in preceding Chapters 2, 3, 4 and 5. In Chapter 2, we introduced the concept of citizen engagement, the forms, types and benefits of citizen engagement and caveats. In Chapter 3, we discussed citizen engagement in the context of Malawi, where we intend to deploy this research. It was clear that although literature suggests that Malawians are keen to participate; there are deficiencies in the levels of participation and engagement in between elections. This gap is what forms the premise of our research where we aim to facilitate citizen engagement in between elections. In Chapter 4, we explored through literature on where ICTs have been used for citizen engagement. We articulated select examples and lessons learned for us to consider in this research. One of the lessons learned, was the need to focus on understanding the user.

In the preceding Chapter, we researched on various literature to explore the models and theories that have been used to understand the use and acceptance of technology by citizens. We outlined 7 individual theories and ultimately settled for the UTAUT model. The UTAUT model (2003) is a

comprehensive model encompassing all 7 other models. We also provide justification in why we will use this model to understand the factors that influence use and acceptance of the Mzinda platform.

For the Mzinda project, we will conduct two surveys. Firstly, a baseline study survey will be conducted that will help us to understand the status of citizen engagement and gauge the willingness of citizens to use ICTs to engage. We will use insights from the baseline to design and deploy an ICT led citizen engagement platform as an experiment to test if people can utilise ICTs for engaging with duty bearers and service providers. We will also deploy several other mechanisms to enhance awareness of the rights to engage and to stimulate citizens to engage with service providers.

The second will be conducted after the deployment of the technology platform and will therefore be a post deployment assessment study. The study seeks to assess the short term impact of the Mzinda platform in enhancing citizen engagement with duty bearers. We will also collect data to test hypothesis on factors that influence citizen's use of ICTs to engage. A collation of the empirical evidence in people's use of the Mzinda platform and the two surveys will contribute towards the Mzinda Case study.

6.2.5. Choices

There are three methods of choices outlined in the research onion. These include **the mono method**, **the mixed method**, and **the multi-method** (Saunders, et al., 2007). **The mono method** as the name suggests; involves using one research approach whereas **the Mixed method** option provides for use of two or more research methods and often uses both quantitative and qualitative research methodologies. In **the multi-method**, the research is divided into multiple segments where each segment uses either qualitative or quantitative methodologies. The Multi-method is different from the Mixed method as the Mixed method involves the use of both qualitative and quantitative approaches but combined in one segment (Saunders et al., 2007). In this research study, we use mixed research methods in qualitative and quantitative data.

6.2.6. Time Horizons

The Time Horizon refers to the time frame within which the research is being deployed. There are two types of time horizons in the research onion namely, the cross sectional and the longitudinal time horizons (Bryman, 2012). The cross-sectional time horizon is used where data ought to be collected for a specific phenomenon at a set and established time (Flick, 2011). A longitudinal time horizon is

where data is collected repeatedly over a period of time in order to track change that happens to a social phenomenon over time (Flick, 2011). It must be noted that the time horizon does not define the research approach.

In this research, we use the cross-sectional time horizon for conducting the baseline and post deployment studies at the beginning of the project and at the 18month mark of deploying the project. We also use the longitudinal time horizon for observations that we track along the period of the study.

6.2.7. Primary and Secondary Data Collection

Primary data is sourced from original or firsthand data sources (Collis and Hussey, 2013). However, primary data does not necessarily have to be data that is collected during the prevalent research but can also be sourced from other statistical collections such as population census (Collis and Hussey, 2013). Primary data is also considered as data that is being analysed as itself, rather than through the prism of other data sets (Collis and Hussey, 2013). Through the baseline and evaluation studies of this research we collect primary data for sampled citizens to understand several phenomena related to citizen engagement and use of ICTs.

Secondary data is data that has already been collected and analysed. This is data available from primary studies that other researchers have already done and documented (Collis and Hussey, 2013). Another distinction between primary and secondary data also lies in the inherent use of the data for purposes of research and analysis.

Throughout the deployment of the Mzinda platform, we collect primary data from citizens, councillors, service providers, civil society partners and other stakeholders in the citizen engagement space that use the platform. We will also collect data through baseline and post deployment assessment surveys as well as through feedback from radio programs, community engagement campaigns, social media and focus group discussions among other engagement mechanisms. We also utilise secondary data from previous published research and extant literature on citizen engagement from other sources.

6.2.8. Data Collection Tools

In this research, we will engage respondents through face to face individual interviews where data will be captured by the investigator on an electronic questionnaire. Alternatively, capable individuals may fill the questionnaire using an online form that submits data automatically to a central repository.

Questionnaires will capture both quantitative and qualitative data. Pre-coded questions will capture quantitative data whilst open ended questions will capture qualitative data in a bid to seek further explanation on certain parameters, views, and occurrences.

The Baseline and Post deployment assessment questionnaires for citizens are divided into three sections. Sections one through three have been developed by the investigator based on the research question and broader perspective of this research. Section four is adapted from the Unified Theory of Acceptance and Use of Technology (UTAUT) model as presented in (Venkatesh, et al., 2003). The questionnaires are attached in Annexure ZA and ZB. Some questions in these questionnaires are open ended to capture more qualitative responses as we seek to understand perspectives of engagement from the citizens and duty bearer's perspective.

Additional data will be collected through focus group discussions with communities to understand some perspectives of citizen engagement from a collective perspective. The focus group discussions will take the form of conversations with follow up probes. Focus group discussions shall be recorded with consent of discussants for transcription and coding of responses later.

Below is an outline of the four sections of the citizen questionnaires:

Section 1: captures demographic and biographic data of respondents. For example: age, gender, income status, and literacy level.

Section 2: captures data on access and use of technology. For example, mobile phone ownership and the applications that are commonly used.

Section 3: captures the status of citizen participation. For example, citizen's participation at the local level and the limitations that exist.

Section 4: captures psychometric statements from the Unified Theory of Use and Acceptance of Technology (UTAUT) model as developed by (Venkatesh, et.al., 2003). Further data shall be collated from the repository on the Mzinda platform of actual citizen reports, duty bearers' responses and records of action undertaken. Some activity reports of other engagement activities shall be used as source documents for data for example radio program reports training reports and community engagement reports.

6.2.9. Research Design

The research design describes the entire research process detailing the rationale behind selecting the methodology used in a research, the selection of respondents, data collection tools and how the data is ultimately analysed (Saunders, et al., 2007; Collis and Hussey, 2013). There are three types of research designs namely **descriptive, explanatory, and exploratory**. **The descriptive research design** focuses on studying people's behavior to collate their experiences. Although, the descriptive research design is often affiliated to ethnographic studies, a quantitative framework is also an appropriate framework that can be used. **An explanatory or Analytical research design** goes further than descriptive research in explaining the characteristics displayed by a population on a particular social phenomenon to understand why and how it is happening. **The exploratory study** as the name suggests is where the researcher explores on an issue to gather more knowledge in order to inform further research (Saunders, et al., 2007; Collis and Hussey, 2013).

For this research, we will use an **explanatory or analytical research design** to explain the factors that influence people to use ICTs to engage with duty bearers and service providers. We will also use the **descriptive research design** to understand how people use technology to engage.

6.2.10. Samples

The sample size represents the number of respondents selected from the overall population that are used in the research (Newman, 1998). In quantitative research, the size of the sample is essential in determining the reliability of the results of a study (Newman, 1998). Sample sizes of less than 30 respondents tend to produce results where individual respondents may skew the results. In such cases, the larger the sample size the more reliable will be the results (Flick, 2011). In qualitative research, the size of the sample is less important, and the concept of representativeness is not as strong a guideline for the validity of the research (Collis and Hussey, 2013).

In conducting the baseline and post deployment assessment studies; we will use a sample of at least 30 people in each of the three cities where the ICT platform for citizen engagement will be deployed. We thus expect a minimum of 120 respondents in total for each of the surveys where data is collected. However, we shall aim for more than 120 respondents to ensure that there is a buffer for data that may not be complete. In our focus group discussions and meetings where mostly qualitative data will be collected; we will not limit ourselves to number of respondents going by guidance from (Collis and

Hussey, 2013) that the size of the sample is less important and that the concept of representativeness is not as strong a guideline to validate the research findings.

6.2.10.1. Sampling Techniques

Sampling techniques are the ways in which an appropriate sample size is selected for the wider study (Bryman, 2012). There are a number of accepted techniques that can be used. **A random sample** represents individuals within a larger population who are chosen at random. However, this can result in random distribution, which can mean significant skewing resulting from the random nature of sample selection (Neuman, 2003). For example, a random sample may result in more males than females being represented in a sample, or an unequal distribution across ages. **A stratified sample** may then be used to ensure that the representatives of the population in the sample reflect the significant characteristics of the wider population, such as making sure that the demographic characteristics of age and gender are reflected in the sample (Newman, 1998).

A convenience sample is where the sample is taken from an existing framework, such as a health institution, given that the ways in which respondents may be recruited is relatively straightforward (Newman, 1998). This may be appropriate if a study is concerned with patients' views, and it proved convenient to sample just one health institution. It may be considered unlikely that significant variation in patients characteristics will occur between institutions or that those characteristics will have a significant effect on the results of a study (Newman, 1998).

Sampling of respondents in the baseline and evaluation study the Mzinda project will be based on citizens that are living within the jurisdiction of the three-pilot city councils of: - Blantyre, Lilongwe and Mzuzu. Respondents will be expected to be at least of age 18 and above to align with the definition of an eligible voter in Malawi's constitution. In the post deployment assessment study, further purposive sampling will be used to target respondents that would have used the Mzinda platform either by reporting on service delivery or participating in the polls or indeed directly engaging with a local councillor using the platform. The purposive sampling on the evaluation study is meant to gauge the factors that would have influenced or constrained citizen's intent and actual use of technology for citizen engagement.

Considering that this is a pilot study, we will draw a sample of 120 respondents apportioned according to the ratio of the total population in each of the three cities. The population ratio is 1:3:3 for Mzuzu, Blantyre and Lilongwe, respectively.

6.3. Ethical Considerations

Ethics approval of this research had been granted by Rhodes University in 2016. Participants to the baseline and evaluation studies will be made aware of the purpose of this study prior to giving consent to participate in the study. The purpose of this study is to understand the factors that influence citizens in using ICTs as a tool for citizen engagement. Emphasis will be made to encourage voluntary participation in the study. Participants will be made aware of the tentative time of 45 minutes that it takes to complete the questionnaire. The possibility of a respondent to opt out at any stage of the interview shall be made known to each prospective respondent. As such respondents are not coerced to keep up with the interviews.

Participants will be made aware that there are not any identifiable risks in participating in the study. The confidentiality of information sought from participants will also be emphasized. Participants will not be identified; neither will data collected from them be affiliated to any details that identify them. As such, participants will remain anonymous. Data that is collected will be stored electronically in a safe place and protected from unauthorized use except for the purposes of this research. The participants will sign a consent form to intimate that they understand the aforementioned details. By signing the consent form, participants will express willingness to participate in the study. Data collected and analysed from this study will be used solely for the purpose of this research. Findings from this study will be published as a thesis in fulfilment of a Doctoral degree at Rhodes University. There may also be journal publications or papers from conference proceedings that capture information that emanates from this research. Such publications and proceedings may be shared with participants to this research upon request from the researchers or may alternatively be found online.

Having explained in detail each of the layers of the research onion in the preceding sections from 6.2 to 6.2.10.1 we now present the Mzinda research onion below.

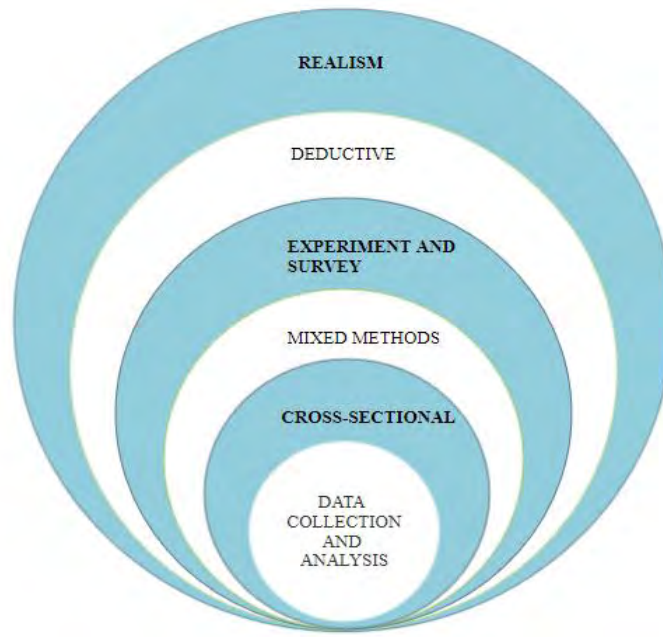


Figure 6.1. Mzinda Research onion

6.4. Methodology

This research is composed of three main phases: the baseline study, the design and deployment of technology platform and the post deployment assessment phase. Below we outline each of these phases in more detail as encompassing the methodology.

6.4.1. Baseline Study

We will conduct a baseline study to understand demographic data of citizens who currently engage with elected councillors, local government, and service providers. We will collate data that helps us understand how citizens use ICTs. Furthermore, we will interrogate whether citizens would be interested in using technology as a tool for engagement. For non-participating citizens we will seek to understand why they do not participate and delve further to understand if using mobile phones and the internet would be an option for them to participate. Through the baseline study we will also collect data on the UTAUT model to understand what factors influence citizens to use ICTs to engage with councillors, councils, ESCOM and the Water Board before the deployment of the Mzinda platform.

Data from the baseline study would also help us inform the design and deployment of a technology solution so that the platform becomes relevant to user needs. Additionally, data from the baseline will also be used as a reference point to what will be collected after deployment of the technology solution in the post deployment assessment for a comparison of a before versus after scenario. Such a comparison is what would ultimately deduce whether using the technology platform would have made any significant change to enhance citizen engagement. Results of the baseline study are presented in Chapter 7.

6.4.2. Design and Deployment of the Technology Solution

Data from the baseline study will be useful in identifying user needs as we design and deploy the technology platform for citizen engagement. A practical example would be if the majority of the citizens in the baseline indicate preference for using SMS, then we will have to align the design of the technology solution to cater for SMS as a major stream for collecting data from citizens.

The Mzinda web platform will be developed using the Hypertext Preprocessor (PHP) Laravel framework for the front end and My Structured Query Language (SQL) for the database. We assume that various ICT channels will be integrated to the web portal to collate citizens reports and for dissemination of responses from duty bearers. We assume that such diverse ICT channels used could be such as SMS, USSD, web forms or mobile apps and social media channels. However, the determination of what ICT channels to use will be made after gathering insights on how people currently use ICTs in the baseline survey.

The intention is to ensure that the web platform displays all reports from citizens, local government, councillors and service providers in text format, or on an interactive map and multimedia formats. The Mzinda platform will also do basic data analysis from service delivery polls carried out within a specific period. An example of a poll question would be: “Have you had water interruptions in the last 7 days?”. Citizens would be expected to respond “Yes” or “No”, after which the web system automatically analyses and displays a basic pie chart based on citizen’s responses. Through lessons learned during engagement the researchers intend to be agile in iterating the design of the platform to cater for new functions or amending existing modules and processes accordingly. A number of non-tech or low tech activities will be implemented to make citizens aware of the value of engaging with duty bearers and publicizing Mzinda as a platform for engagement to all stakeholders. These non-tech and low tech activities include community campaigns, meetings, trainings, radio programs, and the disbursement of flyers. We will collate the achievements, lessons learnt and recommendations for noting as we implement these activities.

6.4.3. Post deployment Assessment

After a year of deploying the Mzinda platform, we will conduct an assessment. Apart from demographic and biographic data, the post deployment assessment study will focus on gauging citizen's experience, intent and use of technology as a tool for citizen engagement. The assessment will target citizens that would have used the Mzinda platform. Data captured from study will be used to compare what was captured in the baseline in measuring the short term impact of using the technology platform in enhancing citizen engagement. We will determine factors that would have influenced citizen's use and adoption of technology in engaging elected councillors, local government or service providers. We will also learn of the status of responsiveness and actionability of councillors, councils, ESCOM and the Water Board after deployment of the Mzinda platform. From the data, we can also gauge whether service delivery would have improved as a result of the Mzinda platform.

In addition, we will also seek to understand the factors that would have influenced citizens to use the Mzinda platform using the UTAUT model. By the time we conduct the assessment, we would also have learnt and documented a number of lessons from the deployment of the citizen engagement platform. Ultimately, we will also compare if there are significant differences between factors that influenced citizen's intention to use ICTs to engage prior to the deployment of the Mzinda platform and after the Post deployment Assessment. Results of the assessment are presented in Chapter 10.

6.5. Data Analysis

This research will collate both quantitative and qualitative data sets. With quantitative data sets these will be collected in the form of predefined and structured questions where responses are 'Yes' or 'No' or from a selected option of answers. Since data will be entered via tablets on a Google Form at the point of interview, quantitative data will be automatically analysed and disaggregated according to the various options of answers given using the Google Form responses visualization feature. For example, data on the age of respondents will automatically be classified according to the predefined age groups.

We will explore further through the use of SPSS to gauge if there is correlation between certain variables. For example in order to test whether there is a correlation between gender and income earnings, we will use the p-test in SPSS to establish if there is a relationship between gender and income earning such that we will be able to conclude that income earnings are dependent on gender or vice versa or otherwise.

6.5.1. Applying the modified UTAUT Model

We will collect data on psychometric statements of a modified UTAUT 2003 model in order to validate the UTAUT model and establish the factors that influence citizens to use ICTs for engagement in Malawi. The measurement model will consist of six social constructs instead of the original four constructs. Four of the six constructs are from the UTAUT 2003 model namely Performance Expectancy, Effort Expectancy, Social Conditions and Facilitating conditions. The two additional social constructs namely Attitude and Self-Efficacy are older constructs that were initially pruned in the development of the UTAUT model due to factor loading. However, the pruning of these two constructs has been argued to be a limitation of the UTAUT model (Moghavvemi, 2014). In addition, the developers of the UTAUT 2003 model acknowledge concerns on the scales that were used to measure the core constructs and recommend that focus of subsequent research to among others fully develop and validate "...appropriate scales for each of the constructs with an emphasis on content validity, and then revalidating the model specified herein" (Venkatesh, et al., 2003 p.467). We will seek to measure appropriate scales for each of the constructs, validate the content and the model. To do that, there are a number of statistical techniques that we will undertake as detailed below.

6.5.2. Measuring Internal Consistencies

Data on the UTAUT model will be collected using psychometric statements in Section 4 of both the baseline and post deployment assessment questionnaire. Each statement will be accompanied by a Likert scale of Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree. In order to measure the reliability of the questionnaire and internal consistencies; we will use the reliability test using the Cronbach's alpha. The Cronbach's alpha is the most commonly used reliability coefficient in assessing the internal consistency of questionnaires that are made up of multiple Likert-type scales and items. Reliability is the measure of the stability of findings (Altheide and Johnson, 1994). This ensures that the questionnaire will always elicit consistent and reliable responses even if questions were replaced with other similar questions (Cronbach, 1951; Santos, 1999). A coefficient of 0 means no reliability and 1.0 means perfect reliability. However, since all data and tests are expected to have some error margin; the reliability coefficient is not expected to reach a value of 1.0 (Cronbach, 1951). According to Field (2009) values of the Cronbach coefficient higher than 0.7 are considered to be reliable. We will thus use 0.7 as an acceptable minimum threshold for Cronbach alpha in this research.

6.5.3. Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA)

Factor analysis is a statistical method used to find independencies between observed variables by describing variability. Depending on the result of Factor Analysis, we will reduce the set of variables in a data set (Grice, 2001). Exploratory Factor Analysis provides grouping of variables with strong correlations (Grice, 2001). We will conduct an Exploratory Factor Analysis to see if the items load as set by the UTAUT theory. Using the EFA, we will separate the multiple items that are used to measure the behavior intention. The aspiration is to have the items' factor load to be above 0.40, at minimum as recommended in Information Systems research (Straub, et al., 2004). We will subsequently use Confirmatory Factor Analysis to extract the factor scores which again test each factor's reliability independently and extract the factor scores which would be used to represent the constructs value for further analysis (DeCoster, 1998). Confirmatory factor analysis (CFA) will be carried out to verify if the factors are adequate for the prediction of the Behavior Intention for the use of the ICT platform. The adequacy of the model will be assessed using CFI that can vary from 0 to 1 and the RMSEA which can be defined by 0.01, 0.05, and 0.08 to indicate excellent, good and mediocre fit, respectively.

6.5.4 Bivariate Correlation

Correlation is a measure of the relationship between two variables using two attributes; strength and direction denoted by small r with values between -1 and 1. Direction shows if the variables move in the same direction or opposite direction; where 0 to 1 denote a positive correlation and 0 to -1 denote a negative correlation (Becker, et al., 1988). Before we can conduct the multiple regression analysis, we will generate bivariate correlations between each of the five variables including the dependent variable BI to check the relationship between each of the variables and BI. Wherever the correlations are all positive, indicating that we can proceed with the multiple regression analysis, as there is null correlation.

6.5.5. Multiple Regression

Linear regression is a modeling technique used to measure the association or relationship between one or more explanatory variables (Kumari and Yadav, 2018). Where there is more than one explanatory variable, the process is called multiple linear regression (Rencher and Schaalje, 2008).

The outcome variable is called the dependent or criterion variable whereas the explanatory variables are called independent or predictor variable. Regression models are used for various purposes, including the following: 1. Prediction. 2. Data Description or Explanation. 3. Parameter Estimation. 4. Variable Selection 5. Control of Output (Rencher and Schaalje, 2008). We use the regression model in this case to select or screen the variables to unearth which ones of the social constructs influence behavior intention. In the case of this research, Behavior Intention (BI) is the dependent or criterion or outcome variable whereas the following variables may be the independent variables:- Performance Expectancy (PE), Effort Expectancy (EE) and Social Influence (SI), Facilitating Conditions (FC) and Self-Efficacy (SE).

In regression analysis we will use the p-value to help us determine the significance of the results. According to (Rencher and Schaalje, 2008), the p value helps us to understand whether what we see in the sample results is representative of what exists in the larger⁷⁸ population⁷⁹. The p value is a number between 0 and 1. A p value for each predictor variable tests that the variable does not significantly influence the dependent variable (Rencher and Schaalje, 2008). If a null hypothesis is such that X, Y and Z variables have no association with the BI variable then a small p-value ≤ 0.05 would indicate substantial evidence to reject the null hypothesis.

The value R² is called the " sample coefficient of determination." It measures how well the regression equation fits the data. R² can range from 0 to 1 (Rencher and Schaalje, 2008). Where 0 is for where there is no relationship between BI and the independent for example variables: X, Y and Z. Whereas a value of R² =1 would indicate a perfect fit model meaning that there is no significant difference between what is being observed as regards behaviour intention in the sample and the expected values. The p value is a function of the R², the number of observations, and the number of independent variables (Rencher and Schaalje, 2008).

⁷⁸<http://www.biostathandbook.com/multipleregression.html#:~:text=The%20main%20null%20hypothesis%20of,you%20would%20expect%20by%20chance.>

6.6. Conclusion

This chapter has highlighted the research methodology of the Mzinda project. We have highlighted the Realism philosophy as the fundamental philosophy guiding this research. We take a deductive approach as we seek to test phenomena on use of ICTs for citizen engagement based on a known theory which is the UTAUT model. We will deploy both surveys and a case study as part of our research strategy. We will experiment by designing and deploying the Mzinda platform for citizens to use in engaging with duty bearers. Surveys will be conducted at the onset of the project and towards the end of the project to assess the baseline and post deployment phases of the Mzinda project. Both the qualitative and quantitative data collected all throughout the project and at key intervals such as with the baseline and post deployment assessment will be used. Data will be collected through face to face interviews, focus group discussions and from the Mzinda platform. Statistics will be analysed using Google sheets, SPSS, STATA and R.

CHAPTER 7

Base line survey results

Introduction

In Chapter 6, we highlighted the research onion, research methodology and theory of change of this research. In the methodology chapter, we mentioned that the primary data collection approaches to be used in this research would be the baseline and Post deployment assessment study. We indicated that the baseline survey intends to collect data to understand certain phenomena on citizen engagement and use of ICTs before the deployment of the Mzinda project. We conducted the baseline survey in 2016 and collected and analysed the data.

In this Chapter, we present the methodology on how sampling of respondents of the baseline survey was done. We also present the results of the baseline survey. Insights from the baseline survey are key in informing the design of the Mzinda technology platform and activities to be undertaken in the implementation of the Mzinda platform. Results from the baseline survey also give us a good basis for comparison with the results of the post deployment assessment that was done 18 months later.

7.1. Population Sample and Sampling Techniques

Sampling of respondents in the baseline study was based on citizens that are living within the jurisdiction of the three pilot city councils of Blantyre, Lilongwe and Mzuzu. Ethical approval for the baseline study was sought from the Rhodes University Ethics Committee and was granted. A sample of 125 respondents was drawn from the three cities and this sample size was representative of the target population (population of Malawi is about 18million, with a confidence level of 95%). A questionnaire was developed consisting of four sections. The first section captured demographic and biographic data such as the age range, level of education and level of income of respondents. The second section captured data on access and use of technology such as phone ownership, access to the internet and preference of technology applications. The third section captured data on the current status of citizen engagement with councillors and MPs on local development issues. It also captured data on the status of citizen engagement between citizens and service providers such as City Council, Water Board and ESCOM. The last section captured data on psychometric statements adapted from the Unified Theory of Acceptance and Use of Technology (UTAUT) developed by Venkatesh, et al., (2003).

Participants were interviewed face to face and their responses were captured on Google forms on

tablets by two data enumerators. 15% of the questionnaires were responded to by individuals themselves by sharing of the Google form through emails.

7.2. Results

Below we present the results of the baseline study.

7.2.1. Demographics

According to the recent population census, Malawi has a population of 17,563,749 people where 9,042,293 are female representing 51.48% of the population whereas 8,521,456 are male representing 48.51% of the population (National Statistics Office of Malawi, 2018). Below is a comparison of the national population census data for each of the three cities sampled and the corresponding sample size and percentages from each of the city' survey results.

Table 7.1: showing comparison of total national census population vs total survey population

City	Census Total (% of total Population) N=17,563,749	Survey N=125
Blantyre	800,264 (4.6%)	42 (34%)
Lilongwe	989,318 (5.6%)	44 (35%)
Mzuzu	221,272 (1.3%)	39 (31%)

Table 7.2: showing disaggregation of population by gender for national population and baseline survey

Gender	Population Census	Baseline Survey
Male	51.1%	57%
Female	48.89%	43%

Table 7.3: showing the age range of respondents to this survey.

Age Range	Percentage
18-30	57.6%
31-45	26.4%
46-60	13.6%
Over 60 years	2.4%

7.2.2. Monthly earnings

Table 7.4 shows the representation of respondent's responses to the question on monthly earnings. It is evident that majority of respondents earned above the minimum wage of K20,000 which is an equivalent of about \$30 (2019 rate). The monthly earning data is an important piece of data that can help us to understand what fraction of the population can afford some technology-based offerings for example internet data which is quite costly in Malawi.

Table 7.4: Percentage of respondents disaggregated by monthly earnings

	0-K5,000	K5,001-20,000	K20,001-100,000	+K100,000
Percentage of respondents	12.8%	26.4%	28%	32.8%
Number of respondents	N=16	N=33	N=35	N=41

We further categorized the monthly earnings by gender in order to gauge if there were differences between the earnings of male and female respondents. It is evident that there are more females in the lower earning bracket as compared to males. The upper earning bracket of more than K100,000, had a higher representation of males than females as 37.3% of males indicated to earn more than K100,000 as compared to 29.7% of females.

A Chi square test of independence was performed to examine the relationship between gender and monthly earnings. The relationship was found to be significant, suggesting that monthly earnings are dependent on gender ($X^2_2, N=125) = (139.876, p<0.05)$.

7.2.3. Level of Education

When asked about their level education, 11.2% of respondents indicated that they had attained only primary school education whilst 28% attained secondary school education and 60.8% had attained post-secondary education. This data is important as we deduce the literacy levels based on the level of education. We hypothesize that majority of respondents must have attained basic literacy to be able to read and engage with material on citizen engagement.

Table 7.5: Level of Education of respondents

Level of Education	Primary	Secondary	Post-Secondary
Percentage	11.2%	28%	60.8%
Total Number of People	N=14	N=35	N=76

7.3. Use of Technology

Participants were asked questions to gauge their access and usage of technology. We wanted to know the percentage of respondents that has access to a mobile phone and a computer. Additionally, we wanted to know which messaging services respondents used the most and the frequency with which messaging services were used. Such insights are useful in understanding how people currently use mobile phones and computers as we design the Mzinda platform.

7.3.1. Cell phone Ownership

95.2% of respondents reported to own a mobile phone whilst 4.8% reported not to have a cellphone of their own. However, those that did not have a mobile phone of their own reported to have access to a shared mobile phone. 3.1% of females did not own a cellphone while 7.5% of male respondents did not own a cellphone. These results are key as we consider the use of the mobile phone for engagement across gender.

When asked what brand of a mobile phone respondents used, only 89 of 125 respondents were able to identify the specific model of the phone(s) that they used. Table 7.6 shows the different operating systems for the mobile phone models used by respondents as derived from an online search. Some respondents had more than one mobile phone hence the total number of mobile phone models and corresponding operating systems captured, is more than the number of respondents.

Table 7.6: Operating systems for mobile phones

Operating System	Android	Blackberry	iOS	Microsoft	Nokia	Symbian	Others
Percentage of Phones	66% N=86	4.6% N=6	4.6% N=6	1.5% N=2	20.7% N=27	0% N=0	4.6% N=6

Insights on the operating system of the mobile phones used by respondents is key as it helps us understand which mobile application to develop for the Mzinda platform. It is clear that an Android mobile application would be more relevant to this crop of respondents.

We sought to find out of other features that each of the 123 identified phone models have. The search focused on features such as 2G, 3G, 4G, Bluetooth, GPS, Infrared, NFC, WiFi and Radio. Knowledge of features that respondent's mobile phones have, helps us to understand what other functionalities could be integrated within the Mzinda mobile and web application to make the platform more relevant to citizens. For example, connection features such as 2G, 3G or 4G features help us understand the type of connection respondents have for accessing the internet to ensure we can build web and mobile apps that work in relevant internet resource settings.

Another feature for considering is that majority of mobile phones have 2G capabilities rather than 4G capabilities. We have to put this into consideration in the web and mobile application we build so that it can easily deploy in the basic internet connection settings. Gaining an understanding of the features that phones have such as GPS enabled features, allows us to consider integrating GPS features on the mobile and web application as a complimentary feature for tagging reports in order to visualise the reports on an interactive map. We also assume that the radio feature may be used to listen to radio, a platform we intend to use for message dissemination.

From the baseline survey we found that: 64% of phones were WiFi enabled; 59.3% had in built GPS capabilities. With regards to network connection capabilities, 62.6% of phones are able to connect to a 2G network; 58.5% are capable of connecting to a 3G connection whilst only 0.8% or one phone had the capability of connecting to a 4G network, 19.5% have Near Field Communication capabilities and 73.9% were Bluetooth enabled. 58.5% had a built-in radio.

Table 7.7: In built features of phone models

Type of Feature	Number of Phones N=123	Percentage of sampled phones with feature
2G	77	62.6%
3G	72	58.5%
4G	24	19.5%
Wi-Fi	79	64.0%
Bluetooth	91	73.9%
NFC	24	19.5%
GPS	73	59.5%
Radio	72	58.5%

We recognise that building a mobile application does not necessarily mean that people are able to download it from the Google Play Store and use it. We hence sought to gauge respondent's abilities in downloading and installing mobile applications. Respondents were asked if they had ever installed an application on their phone from a play store. 60.5% of respondents said they had installed an application from play store whilst 39.5% had not installed an application before. This result helps to determine the probability that 60.5% of respondents would thus be able to download a Mzinda mobile application from play store.

7.3.2. Usage of mobile phones

We sought to understand the frequency with which 95% of the survey respondents used the mobile phone. Such insights help us to augment the use of mobile channels for engagement on Mzinda. We found that a significant majority of respondents; about 96.8% mentioned they use their mobile phones on a daily basis whereas 3.2 % did not use the mobile phone on a daily basis.

Considering that the Mzinda application shall be premised on citizen reports, respondents were asked if they used any of the following messaging services, SMS, WhatsApp, Messenger, and BlackBerry Messenger. The majority of respondents indicated that they use SMS services. It is therefore necessary that we ensure that we have SMS as a channel for citizen engagement on the Mzinda platform. Table 7.8 shows the responses of respondents on usage of the various messaging services.

Table 7.8: Use of messaging services on mobile phones

Messaging Service	SMS	WhatsApp	Messenger	BlackBerry
Number of respondents using messaging service	113	86	38	6
Percentage of respondents using service	91.1% N=124	69.4% N=124	30.6% N=124	4.8% N=124

7.3.3. Access to Social Media Platforms, News and Email on mobile phones

Respondents were asked if they had access to social media platforms, email, and news from their cell phones. The majority of respondents mentioned access to Facebook (71.8%) but 21.8% of respondents indicated that they did not access any social media platform, email, or news. It is necessary to note that the popularity of Facebook amongst respondents is a key insight to be considered as the Mzinda

platform seeks to integrate use of social media. Facebook ought to be considered as an avenue for engagement where citizens can interact with duty bearers.

Table 7.9: Access to Email, News and Social media platforms on mobile phones

Platform	Facebook	E-mail	Twitter	Instagram	WhatsApp	News	None	Other
Number of Respondents	89	67	39	38	86	66	27	4
Percentage of respondents	71.8%	54%	31.5%	30.6%	69.4%	53.2%	21.8%	3.2%

7.3.4. Preference for social media platforms

Participants were asked which social media platform they preferred to use the most. Out of all the social media platforms included in the comparison, WhatsApp was the most preferred social media platform (60%). There must be consideration to consider use of WhatsApp where possible for engagement within the Mzinda initiative. It was interesting to note that 56.8% of respondents did not have an Instagram account and that 54.4% of respondents did not have a Twitter account. These results are key in deciding which social media platforms to consider in the deployment of the Mzinda platform.

7.3.5. Frequency of use of Data Services

When asked how often respondents use data services; 73.6% of respondents indicated that they use data services at least once to a few times a day; whilst 22.6% of respondents mentioned that they do not use data services at all on a daily basis. These results are relevant in designing mechanisms through which citizens can access the Mzinda platform. It is imperative that data reliant services must not be the only mechanism for citizens to access the Mzinda platform to cater for 22.6% of respondents that mentioned they never get to use data services at all.

7.3.6. Money Spent on Airtime per day

When asked how much money they spent on their cell phone data in a day; 76.6% of respondents mentioned that they spend less than K1000, an equivalent of \$1.39 in a day. This amount is equivalent to 600MB of data. The table below shows a cross tabulation of monthly earnings and daily expenditure on airtime.

Table 7.10: Monthly earnings vs airtime spent in a day

		How much airtime do you spend on your phone in a day?					
		Don't Know	K100 – K500	K501- K1000	Less than K100	More than K1000	Total
Monthly earnings	0 - K5,000	0	7	0	7	3	17
	K20,001- K100,000	0	27	3	2	4	36
	K5,001 – K20,000	3	21	1	6	1	32
	more than K100,000	1	8	15	1	18	43
Total		4	63	19	16	26	128

It was interesting to note that 3 of 18 respondents that are in the lowest earning income category spent within the highest bracket of airtime expenditure of more than K1000. Empirical evidence suggests that the higher the monthly earnings, the more likely a person will spend on airtime in a day. However, to validate such a lay observation we sought to investigate the independence of the two variables; monthly earnings and amount of airtime spent in a day. Using the Chi-Square test of independence, we established that the amount of airtime used in a day is not independent of the monthly earnings of an individual based on the parameters $\chi^2 = 170.548$, $N=125$, $p<.005$.

Table 7.11: Chi Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	170.548 ^a	20	.000
Likelihood Ratio	118.903	20	.000
N of Valid Cases	138		

a. 21 cells (70.0%) have expected count less than 5. The minimum expected count is .20.

7.3.7. Computer ownership and use of the internet

Out of 125 respondents, 48.8% mentioned that they have a computer while 51.2% did not have one. Of the 61 respondents that did not have a computer; only 34.4% mentioned to have access to a computer yet 65.6% of respondents had no access to a computer at all. Such results are relevant in

designing the Mzinda platform to ensure that the platform is mobile responsive as the likelihood for citizens to access it from a Computer is evidently lower than accessing it on a mobile phone.

Of the 81 respondents that answered the question on access to the internet on the computer; 85.2% mentioned they had access to internet on the computer; whilst 14.8% said they had no access to the internet. This result means that 55% of the entire sample were able to access the internet on the computer. It is therefore imperative to consider that only about half of the sample may be able to access the Mzinda platform on the internet on a computer. There is therefore a need for more complementary mechanisms through which people can access the Mzinda platform other than internet-based channels that are only accessible on the computer.

7.3.8. Services accessed on the internet on a computer

When asked what services citizens accessed through the internet on a computer, it was established that there is a significant interest in accessing Email and the News. Table 7.12 shows responses on what services citizens accessed on the internet using a computer.

Table 7.12: Platforms that citizens access on the internet using the computer

Platform	Facebook	E-mail	Twitter	Instagram	WhatsApp	News	None	Other
Number of Respondents	43	59	16	11	21	49	2	19
Percentage of respondents	62.3%	85.5%	23.2%	15.9%	30.4%	71%	2.9%	27.5%

7.3.9. Summary of Results on Use of Technology

It has been established that 95% of respondents of this sample have a mobile phone, 33% of the respondents have access to data services on their mobile phone while 55% of the respondents access the internet on a computer. The majority of respondents prefer SMS as a messaging service. WhatsApp and Facebook are the most preferred social media platforms. 60.5% of respondents had installed an app from play store and the majority of respondents owned Android based mobile phones that have a minimum 2G connectivity feature and are WiFi enabled. 48.8% of citizens own a computer and 55% of the sample respondents can access internet on a computer. The majority of respondents access Email, Facebook, and News on the computer.

Based on these results, it is important to conclude that the Mzinda platform must be accessible on mobile phones in order to ensure that over 95% of respondents in this sample are able to use it. It is further noted that the Mzinda platform must provide a mechanism for citizens to send SMS to the platform as SMS is the most preferred messaging platform. Consideration must be made to develop an Android mobile application to cater for majority of respondents that use Android based mobile phones. The mobile application and the Mzinda web app must also be easily accessible on a minimum 2G network.

7.4. Citizen participation

In this section, we present results on the status of citizen's participation at the local level. We present results on citizen's participation in elections, engagement with councillors, city council, MPs, ESCOM and the Water boards. We also identify the reasons why citizens engage or fail to participate and gauge the responsiveness of stakeholders to citizen's reports.

7.4.1. Citizen participation in Elections

When asked if they voted in a general election, 68.8% of respondents reported to have voted in a general election before whilst 31.2% had not voted before. This statistic is very similar to the data on voter turnout for Malawi which was pegged at 70.75% in 2014 (IDEA, 2015).

Participants indicated varied reasons for not participating in elections. In Table 6.13, we present results of respondents 'reasons for not voting in an election.

Table 7.13: Reasons for not voting

Reason for not voting	I was not registered to vote	I did not want to vote	I was unable to vote	I don't know	Other
Number of Respondents	13	19	2	1	4
Percentage of Respondents	33.3%	48.7%	5.7%	2%	10.3%

From the baseline study, we also aimed to understand how well citizens knew their elected leaders at the community level before asking if they had engaged with the duty bearers. 41.6% of the respondents responded that they knew their local councillor and 57.6% mentioned that they knew their MP. Of the 68.8% of respondents that had voted in a general election about 11.2% did not know their MP whilst about 27.2% did not know who their elected councillor is. All respondents were of voting age hence an expectation that a good percentage should have had knowledge of their local leaders. It is critical that mechanisms must be put in place to ensure that citizens have knowledge on who their elected councillors are on the Mzinda platform.

It was further found that 67.2% of respondents had never attended a community meeting in the past year. Just over half of all respondents (51.2%) mentioned that even though they had not attended a community meeting, they would consider attending one if they had the chance. 16% of respondents mentioned they would never attend a community meeting. We would thus have to consider having community meetings as one of the key activities of the Mzinda initiative.

Table 7.14: Attendance to community meetings

Have you attended a community meeting?	No, would never do this	No, but would do if I had the chance	Yes, Often	Yes, Once or Twice	Yes, several times	Don't know
Total number of respondents	20	64	6	17	15	3
Percentage	16%	51.2%	5%	13.6%	12%	2.2%

Citizens were asked of their engagement with duty bearers such as local councillors, MPs, City council and service providers. In table 7.15 we present results on the level of engagement between citizens, local councillors, MPs, City council and service providers in the past year. We present a tabulation of data on citizen engagement from 2005, 2008 and 2012 adapted from Khaila, Stanley and Chibwana (2005), Tsoka and Chinisnga (2008) and Tsoka and Chunga (2012) respectively. We further insert data from 2016 as per results of this baseline study for purposes of comparison.

Table 7.15: Citizen Engagement with councillors, MPs, Local Council and Service providers

Year	Engaged with Councillor	Engaged with MP	Engaged with Local Council	Engaged with Service Provider
2016	12.8%	6.4%	16.4%	51.2%
2012	18%	15%	11%	No Data
2008	9%	15%	8%	No Data
2005	18%	12%	9%	No Data

It is evident that there has not been a significant change in the levels of citizen engagement since 2005. Of interest, is the engagement with MPs, which according to this baseline seems to have drastically reduced to as low as 6.4% as compared to a range of 12% to 15% in 2005, 2008 and 2012. It is also evident that citizens engage more with service providers of water and electricity more than they do with the city council, councillor or MPs. It is imperative to add a feature on the Mzinda platform that allows citizens to engage with service providers leveraging the fact that citizens do already engage with ESCOM and the Waterboards.

7.4.2. Why and how did Citizens participate?

We were interested in capturing the reasons as to why citizens engaged with the duty bearers. In Table 6.16, we present the results of the reasons respondents gave for engaging with councillors, MPs, City Council, and service providers.

Table 7.16: Reasons for citizens to engage

Response	Councillor (N=17)	MP (N=11)	City Council (N=52)	Service Provider (N=74)
I got a notification on community meetings			3.8%	
I got a service delivery notification	11.8%		3.8%	6.8%
I participated in a survey				2.7%
I participated in a poll		18.2%		
I reported a service delivery issue	11.8%		7.7%	57.7%
I reported a community problem	52.9%	54.5%	11.5%	28.4%
Other		27.3%	5.8%	5.4%

The results displayed from Table 7.16 are a good overview of what to expect as citizens to engage on the Mzinda platform. This can also inform the modules and functionalities of the Mzinda platform. Table 7.17: shows how citizens had reported a matter to the local councillor, city council, MP and service providers. This helps us to understand mechanisms which citizens currently use to reach out to elected representatives, the city council, ESCOM and Water board.

Table 7.17: How citizens reported a service delivery or community problem to duty bearers

	Councillor	MP	City Council	ESCOM or Water Board
Met in person	58.8%	36.4%	21.2%	37.8%
Wrote a letter	11.8%	27.3%	3.8%	
Sent an email		9.1%		
Used the phone	17.6%	9.1%	9.6%	47.3%
Signed a petition	-		0%	
Other	11.8%	18.2%	3.8%	9.5%

It is evident that the majority of citizens had met in person with elected representatives in order to report a community problem. About half of the citizens engaged with ESCOM and Water Board using mobile phones. It is important to consider such insights and ensure that citizens are aware they could

use the mobile phone to engage with elected representatives and the city council using the Mzinda platform.

With regards to engagement with a councillor; 17.6% of respondents had used mobile phones to engage with a councillor whilst 9.1% of respondents had used a mobile phone to engage with an MP whereas, 9.6% of respondents had used a phone to engage with the city council whilst 47.3% of respondents had used a phone to engage with service providers. It is evident that citizens used the mobile phone to communicate with service providers such as ESCOM and Waterboard more than they did to engage with councillors, MPs and City council.

We therefore need to consider more engagement with citizens and the duty bearers they have not engaged with via mobile phone to enhance this awareness.

During the baseline study, we were also interested in knowing what mechanisms citizens used on the mobile phone to engage with elected representatives, the city council, ESCOM and Water board. Table 7.18 shows the breakdown of the platforms that citizens used to engage on the mobile phone.

Table 7.18: Medium used on mobile phone to engage with duty bearers

	Facebook	WhatsApp	Twitter	Email	Call	SMS	Website	Other
Local Councillor	2 (11.8%)	1 (5.9%)	0 (0%)	1 (5.9%)	4 (23.5%)	3 (17.6%)	1 (5.9%)	9 (52.9%)
MP	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1(100%)	0%
City Council	1 (11.1%)	1 (11.1%)	1 (11.1%)	1 (11.1%)	5 (55.6%)	5 (55.6%)	0 (0%)	1 (11.1%)
ESCOM/Water Board	1 (2.9%)	0 (0%)	0 (0%)	0 (0%)	35 (100%)	4 (11.4%)	0 (0%)	0 (0%)

It is evident that the majority of the respondents that had utilised the mobile phone to engage with duty bearers, called or sent an SMS to the duty bearer. A few used Facebook, Twitter, Email and a website. It is thus imperative that the Mzinda platform takes into account such existing methods on mobile phones that citizens have used to engage with service providers. Great consideration must be made to sensitize citizens on new methods of engagement and gauge their level of comfortability in using such.

7.4.3. Willingness to engage using mobile phones

Citizens that had not used mobile phones were asked of their willingness to use mobile phones to engage with either councillors, MPs, the city council, ESCOM and Water Board if given the chance. 72% of the citizens mentioned that they would use a mobile phone to communicate with a local councillor, 68% mentioned they would use the mobile phone to communicate with their MP, 69.6% mentioned that they would use a mobile phone to engage with the city council and 88% mentioned they would engage with the service providers.

Despite the current minimal numbers in terms of engagement with councillors MPs, city council and service providers using mobile phones, citizens are still keen to engage using mobile phones in the next year if a platform is provided. It is imperative that Mzinda offers such a platform through which citizens can use mobile phones to engage with elected representatives, city council, ESCOM and Water board.

7.4.4. Responsiveness of Duty bearers

We sought to understand the rate of responsiveness of duty bearers to citizen's reports. We further gathered insights from respondents on whether they thought their report could have made a difference or influenced action from duty bearers. In Table 7.19 we present results of respondents' insights on the responsiveness of councillors, MPs, City council ESCOM and Water board. We also present results on the perception of citizens as to whether they felt that their report made a difference or influenced action from the duty bearers.

Table 7.19: Citizen's perception on responsiveness of duty bearers and perceived difference their report made

Duty Bearer	Response Rate	Report made a difference
Councillor	64.7%	52.9%
MP	45.5%	36.4%
City Council	72.2%	72.2%
ESCOM or Water Board	85.7%	77.1%

We conducted the Chi-Square test of independence to check if citizens' willingness to engage using mobile phones was related to the previous rate of responsiveness of a particular stakeholder. Table 7.20 is a cross tabulation of data collected from two questions; one on whether a councillor responded to a report and two, whether in the next year citizens are willing to engage with a councillor using a mobile phone.

Table 7.20: Cross tabulation of a councillors' responsiveness vs citizen's willingness to engage with the Councillor using a mobile phone

Question		46. In the next year, would you use a mobile phone to communicate with a local councillor if there was an important matter or issue if you had their contacts?			Total
		Don't Know	No	Yes	
45. Did the councillor respond to your report?	Don't Know	9	29	83	121
	No	0	3	3	6
	Yes	0	3	8	11
Total		9	35	94	138

*45. Did the councillor respond to your report? * 46. In the next year, would you use a mobile phone to communicate with a local councillor if there was an important matter or issue if you had their contacts?

Table 7.21: Chi Square test for independence on responsiveness vs willingness to engage

Chi-Square Tests	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.137 ^a	4	.535
Likelihood Ratio	3.949	4	.413
N of Valid Cases	138		

a. 5 cells (55.6%) have expected count less than 5. The minimum expected count is .39.

The Chi square statistic of less than 0.001 suggests that the two variables are not independent of each other. Since this data was collected in predefined variables and not numbers it is not possible to measure the correlation of which variable determines the other. However, empirical evidence suggests that most citizens that felt that entities were not responsive and that citizens were not willing to engage in the next year. This result underlines the importance of responsiveness to close the feedback loop

between citizens and stakeholders to ensure that when citizens report, there is a response and action from service providers. It is therefore important that the Mzinda platform must endeavour to engage stakeholders in being more responsive. One way to encourage engagement is to integrate a feature through which councillors, MPs, City council, Water Board and ESCOM are rated based on their responsiveness to citizens reports.

7.4.5. Communication from Duty bearers

It is important to understand if elected representatives, city council, ESCOM and Water board communicate or respond to citizens. Citizen engagement is complete if it has a complete feedback loop where there is communication from both citizens and duty bearers (Sjoberg, Mellon and Peixoto, 2016; Peixoto and Fox, 2016; Gigler and Bailur, 2016).

In Table 7.22 we present the responses of citizens on how often they had heard from a councillor, MP, City council and service providers. It is evident that citizens had heard more from ESCOM and Waterboard than they had heard from councillors, MPs and the city council. This validates the earlier finding that citizens were more willing to engage with service providers and found them to be more responsive and actionable than the city council and elected leaders.

Table 7.22 How often have citizens heard from councillors, MPs, City Council and Service Providers

	Councillor	MP	City Council	Service Provider
Never	68.8%	68%	81.6%	18.4%
Don't Know	8%	3.2%	1.6%	4%
Only Once	6.4%	12%	7.2%	3.2%
A few Times	16.8%	16%	8.8%	55.2%
Often	0%	0.8%	0.8%	19.2%

7.4.6. How much influence can a citizen have?

For this question, we sought to understand citizens' perception on how much influence an ordinary person has over elected leaders, the city council and service providers in order to influence change over a situation. Table 7.23 shows the responses on a likert scale of: Nothing, I don't Know, A little, Significant and A great deal. Fewer citizens believe they have significant influence on duty bearers.

Table 7.23: How much influence does an ordinary person have to influence the councillor, MPs, City Council, and service providers to change in improving a situation

Influence	A great deal	Significant	A Little	I don't Know	Nothing
Councillor	10.4%	20%	32.8%	14.4%	22.4%
City council	6.4%	14.4%	38.4%	16.8%	24%
Water Board and Escom	16.8%	24%	32.8%	8.8%	17.6%

One way of measuring how a community of citizens is keen to participate is to gauge their interest in demonstrations. In this survey, 84% of citizens had never participated in a protest and 56.8% of these citizens mentioned they would never participate in a demonstration. We make comparison as to how citizens responded to this question in similar surveys done by (Tsoka and Chinisnga, 2008) and (Tsoka and Chunga, 2012) respectively. Table 7.24 shows responses to the question on whether citizens had participated in a protest or march from the year 2008, 2012, and for this we also included year 2016.

Table 7.24: Citizens participation in a protest between 2008, 2012 and 2016

Year	No, would never do this	No, Would do if I had the chance	Yes, Once or Twice	Yes, several times	Yes, Often	Don't Know
2008	51%	35%	6%	4%	1%	3%
2012	80%	16%	3%	1%	1%	0%
2016	56.8%	27.2%	8%	2%	1%	2%

7.4.7. Are Citizens satisfied with service delivery?

We sought to understand the level of satisfaction amongst citizens on the delivery of services such as Electricity, Water, Sanitation and Refuse Removal. The graph below depicts citizen's perceptions on satisfaction as regards the delivery of services. Majority of citizens seemed more satisfied with the service delivery of Water. Refuse removal was rated as the most dissatisfying service.

92. Please rate your level of satisfaction on service delivery in the following areas:

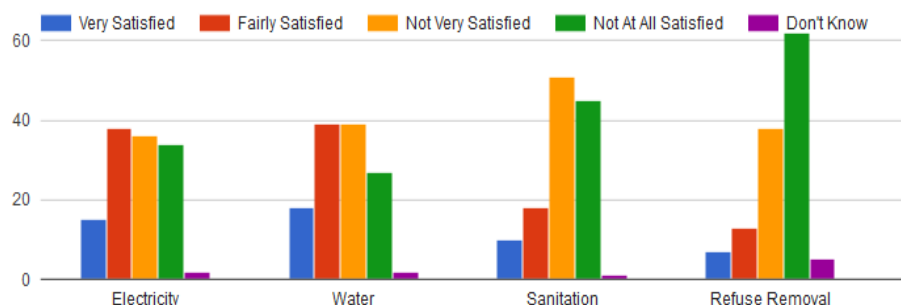


Figure 7.1: Rating the level of satisfaction of electricity, water, and sanitation and refuse removal

It is vital that the Mzinda platform provides a platform for citizens to engage with service providers of water, electricity, sanitation and refuse removal in order to enhance improved service delivery and ultimate satisfaction of citizens.

7.4.8. Are Citizens aware of their rights to engage?

It is important to understand if citizens are aware of their right to engage. Such insight helps us to understand better the knowledge and perceptions of citizens towards engagement. We cannot assume that citizens are aware of their rights. As such, respondents were asked if they were aware of their rights to engage. Only 42.3% of respondents mentioned to being aware of their rights to engage. Considering that 51.2% of citizens believed that citizens are unaware of their rights to engage; we further sought to understand what ought to be done to improve the rate of citizen engagement. Citizens suggested the following mechanisms to enhance citizen engagement as presented in the word cloud below:



Figure 7.2: Recurring themes on what must be done to make citizens participate

The need for civic education was a recurring theme suggested by citizens as they believe that it would enhance citizen's awareness of their rights to engage with duty bearers and service providers. More importantly was the need to make citizens aware of mechanisms through which they can participate such as the Mzinda platform. It was also apparent that there was need for more interaction between citizens, elected representatives, and service providers. Community meetings and Radio programmes were identified as the most recurrent mechanisms suggested by citizens through which knowledge sharing would be enhanced and engagement between citizens, elected leaders and service providers would be strengthened.

As we deploy the Mzinda platform, we shall integrate the use of radio programmes where issues of citizen engagement shall be articulated to enhance citizen's awareness of their rights to engage. The radio programme shall also provide a platform through which elected representatives and service providers will publicly engage with citizens on pertinent issues. We shall also endeavour to facilitate community meetings in the locations where citizens are given a platform to interact with elected representatives and service providers. Through the community meetings, citizens will also be made aware of their rights to engage and the mechanisms through which they can engage with duty bearers using the Mzinda platform. In addition, duty bearers such as councillors and service providers shall be trained on how to use the Mzinda platform and the need for them to enhance engagement with citizens.

7.4.9. Radio as a medium for enhancing citizen engagement

Since radio is being considered as a mechanism for enhancing knowledge, awareness and engagement between citizens and duty bearers; we sought to understand citizen's uptake of radio.

We further sought to know how many citizens listened to some radio programmes on community development issues. 71% of 93 respondents mentioned they listened to radio programmes themed around community development and 62.1% mentioned that they found content on such programmes to be useful. We could make an inference that a radio program on citizen engagement would thus have potential to capture a majority of such citizens as they already take interest in community development issues on radio.

During the study, when citizens were asked what could be done to improve on the current radio programmes that focus on local development, the majority of respondents suggested that there was a need to integrate more citizen voices in the programs. The Mzinda radio programs would thus ensure that citizens are integrated in each program to engage with duty bearers on pertinent issues as regards service delivery and community development.

When asked which radio station citizens listened to and preferred, it was learnt that the majority of citizens mentioned Zodiak Broadcasting Station. This is relevant to results of a radio listenership survey by the Malawi Communications Regulatory Authority that found ZBS to poll 76% listenership with a wide margin to second place Malawi Broadcasting Corporation at 43% while other radio stations followed with ratings at less than 15% (MACRA, 2015).

7.4.10. What can be done to make elected leaders more accountable?

Citizens were asked what they thought could be done to make elected leaders and duty bearers more accountable. Figure 6.3 shows some of the recurring suggestions from citizens on what they thought must be done for elected leaders to be more accountable.



Figure 7.3: Citizen's views on what must be done to make elected leaders more accountable

7.5. Discussion

All through this chapter we have learnt that majority of citizens in the three cities of Blantyre, Lilongwe and Mzuzu have access to mobile phones. We have also learnt that most citizens prefer using SMS with WhatsApp and Facebook as the more eminent and preferred social media platforms amongst citizens. We have also learnt that it is more sensible to focus on building an ICT platform for citizen engagement that can be accessed via mobile phones than via the computer. This is because only 55% of the citizens have access to the internet on the computer whereas, 95% have mobile phones and can use basic SMS as means of engagement.

We have also learnt that only 42% of citizens may be aware of their rights to engage. There has been minimal engagement between citizens, duty bearers and service providers over the years and citizens have engaged more with service providers such as ESCOM and Water board than they did with councillors, MPs, and the city council. Despite the low levels of engagement, citizens are willing to engage with the elected officials and the city council next year and they are even open to doing so using mobile phones. Duty bearers must consider being responsive to citizen's reports as it is evident that non responsiveness of stakeholders restricts citizen's willingness to engage further.

Radio and community meetings or campaigns were identified as complementary avenues to publicly educate citizens on the need to engage and facilitate more interaction between citizens and duty bearers. Through radio and community meetings, mechanisms on the Mzinda platform can be publicized through which citizens can send in service delivery reports or community issues using mobile phones.

7.6. Next Steps

We integrated insights and lessons learned from this baseline survey as captured all through this Chapter into the design and deployment of the Mzinda platform. The following steps were taken:

- An Android mobile application was developed to complement the web and SMS facilities currently available on the Mzinda Platform as the majority of citizens have android mobile phones. The design of the mobile application is articulated in Chapter 8.
- The Mzinda platform was optimised towards being mobile responsive with abilities to load on low connectivity such as 2G to cater for the majority of phones owned by citizens.
- Radio programs on the Mzinda platform were aired during prime times on Zodiak Radio Broadcasting station.
- Community meetings and campaigns were held in the hot spots of the city where larger populations can be found such as market areas and trading centers. These meetings were held in order to facilitate engagement between citizens, elected representatives, city council, ESCOM and Waterboard. Through these meetings, the Mzinda platform was publicized such that citizens became aware of mechanisms to report service delivery problems or community issues.
- Councillors, MPs, representatives of the City Council, ESCOM and Water board were trained on the use of the Mzinda platform to facilitate interaction, swift responsiveness, and action where possible.
- Formal partnerships were established through specific Memorandum of Understanding with the City Council, Water Board and ESCOM as partners on the implementation of this initiative.
- We leveraged partnerships with other civil society organisations working in the area of citizen engagement, democracy, and governance such as Citizens for Justice, Story Workshop, and others. Partnerships with other CSOs ensured that we could leverage existing community structures in outreach events.

7.7. Conclusion

This chapter has shared the results of a baseline survey on the use of ICTs and citizen engagement in

Malawi's three cities of Blantyre, Lilongwe and Mzuzu. The Chapter highlights the low status of citizen engagement with elected leaders and service providers at the local level in the three cities. The results highlight that there is a high rate of access to mobile phones, usage, and willingness of citizens to use technology for engaging duty bearers and service providers. The survey has also identified that majority of citizens are unaware of their right to engage with duty bearers hence the subsequent need to enhance awareness on the subject and further facilitate engagement between citizens, councillors, MPs, City council, ESCOM and Water board.

The survey has found that beyond the use of technology as a mechanism for reporting service delivery issues, radio and community meetings would be viable complementary mechanisms to enhance citizen engagement than banking on ICTs alone. There is an opportunity that through radio and community meetings where the technology platform is publicized; citizens may consider using the technology platform in subsequent episodes where they need to engage with duty bearers. It has also been highlighted that citizens are willing to use mobile phones as a way to engage with duty bearers. However, non-responsiveness of duty bearers may deter citizens from further engagement. The majority of citizens that are not willing to engage further had either experienced non responsiveness from duty bearers or felt that their engagement did not influence change or action from the duty bearer.

Results of this study contribute to the emerging discourse on the use of technology as a tool for citizen engagement broadly, but also specifically in the context of the three cities of Blantyre, Lilongwe, and Mzuzu in Malawi. Such information is relevant to policy makers, practitioners, technology developers, researchers, service providers and citizens.

CHAPTER 8

Developing the Mzinda platform

Introduction

In this Chapter, we outline the structure, design, and functionality of the Mzinda platform. We have taken on insights from the baseline survey as outlined in Chapter 7 on the most preferable ICT channels for citizens to use in engaging with duty bearers. We thus embark on developing an ICT platform that shall integrate Short Message Service (SMS), Unstructured Supplementary Service Data (USSD), web and android mobile application as channels which citizens can use to interface with the system and ultimately their duty bearers.

8.1. Structure of the Mzinda Platform

The Mzinda codebase leverages the power of frameworks and code libraries to create a robust, secure, dynamic, and scalable web application. Instead of using plain web-based languages, the choice was made to use these frameworks and libraries to deliver the most optimized experience for users. Frameworks and libraries are created from extensive experience that developers have had. To automate problem solving, developers have to use their expertise for each application built. This encourages consistency, coding standards and avoids reinvention of the wheel. At the core of these tools, it is still important to appreciate the languages they are built on. The languages used in building the Mzinda platform are Hypertext Preprocessor (PHP), JavaScript, Hyper Text Markup Language (HTML5) and reliably Cascading Style Sheets (CSS3)⁸⁰ because it has features for producing good looking, appealing applications.

For the Mzinda system backend we decided to build a classic setup using PHP on top of a My SQL database. We chose the Laravel framework for PHP to avoid reinventing many of the components of the system. Laravel was chosen for its speed, extensibility, scalability, portability when needed and fair learning curve for new developers who might join the team. The Laravel framework provides a simple way to organise logic. Laravel framework has pre-installed object-oriented libraries that are not found in other PHP frameworks. Laravel supports the Model-View-Controller (MVC) framework which enhances the performance with multiple built in functionalities. Another key advantage of the Laravel framework is the security features embedded therein. The framework also uses prepared SQL

⁸⁰ <https://www.w3.org/Style/CSS/Overview.en.html>

statements which limits and prevents having malicious SQL statements ingested via data capture fields for execution. Lastly, there are a lot of online tutorials on the Laravel framework and support platforms online (TechCompose, 2018).

For the information crowd sourcing component in Mzinda, we adopted part of the Ushahidi⁸¹ platform. Ushahidi is an open source platform created in the aftermath of Kenya's disputed 2007 presidential election that collected eyewitness reports of violence sent in by email and text-message and placed them on a Google map (Okolloh, 2009). Since then Ushahidi has been used in different crowd-sourcing activities including elections and natural disaster situations. Looking at how mature the platform had become; we adopted some parts of the Ushahidi platform for the reporting section of Mzinda. It was also an easy choice because Ushahidi was built in PHP with a MySQL database which made it easy to integrate with the Laravel framework⁸². The SMS reports largely run on the Ushahidi platform with Laravel acting as an Application Programming Interface (API) for exposing and consuming data.

8.1.1. Web Frontend

To create a responsive and interactive user experience, we employed the use of the Bootstrap HTML, CSS framework, jQuery and JavaScript library. Bootstrap was chosen for its intuitive structure that makes creation of a responsive website a clean, fast and easy task. One of the main benefits of utilizing Bootstrap is the speed of the development. Bootstrap embodies the essence of driving out a new, fresh website or application swiftly. Instead of coding from scratch, Bootstrap lets us use ready-made coding blocks in order to assist with setting up the structure of the page. Blending that along with CSS-less functionality and cross-browser compatibility, that can give a way to saving of ample hours of coding. jQuery is a JavaScript library which is designed to make many JavaScript development tasks much easier. Using jQuery significantly reduced the development time, and we decided the extra overhead of downloading the library would be worth it. jQuery was used for complex element selection, animations, event handling and maps in the frontend.

⁸¹ <https://www.ushahidi.com/>

⁸² <https://www.ushahidi.com/blog/2018/11/05/how-the-ushahidi-platform-works-and-what-comes-next>

8.1.2. Mobile App

A native android app was developed after the deployment of the web platform. The android platform was built in Java and Extensive Markup Language (XML) as per specification for native android apps. We decided to go with building a native application and not a hybrid application because of the targeted user experience we were trying to deliver. Additionally, after taking into consideration the facts that we learnt in Chapter 7 where we found that the majority of respondents had android mobile phones, a native app was the best choice.

Considering that the mobile app is developed within a mature ecosystem following the technical and user experience guidelines of the operating system for example swipe app defined gestures, left aligned header etc. It not only has the advantage of faster performance but also “feels right”. What feeling right means is that the in-app interaction has a look and feel consistent with most of the other native apps on the device (Jobe, 2013). The end user is thus more likely to learn how to navigate and use the app faster.

Finally, native applications have the significant advantage of being able to easily access and utilize the built-in capabilities of the user’s device e.g., Global Positioning System (GPS), camera, contacts etc. When a user sends text messages, takes pictures using the device’s default app, set reminders, or uses the device’s music app particularly the ones that came with the phone, they are using native apps.

8.1.3. SMS Gateway

To receive text message reports on the platform an SMS gateway was built which connects to an Application Programming Interface (API) that consumes the SMS messages sent to the Mzinda numbers. We managed to integrate with an aggregator for a short code number 6466 on Airtel and integrated directly with a Telekom Network Malawi (TNM) on a long number.

8.1.4. System Integration

After defining the independent technologies used, we can now better define how they work together to build a great platform. At the heart of the system, Laravel serves as the core mediator for all the components of the platform. All requests sent to the platform are handled by the framework including exposing and consuming data to and from the frontend web app, exposing and consuming data to and

from the mobile app and consuming SMS' forwarded from the SMS gateway. Figure 8.1 shows a diagrammatic explanation of the Mzinda systems architecture.

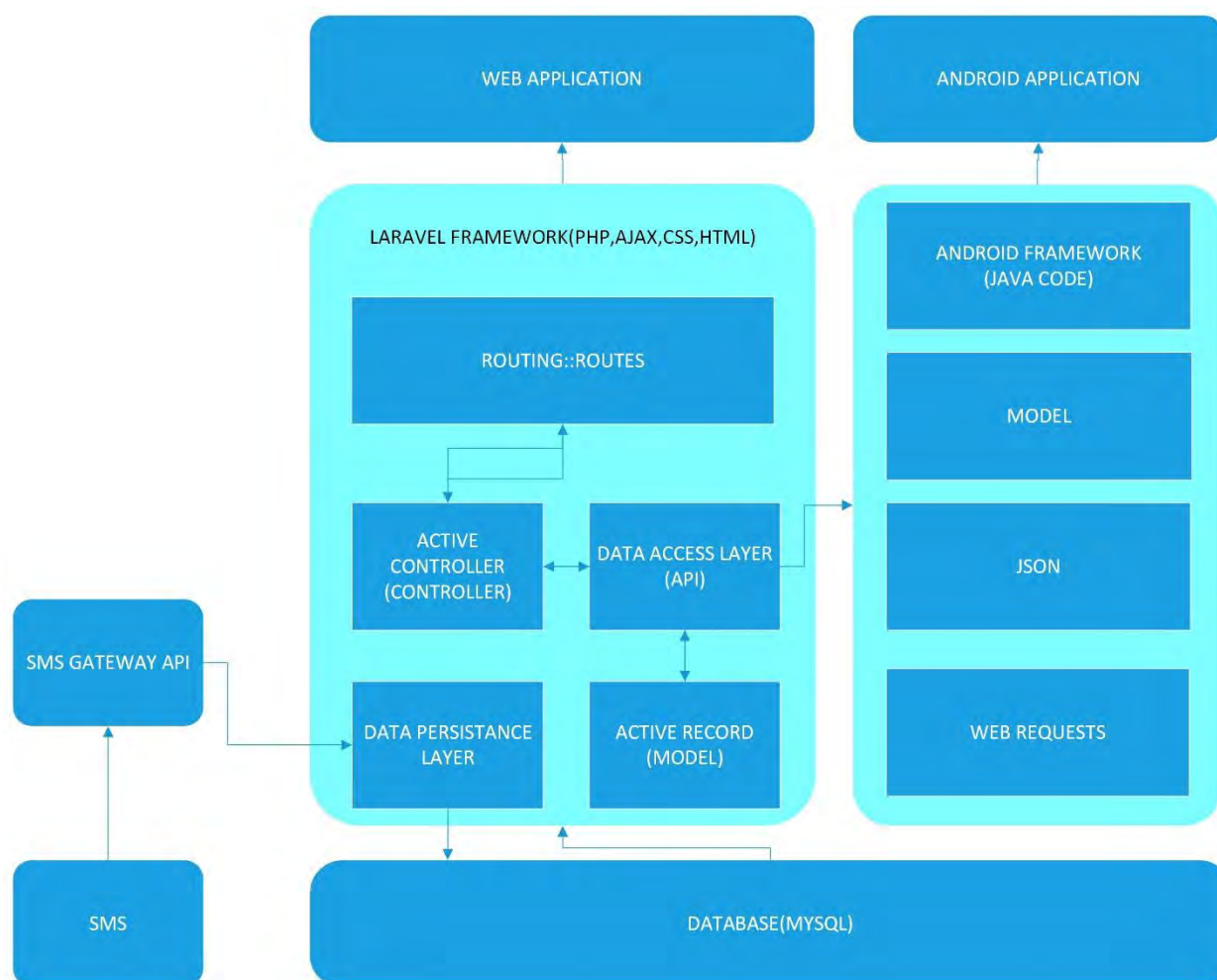


Figure 8.1: Mzinda systems architecture

8.2. System Requirements Specification

The Mzinda system is required to collate citizen reports through SMS, web app and mobile app. The system is also built to collate citizen's views and experience on service delivery in the form of polls on the web and mobile application platforms where the citizens will vote on specific questions as regards service delivery of essential services. The platform also provides data on how other citizens reported on the polls. Citizens are also expected to view reports collated from other citizens on the platform. Citizen reports are to be verified and validated before going live by the administrator. Citizen

reports are categorised or grouped according to various service delivery categories or thematic areas such as water, electricity, sanitation by the administrator. On the other hand, service providers and duty bearers can also respond to citizen reports on the web and mobile application. Responses from duty bearers are visible to the public.

Below are the minimum system requirements:

- **Registration**

The system is able to capture user details such as the Name and Email Address to have a user registered. Users of the system will be assigned different roles, privileges or rights in the system such as citizen, councillor, service provider or administrator.

- **Poll voting**

Citizens who have access to the system are able to vote on polls that have been set for service evaluation. These polls can have different voting options such as ‘Yes’ or ‘No’, ‘Good’ and ‘Bad’.

- **Poll statistics**

The system generates results from all the votes from polls and displays a visual representation of the data in the form of a pie chart.

- **Poll management**

Polls are initially set by administrators of the system. Service providers can also have access to these polls to better help them understand the effect their services have on people and how they can improve them.

- **Reports**

Registered users, for example citizens, are able to send in reports on service delivery or developmental issues from their area using SMS, web form and from the mobile application. Reports have to be verified, validated, and approved by an administrator before going public. The administrator categorizes reports according to the various service delivery areas for example, electricity, water, sanitation, electricity, waste collection, roads, security, health, and any other issues. While using SMS is open ended, the web form for reports includes the following fields: title, description, date, time, subject matter (e.g. electricity), reporter’s personal details and reporter’s location. Within the web app, a reporter can also include the GPS location of the place where they are reporting from. As such, reports can either be viewed as text or on an interactive map based on those with tagged GPS locations.

- **Engage with councillors**

The system provides a platform where administrators can add all the councillor details such as their name, a photograph, and ward they represent. Ultimately, the councillors' information in the form of a photograph, name, ward area they represent, and a clickable link is available to the public for citizens to view and engage with the councillors of their wards. Citizens must be able to send messages to the councillor on the platform which together with responses from the councillors can be viewed by everyone.

- **Search feature**

Users are able to perform search functions on wards and councillors. For councillors, the system is able to bring results of the searched councillor if they exist. A user can select and view the councillor profile. For the searched wards, the results can be accessed, and the system should be able to pull all the information on the councillors in that ward and display it. The user can then select a Councillor and either view their details or engage with them.

- **Authentication and administration**

The system has user authentication features in the form of user credentials i.e. a username or email and password to authenticate users. The system provides a platform where users can be assigned different access rights by the administrator.

- **Roles**

The Mzinda system allows for users to be assigned different roles as follows: citizen, councillor, managers or administrators.

- **Manage Public Expenditure Tracking**

Public Expenditure Tracking (PET) is where the public follows the expenditure of councils by examining council budgets versus actual expenditure (NDI, 2015). Councils draw a budget and subsequently expenditure reports for all the activities to be carried out and executed, respectively. The PET details are kept in two formats. The first format is comprised of budgets and expenditures while the other format includes activities and expenditures. The records consist of the project title, ward name, fund, period or duration of the project, budget estimates and the amount spent.

The system allows all users to have access to the public expenditure tracker. This information can only be entered in the system by the administrators. Users can view the public expenditure tracking data on the web platform. Users can also send queries to the system using USSD specifying a ward and project they would like to get more information on with regards to its expenditure.

- **Articles**

The platform provides a section for news articles that relate to citizen engagement to be posted by the Administrator.

- **Administrator duties**

The administrator is the super user whose responsibilities include adding users, managing users, and assigning user roles. The administrator also manages citizens reports, wards, PET, district councils and polls. The administrator has the right to add, edit, delete, verify and approve data in the system from the front end. The administrator also has the right to manage polls such as creating new polls, setting the polls to be viewable for voting in which case the status is active and archiving polls. The administrator can also set citizen reporting categories, manage articles and other home content, set content to be viewable on the website or deactivate content. Administrators can also manage constituencies, councillor details and the expenditure title for classifying PET data. Figure 8.2 illustrates the Admin use case while Figure 8.3 shows the project System flowchart.

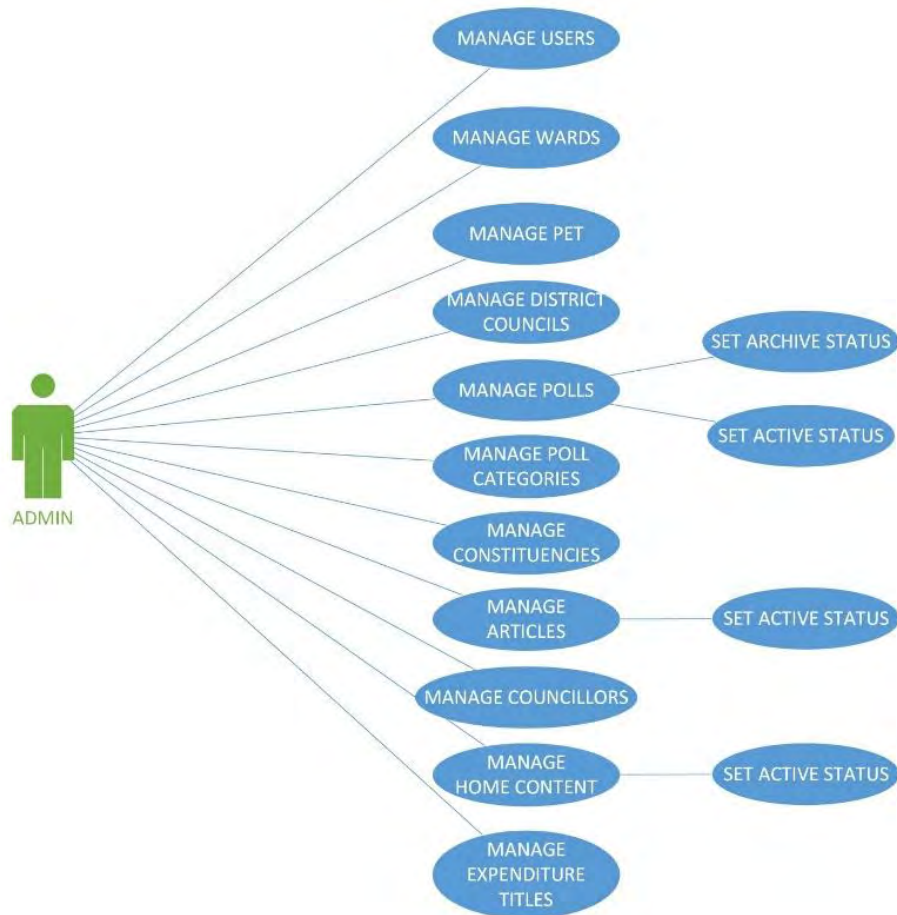


Figure 8.2: Admin use case diagram

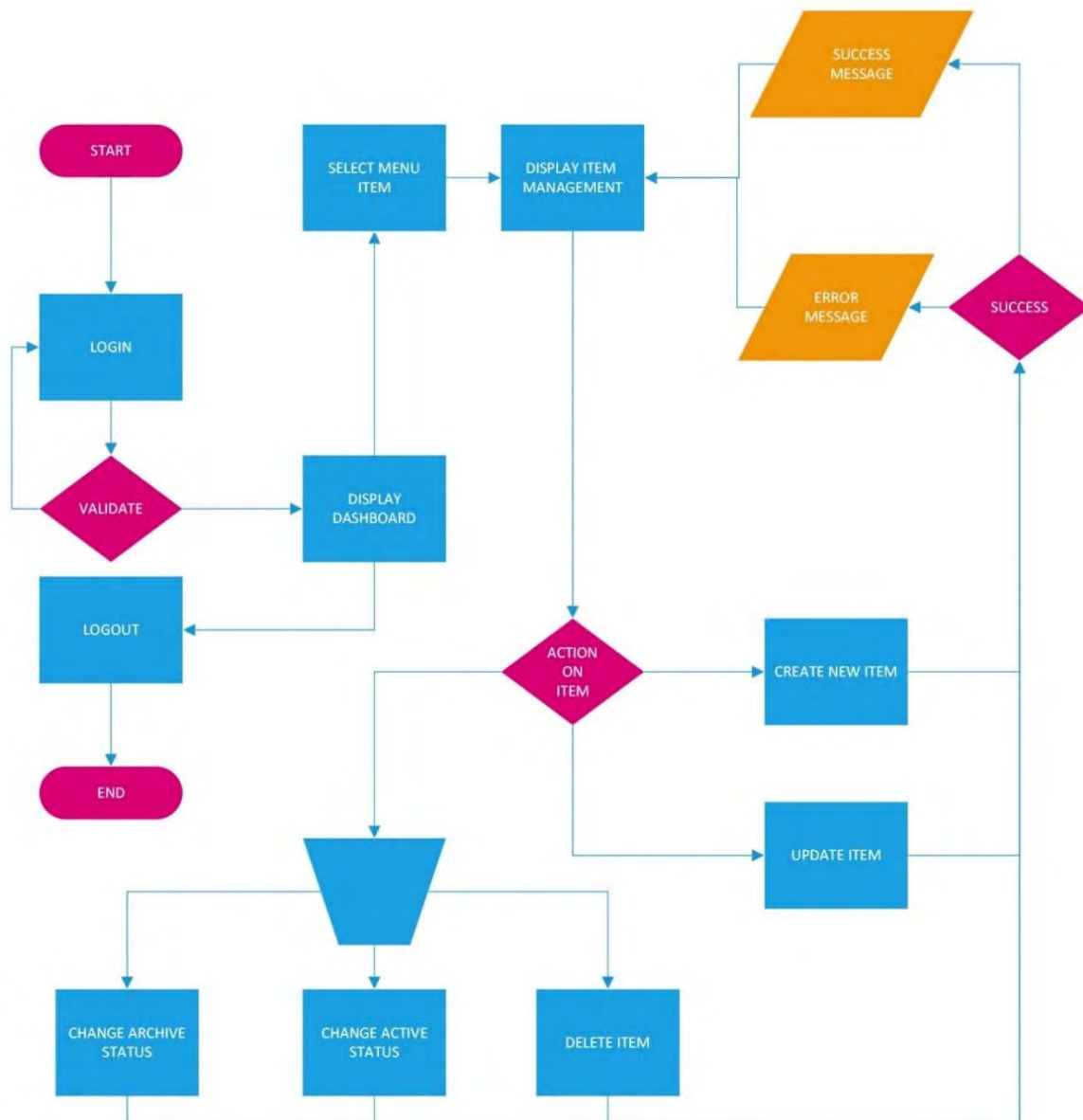


Figure 8.3: System Flowchart

8.2.1. Citizen

Citizens can register on the web platform using a valid email address as a username and a password. The system allows citizens to send in reports on service delivery of essential services such as electricity, water, health, security among other issues that need to be addressed by either service providers or councillors. Citizens can engage with councillors by sending them messages on the web platform that are routed directly to the councillors. Citizens can also have access to view the Public Expenditure Tracking data to see how public funds are being used by local councils. Citizens can vote

on polls, view poll results and perform search functions on wards and councillors. The system also gives citizens access to view articles on the platform. Figure 8.4 illustrates the citizen use case

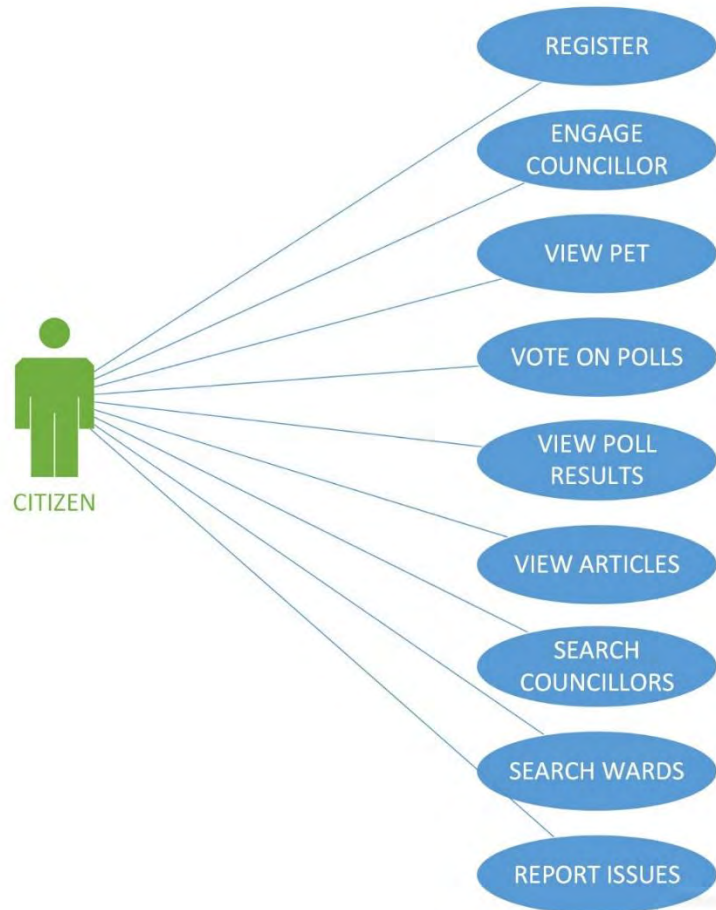


Figure 8.4 Citizen use case

8.2.2. Manager

Just like administrators, managers perform the same administrative functions but only on specific modules of the system which include poll categories and polls. The managers can also manage the websites' page content, wards councillor content and articles. Figure 8.5 illustrates the Manager use case.

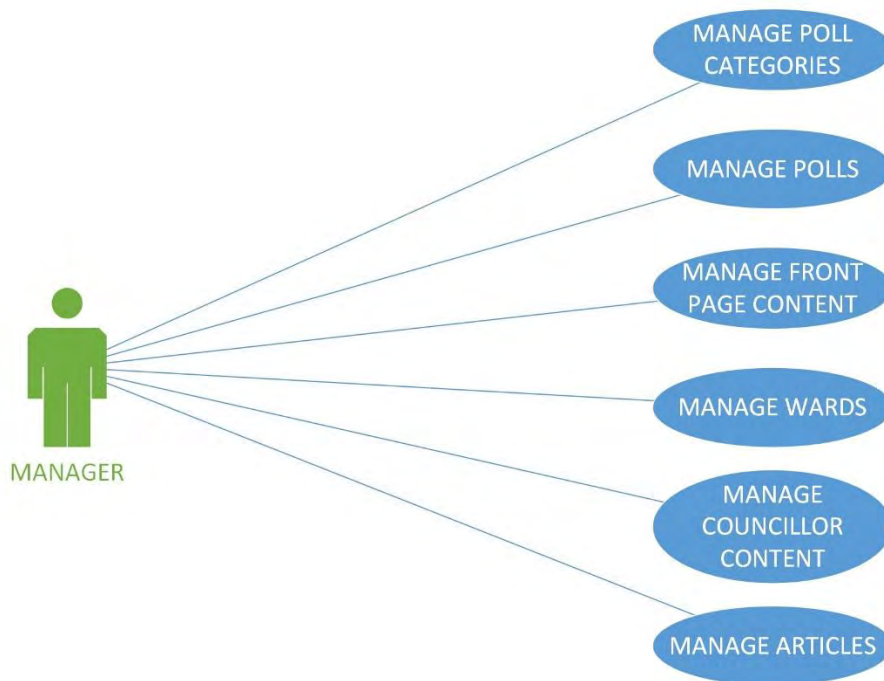


Figure 8.5 Manager use case

8.2.3. User interface

The user interface flow starts with the home page where a user can login into the system. If the user details are valid, the user can have access to the dashboard, if the details are not valid, the user is redirected back to the login page. On the dashboard, a user can have access to different modules of the system for example: citizen reports, wards, PET, district councils, polls, constituencies, councillors, home content, articles, and expenditure titles. These modules can be accessed through the item menu on the dashboard. For each selected item, the administrator can perform specific actions which are creating new item data, select and edit item data and delete item data. Some item modules like articles and polls have extra actions that can be performed by the administrator which include changing the active status of polls and articles, turning the active status to active or inactive, making the module visible or not to the public. For polls, the administrator can also archive them by changing the status to archived. Below we present visual representations of how the user interface looks like.

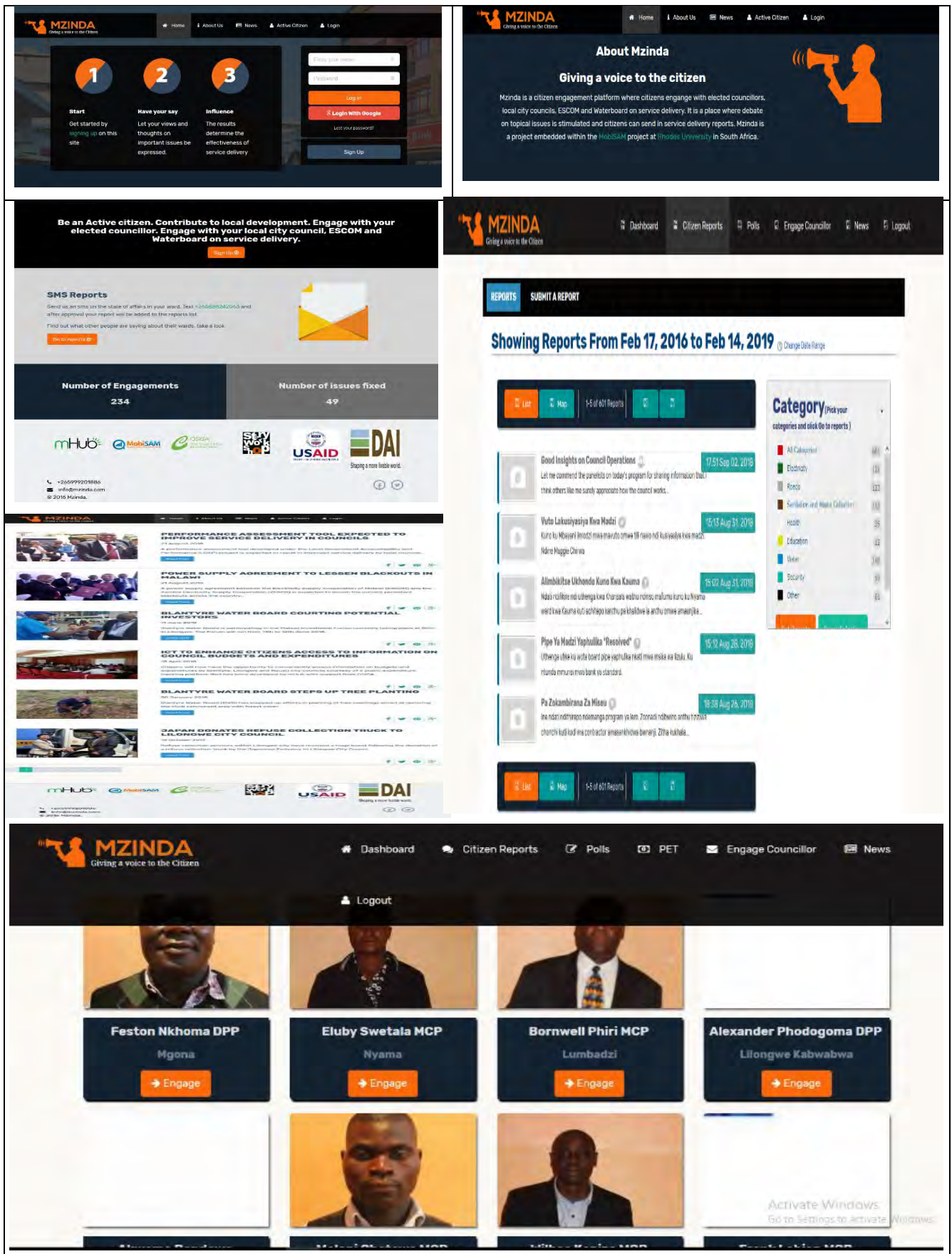


Figure 8.6 User interfaces

8.3. Mzinda Mobile Application

The Mzinda mobile application is an android application that has been built on as an extension to the Mzinda web system. The application allows for users to register and have access of the Mzinda system. The mobile app integrates with the web system in such a way that posts made on the web system are viewed on the mobile application. Any posts made on the mobile application are also reflected on the web system. Below are the minimum system functionalities for the mobile application:

- **Registration and Authentication**

Users of the system are able to register into the system via email or through a Google sign up social button. After registration, users can log into the application with valid user credentials of username and password or using the universal Google login details.

- **Poll voting**

A user that is logged in has the ability to view and vote on polls through the mobile application.

- **Reports**

The mobile application allows citizens to post reports on service delivery issues such as water, electricity, health, security, and any other development issues. The mobile application also allows citizens to view reports posted by other citizens.

- **News articles**

Users are able to view articles posted on the platform with the mobile application.

8.3.1. System Design and Architecture of the Mzinda Mobile App

- **Use case Diagram**

On the mobile application, a user can log in to vote in a poll, view reports posted to the system, post a report and view news articles. Figure 8.6 illustrates the use case diagram for the mobile application.

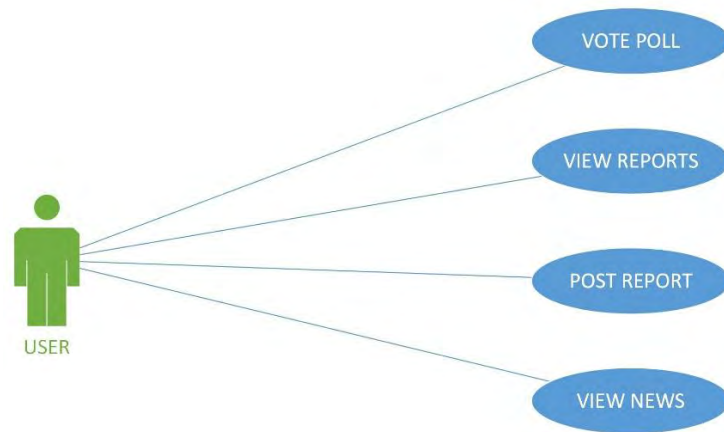


Figure 8.7: Use case diagram for Mzinda mobile application

- **System flowchart**

Figure 8.7 shows the system flow chart for the mobile application.

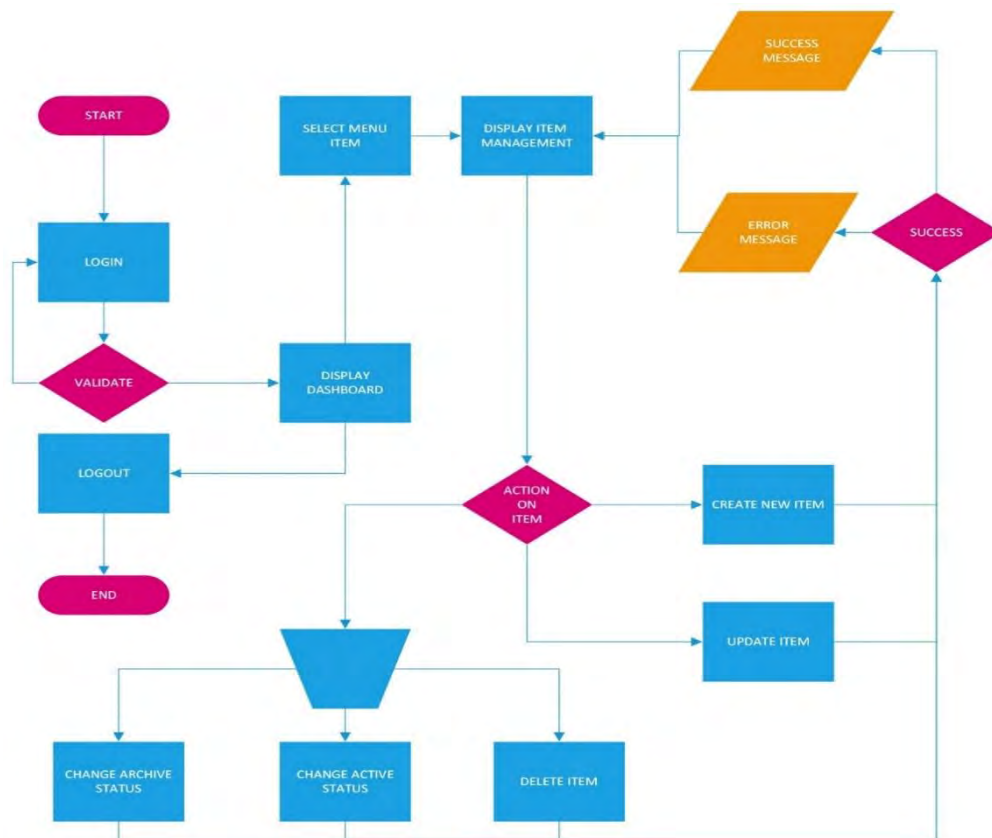


Figure 8.8: Mobile app system flowchart

- **User Interfaces**

Below we present the user interface pictures for the mobile application.

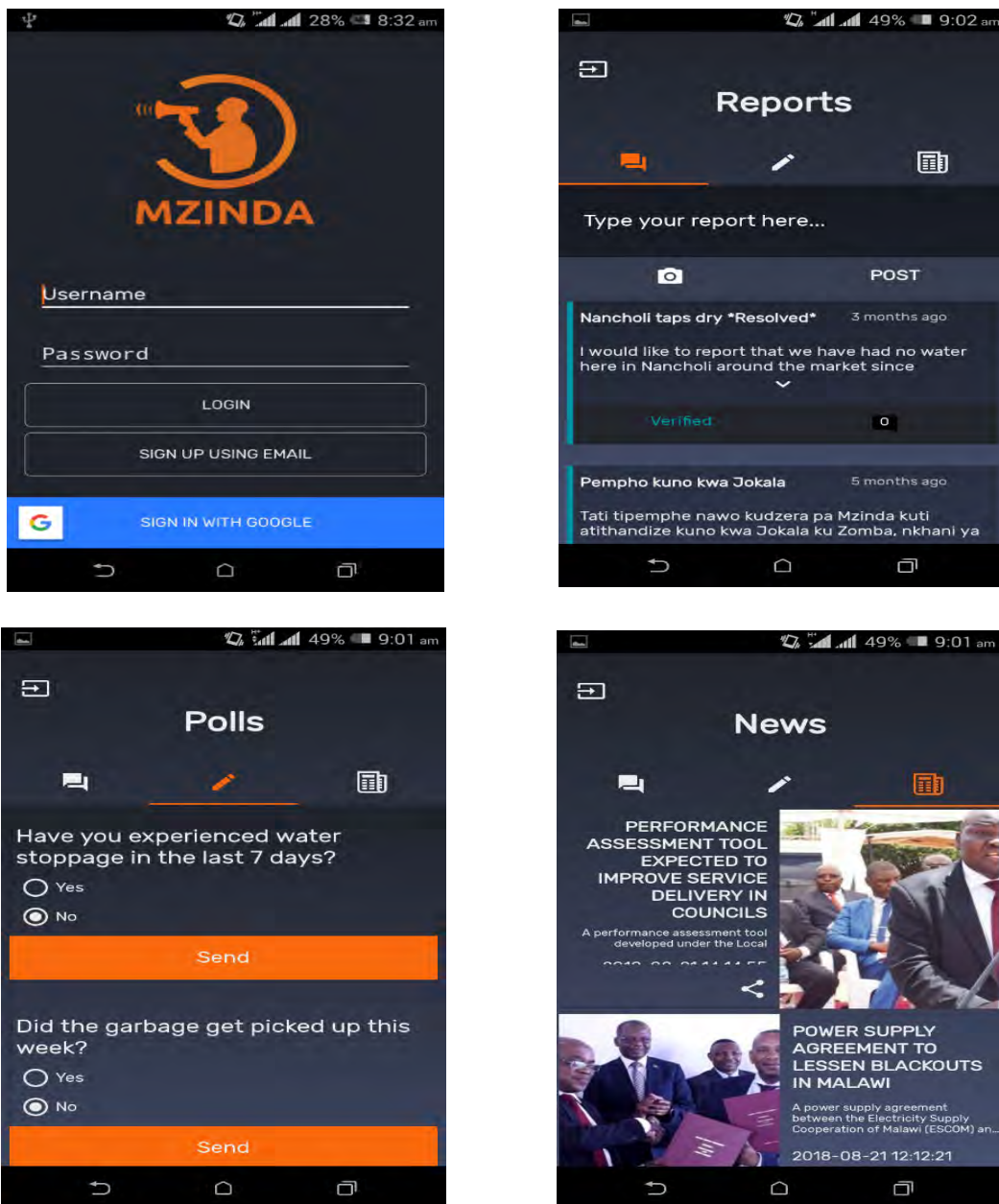


Fig 8.9: Mobile app user interfaces

8.4. Mzinda Public Expenditure Tracking Module System Requirements Specifications

The Mzinda Public Expenditure Tracking (PET) module is a USSD mobile application that has been built on as an extension to the Mzinda web system. The USSD application allows users to access details on council budgets and corresponding expenditure.

The USSD channel integrates with the web system in such a way that council budget and expenditure details that are entered via the web system are also accessible if requested via USSD menu. It is also possible to view the number of hits on the USSD channel via the web. Below are the minimum system requirements for the PET module:

- **Enter Council Budget and Expenditure.** Councils provide administrators of the Mzinda platform with budgets and expenditure reports. Administrators manage the budget and expenditure reports in the system using an excel sheet.
- **View Council Budget and Expenditure.** A user that is logged in on the web platform has the ability to view the council budget and expenditure according to which district they are searching for information on.
- **USSD Requests.** Users can access council budgets and expenditure reports via USSD by dialing *646#.

- **Enter Council Budget and Expenditure**
Councils provide administrators of the Mzinda platform with budgets and expenditure reports. Administrators manage the budget and expenditure reports in the system using an excel sheet.

- **View Council Budget and Expenditure**
A user that is logged in on the web platform has the ability to view the council budget and expenditure according to which district they are searching for information on.

- **USSD Requests**
Users can access council budgets and expenditure reports via USSD by dialing *646#.

- **USSD user interface**

Below is the user interface for the USSD platform of the PET. Figure 8.8 shows screenshots on the flow in request for Public Expenditure information via USSD *646#.

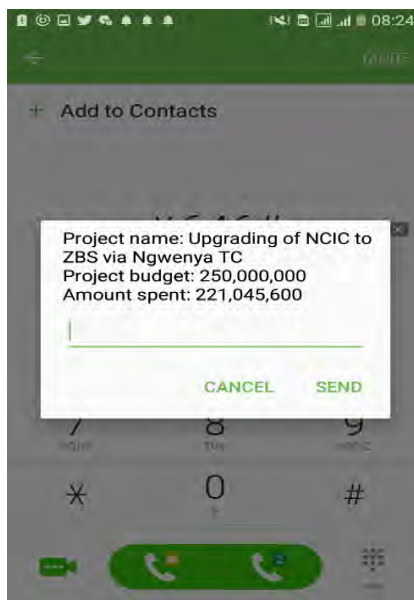
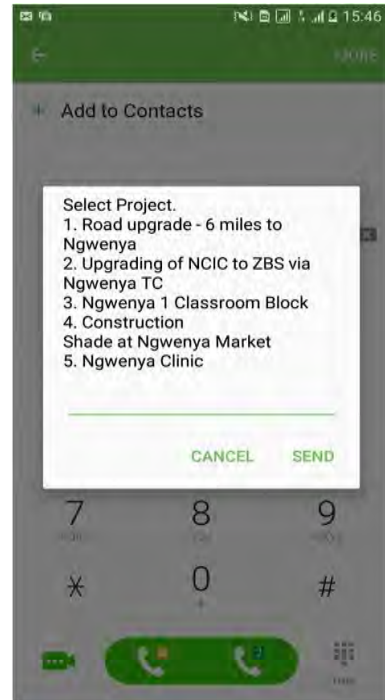
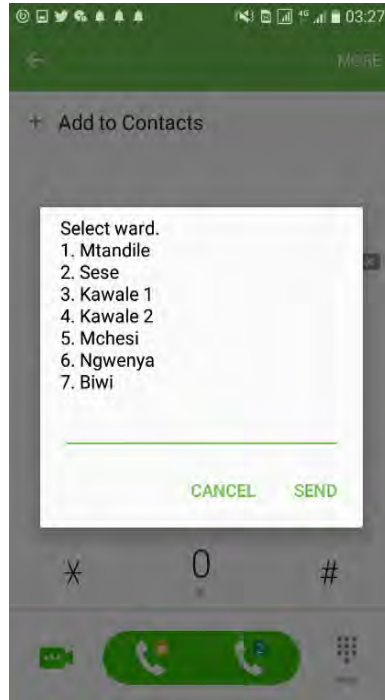
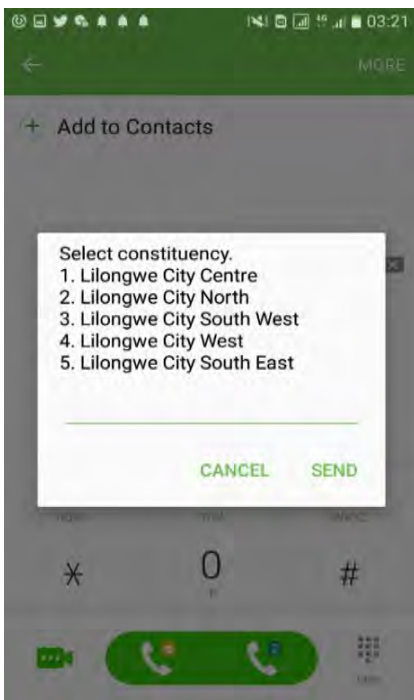
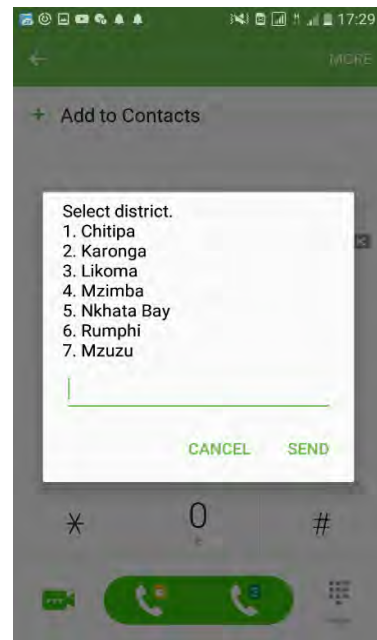
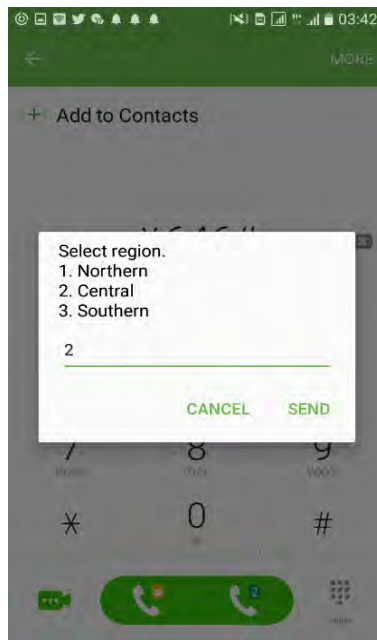
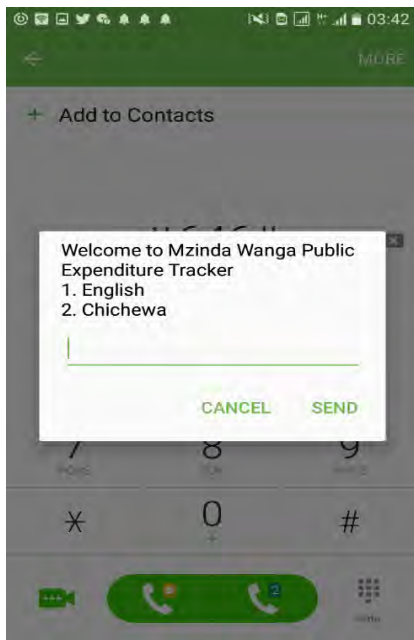


Figure 8.10: Screenshots on the flow in request for Public Expenditure information via USSD *646#

8.5. Conclusion

This Chapter has outlined the system design and functionalities of the Mzinda platform. We have described the tools used to develop the Mzinda system. We have articulated the various functionalities of the system on the web application, the mobile application, SMS and USSD channels. The Mzinda web application is available at www.mzinda.com while the Mzinda android mobile application is available on the Google Play Store. The platform can also be accessed via SMS channels on the 2 network operators in Malawi namely Airtel and TNM on the following numbers 6466 and 0882 respectively. The platform also has Facebook and Twitter pages. In the next Chapter we shall outline some of the mechanisms used in deploying the Mzinda platform alongside other non-technology mechanisms to enhance publicity and use of the platform by citizens and duty bearers.

CHAPTER 9

Implementation of the Mzinda platform

Introduction

In Chapter 8, we outlined the structure, design, and functionalities of the Mzinda system. In this Chapter, we seek to outline the activities undertaken online and through non-technology means in deploying and the implementation of the Mzinda system. We also mention the partners involved in the implementation of the activities and the roles played by each partner. We also highlight lessons learned, challenges that we encountered and make recommendations for consideration to subsequent practitioners and implementers of ICT led citizen engagement platforms. Without losing sight of the focus of this research that being to facilitate citizen engagement with councils, councillors, ESCOM and The Waterboard; we have also delved further into the details of the three pivots that the Mzinda system made on request from various actors. We have documented the customisation of the Mzinda Platform to cater for engagement with market actors as a public and expenditure tracking platform and finally, on how the platform was used for elections monitoring.

9.1. Background

All through literature on citizen engagement, it is evident that there is a need to integrate a multifaceted approach in enhancing ICT led citizen engagement by including both online and non technological mechanisms. A combination of no tech, low tech and high-tech solutions is ideal (Herringshaw, 2018; Gigler, 2004). The likelihood of success in ICT led citizen engagement initiatives is higher when non technological mechanisms and online processes of engagement are used to facilitate more collective mechanisms of engagement where citizens can provide input, deliberate and receive feedback in more collective than individualized mechanisms (Herringshaw, 2018).

Within the deployment of the Mzinda platform, consideration was made to integrate both online and non technological mechanisms to facilitate citizen engagement. The Mzinda project was initially deployed in three cities of Malawi namely Blantyre, Lilongwe and Mzuzu in 2017. Later on, the platform was extended to 8 districts of Blantyre, Zomba, Balaka, Machinga, Kasungu, Lilongwe, Mulanje and Mbelwa district also known as Mzimba.

9.2. Project Set up

The implementation of the Mzinda project was initially funded by the Open Society Initiative for Southern Africa (OSISA). OSISA is an arm of the larger Open Society Foundation that funds development projects in the southern African region in the following areas:- democracy and governance; economic and social justice; human rights, rule of law and access to justice; and women's rights to mention a few⁸³. The Mzinda project was implemented by mHub, Malawi's first technology hub. All staff on the project were employed by mHub including the researcher.

9.2.1. About mHub

mHub is Malawi's first technology hub. The hub was established in 2013 in Lilongwe, Malawi's Capital City. The hub champions the development of local technology solutions. mHub has previously been involved in the implementation of ICT led citizen engagement projects for elections monitoring in Malawi's 2014 general elections, Tanzania's 2015 general elections, and Zambia's 2016 general elections. mHub developed Malawi's first human rights portal called "*Ufulu Wanga*" meaning my Rights. The platform provides a mechanism for citizens to report using innovative ICTs on human rights violations and abuse⁸⁴.

9.2.2. Roles on the project

The following staff members were employed on the Mzinda project: Project Lead (Researcher, Mrs. Rachel Sibande), Project Manager (Mr. Blessings Chavula), Project Officer (Ms. Monica Madulira) and the Accountant (Ms. Elizabeth Phiri). The project had also employed enumerators to help with data collection during the baseline and post deployment assessment studies.

A range of stakeholders were also engaged at various levels. Table 9.1 shows the various stakeholders of the Mzinda project within each of the 3 cities, 8 district councils and their roles.

⁸³ <http://osisa.org/>

⁸⁴ <http://www.ufuluwanga.com>

Table 9.1: Stakeholder mapping and roles on the Mzinda system

City/ District	Stakeholders	Engagement / Role	Remarks
Lilongwe	Lilongwe Water Board	-Respond to citizen reports -Share notifications to the public` -Contact through PRO -Take action on citizen reports	- Responsive and taking action on citizen reports
Lilongwe	Lilongwe City Council	-Respond to reports -Share notifications -Contact through PRO -Take action on citizen reports	- Responsive and taking action on citizen reports
Lilongwe, Blantyre and Mzuzu	Electricity Supply Corporation of Malawi (ESCOM)	-Respond to citizen reports -Share notifications -Contact through Corporate Communications Officer -Take action on citizen reports	-Responsive and taking action on citizen reports
Lilongwe	Councillors (27) Members of Parliament (5)	-Respond to citizen reports	-Responsive and taking action on citizen reports
Blantyre, Zomba, Balaka, Machinga, Kasungu, Lliongwé, Mulanje and Mmbelwa district also known as Mzimba	District Councils	-Provide Budget and Expenditure files -Respond to citizen reports	-Not very keen to share council budgets and expenditure
	Partner organisations:		
Blantyre, Lilongwe and Mzuzu	Citizens for Justice (CFJ)	-Co-facilitate trainings for councillors and city council officials	
Lilongwe	St. Peters Youth Organisation (SPYO)	-Publicity of the platform through members	

Blantyre. Lilongwe and Mzuzu	Malawi Local Government Association (MALGA)	-Co-facilitate trainings for councillors and city council officials	
Blantyre	Blantyre Water Board	-Respond to citizen reports -Share notifications -Contact through PRO	-Responsive and taking action on reports -Sharing notices
Blantyre	Blantyre City Council	-Respond to reports -Share notifications -Contact through departments. Reports forwarded to specific departments. No specific contact person.	-Responsive and taking action on reports -Sharing notices
Blantyre	Councillors (23) Members of Parliament (8)	-Respond to reports	-Responsive to citizen
	Partner organisations:		
Blantyre and Mzuzu	The Story Workshop Educational Trust (SWET) Centre for Conflict Management and	-Organise and share platform for community awareness and engagement during community dialogue sessions in two wards. Publicise Mzinda platform through radio and TV programs hosted by SWET.	-40 community development committee members trained through a boot camp -Over 2000 citizens engaged through

	Women Development Affairs (CECOWDA) Concerned Youth Organisation (CYO)	-Co-facilitate trainings for councillors and city council officials -Engage with citizens during community dialogue sessions with a focus area on the functionality of the local government -Co-facilitate community dialogue sessions -Publicity of the platform through its membership -Co-facilitate trainings for councillors and city council officials -Co-facilitate community dialogue sessions -Publicity of the platform through its membership	community dialogue sessions
Mzuzu	Northern Region Water Board (NRWB)	-Respond to reports -Share notifications -Contact through PRO	-Responsive and taking action on citizen reports
	Mzuzu City Council	-Respond to reports -Share notifications -Contact through PRO.	-Responsive and taking action on citizen reports

	Councillors (15) Members of Parliament (1)	-Respond to reports	-Responsive to reports
	Story Workshop Youth In Session (YIS)	-Organise and share platform for community awareness and engagement during community dialogue sessions in two wards -Co-facilitate trainings for councillors and city council officials -Awareness on functionality of the Local government through Mzinda radio programs -Publicity of the platform through its membership	-40 community development committee members trained through a boot camp -Over 15,000 citizens engaged through community dialogue session -Panelists on Mzinda radio programs recorded in Mzuzu

9.2.3. Accessing the Mzinda Platform

The **Mzinda** platform can be accessed at <http://www.mzinda.com>, or alternatively citizens can download the Mzinda mobile application for android phones at the following link:- <http://play.google.com/store/apps/details?id=com.mhbmw.mzinda>. Between 2016 and 2017 citizens could access the Mzinda platform by sending an SMS to a long code number +265 888 242 063. As at

2018, we had set up the short code with mobile network operator Airtel Malawi and citizens were able to send SMS to a short code number 6466. In 2018, citizens were also able to use a USSD platform by dialing *6466# to access public expenditure tracking information on the Mzinda platform.

All data from the channels of SMS, USSD, web and social media were collated into a web portal as demonstrated in the preceding Chapter. The Project Manager and Project officer then verified reports where necessary by means of checking with trusted sources. Trusted sources (for this project) are a network of field officers from our civil society partners, chiefs, councillors and other individuals. Once verified, a report was categorized according to one of the following sectors: water, health, education, electricity, roads, security, sanitation, and waste collection, among others. The report would then be approved and available live on the Mzinda public website.

9.3. Summary of the performance of the Mzinda Platform

Initially, the Mzinda platform was designed to cater for citizen engagement with councils and service providers in the 3 cities of Blantyre, Lilongwe and Mzuzu. Between 2016 and 2017, the platform was thus deployed in the 3 cities with support from OSISA⁸⁵. In 2018, the Local Government Accountability Project (LGAP) implemented by DAI⁸⁶ approached the Mzinda team to customise the Mzinda platform for use in 8 of their targeted districts of Blantyre rural, Lilongwe rural, Balaka, Zomba, Machinga, Kasungu, M'mbelwa and Mulanje. The purpose of this particular aspect of the LGAP project was to enhance engagement with market actors and citizens around markets (DAI, 2016). The targeted districts or locations for the LGAP project have different socio-economic dynamics as compared to the initial three cities. Also, the timeline at which the deployment of the LGAP project was deployed to leverage the Mzinda system, was 2 years after the initial deployment was done in the three cities.

In consideration of variations in scope, purpose, geography, and timelines of the two deployments, we consider the deployment of the Mzinda platform in the 3 cities of Blantyre, Lilongwe and Mzuzu separately from the LGAP deployment in the 8 districts. All through the deployment of the Mzinda project, four service providers were engaged to use the Mzinda platform. These were: - Blantyre water board (BWB), Lilongwe water board (LWB), Northern region water board (NRWB), and ESCOM.

⁸⁵ <http://osisa.org>

⁸⁶ <https://www.dai.com/our-work/projects/malawi-local-government-accountability-and-performance-lgap>

Three city councils were engaged namely, Blantyre City Council (BCC), Lilongwe City Council (LCC) and Mzuzu City Council (MCC). The city councils responded and acted on citizen reports on sanitation and roads among other service delivery areas that fell within the council's mandate. Additionally, 8 district councils in M'mbelwa, Balaka, Kasungu, Machinga, Zomba, Blantyre rural, Mulanje and Lilongwe rural were also engaged on public expenditure tracking, market infrastructure and management of revenue collected from the markets. Cumulatively, 209 councillors were trained and used the Mzinda platform. Of the 205 councillors; 65 were all the serving councillors in the cities of Blantyre, Lilongwe and Mzuzu who were trained and engaged to use the Mzinda platform from 2016 to 2018. Whereas One Hundred and Forty-four (144) councillors were trained from eight (8) district councils of M'mbelwa, Balaka, Kasungu, Machinga, Zomba, Blantyre rural, Mulanje and Lilongwe rural.

In terms of outreach to citizens; over 51 community campaigns had been conducted in prime locations in the cities and districts such as market places. The purpose of the community campaigns was to enhance citizen's awareness of the rights to engage with duty bearers and service providers. Additionally, the campaigns were held to enhance awareness of the Mzinda platform so that citizens could engage with local councils, councillors, ESCOM and the Water Board using the platform. Community campaigns were more like rallies, where theatre, music and spoken word were used to enhance citizen's understanding and utilization of the Mzinda platform. Whereas community campaigns were broad; we also held six community meetings to engage citizens, councils and councillors on local development issues and to increase awareness of the Mzinda platform as a reporting mechanism. The community meetings were more intimate and structured like focus group discussions to get to depth on issues facing the communities. Cumulatively, the Mzinda platform has reached out to conservatively more than **50,000** people through community engagement activities.

We had also learned from the baseline survey that radio was recommended as a means to enhance outreach. As such, over forty (40) radio programs were aired on the Mzinda platform on Zodiak Broadcasting station which has a 76% listenership across the country⁸⁷. The radio programs tackled a wide range of issues relating to citizen engagement, development and use of the Mzinda platform

⁸⁷ https://www.macra.org.mw/wp-content/uploads/2020/08/radio_listenership_2013.pdf

among others. The radio program did enhance utilisation of the Mzinda platform as evidenced by an increase in the number of reports to the Mzinda platform after each radio program.

As of August 2020; **811** citizen reports had been submitted through the platform from citizens in the initial cities of Blantyre, Lilongwe and Mzuzu. Whereas **219** reports had been sent in by citizens from the 8 additional districts of Balaka, Mulanje, Kasungu, Mmbelwa, Machinga, Blantyre, Zomba and Lilongwe. Cumulatively, the Mzinda platform had attracted over **1,030** citizen reports between 2016 and August 2020. Reports were categorized to different sectors for the attention of the city councils, local district councils, councillors, ESCOM and the Water Board. The initial list of reporting categories consisted of water, electricity, sanitation and roads. However, as more citizen reports came through the Mzinda platform, categories increased to include, health, security, and education concerns among other reports that were sent into the platform.

Of the 1,030 reports sent in by citizens to the Mzinda platform, **66%** of the reports were submitted via SMS, whilst **347 reports representing 34% of all reports**, were submitted via the Mzinda website and mobile application. It is evident that SMS was the most preferred and used channel for engagement as it was anticipated based on the baseline study results.

In terms of duty bearers responsiveness to citizen reports; there was an **86%** response rate to the **811** citizen reports sent through the Mzinda platform from the initial cities of Blantyre, Lilongwe and Mzuzu. Whereas, a **78%** response rate was recorded to the **219** reports from 8 additional districts under the LGAP project. The graph below represents citizen reports, responses and resolutions from duty bearers between 2016 and 2020.

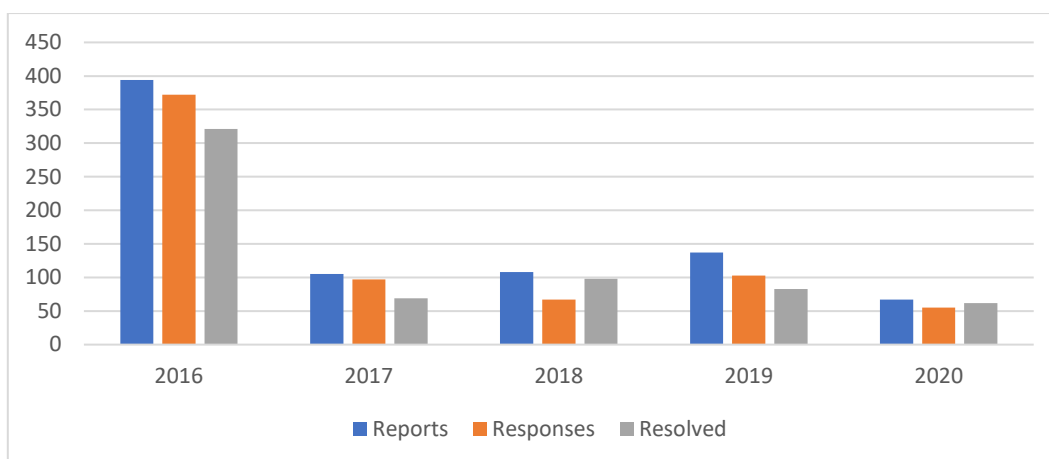


Figure 9.1: Graphic representation of Citizen Reports, Responses from Duty Bearers and Issues resolved from 2016 to 2020

At the peak of project implementation with regular community and duty bearers' engagement as facilitated by mHub, the response rate was at **92%** as at August 2018. **76%** of the reports were confirmed to have been resolved or acted on which was **6% above the targeted rate of 70%** of the number of resolved cases under the project. **48%** of citizens reports were on issues that could be resolved in the medium to long-term. An average of **42%** of reports from the citizens in the 8 districts of the LGAP project were resolved or acted on. That was 8% shy of the project target of 50%.

As of August 2020, there had been a total of **1,919** requests for council project budgets and expenditure budgets made through the Mzinda platform. **1,402** of the requests which translates to **73%** had been made via the USSD platform whilst **456** requests were made via the website and 61 requests had been via SMS. **Only One hundred and Fifty-three (153)** citizens had participated in polls on the Mzinda platform. Over **thirty (30)** news articles had been carried on the Mzinda platform.

Figure 9.2 shows a graphical presentation of citizens reports in the cities and responses per service delivery category.

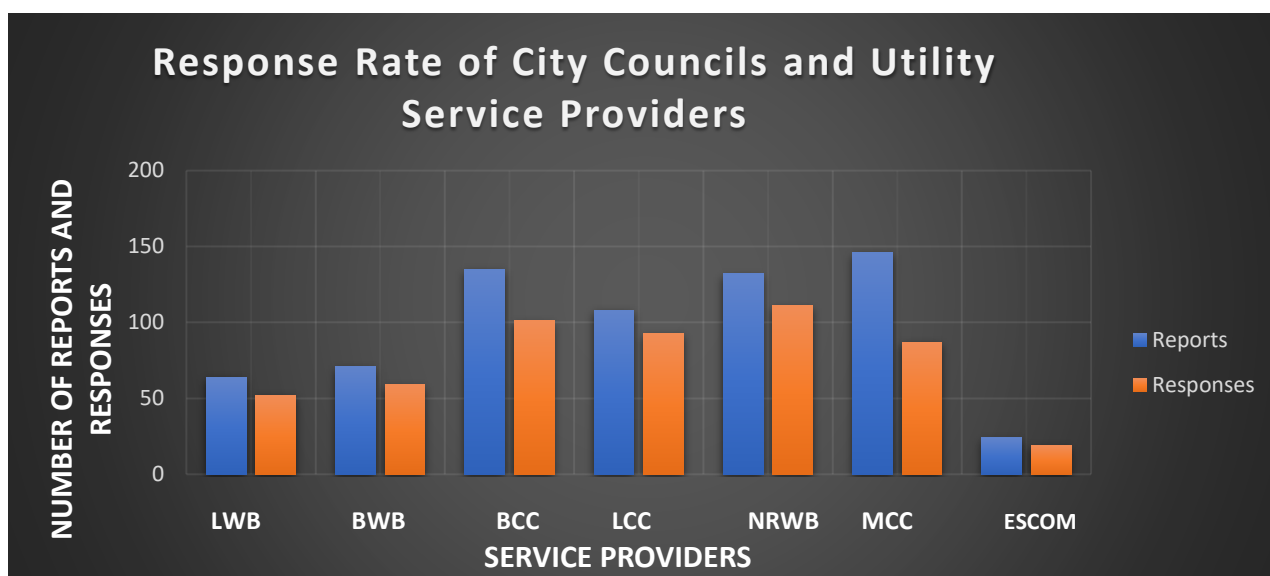


Figure 9.2: Citizens reports in the cities and responses per service delivery category.

From Figure 9.2, it can be seen that the Blantyre City Council had received the highest number of reports followed by the Lilongwe City Council. However, the most responsive utility was the Mzuzu City Council followed by ESCOM. In terms of action, the Northern Region Water Board recorded a 100% action rate which is perhaps also relative to the fewer number of reports received. With 132 reports on electricity issues, ESCOM had the next highest action rate of 89%.

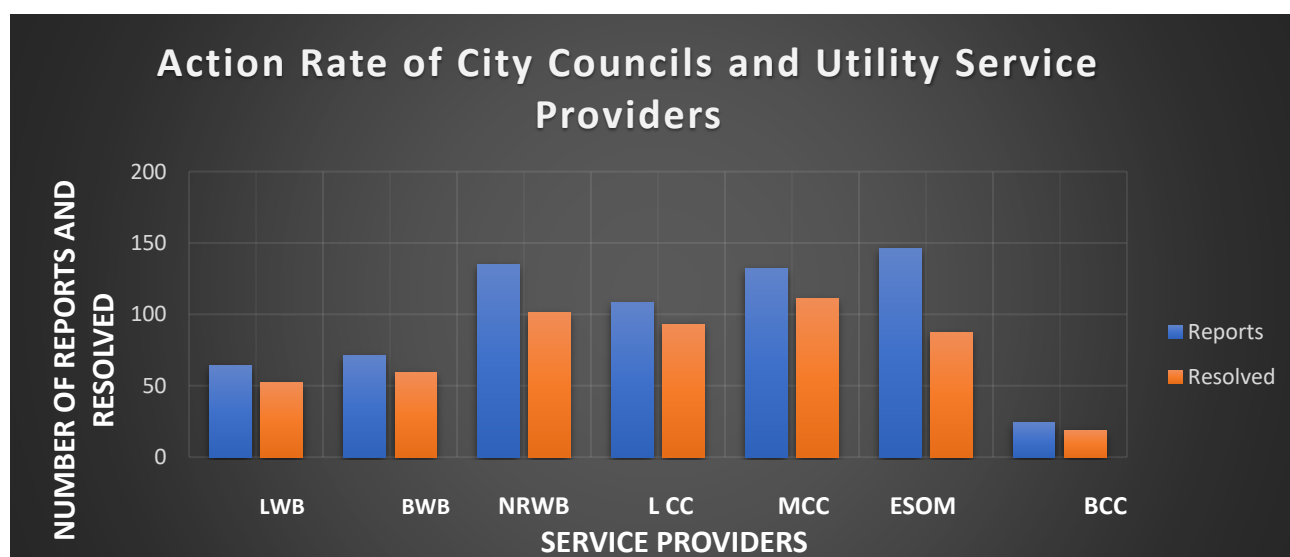


Figure 9.3: Action rate of City Councils and Utility Service Providers

It is important to note that a total of **90** reports sent to the Mzinda platform were related to elections and another **41** on issues to do with various other stakeholders hence the graph in Figure 9.3 focused on utility service providers and the three engaged city councils hence why it has less 131 reports.*

During the project, there were more reports on road related issues from citizens than any other service delivery reporting category. However, the response rate and actionability rate on reports to do with road issues was much lower as compared to the responsiveness and actionability of other service delivery categories. One explanation for the low response rate could be that; because fixing roads can be a long-term issue, it would not necessarily receive immediate action. Reports on water and electricity trailed in that order behind reports on roads. Although reports on Sanitation trailed fourth, this was the sector that was more responsive to citizen's reports. We rank the service delivery categories according to the number of reports received, responsiveness and actionability. Cumulatively, the sanitation category was the most responsive and actionable which is a reflection on the high responsiveness and actionability of the city councils.

Table 9.2: Ranking of service delivery categories in terms of number of reports, responsiveness and actionability

	Report Category	% Resolved	Ranked by %	% Responses	Ranked by %
1	Electricity	89	4	84	5
2	Roads	71	5	84	4
3	Sanitation	89	3	100	1
4	Security	56	7	76	8
5	Education	71	6	82	7
6	Water	89	2	88	3
7	Health	42	9	40	9
8	Elections	98	1	96	2
9	Other	48	8	84	6

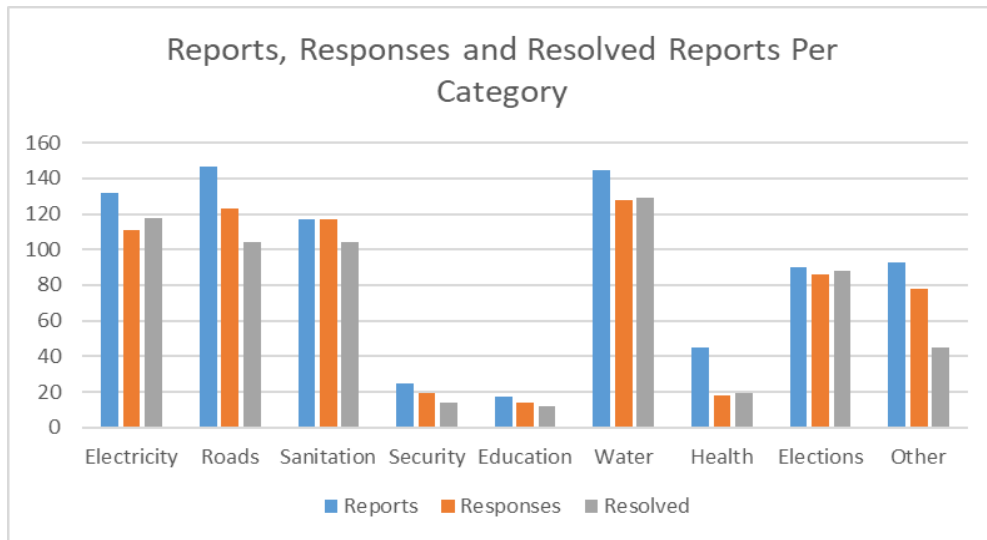


Figure 9.4 Reports, Responses and Resolved Reports per category

As illustrated in Figure 9.5, Councillors from the Blantyre City Council received the highest number of reports from citizens. However, it is councillors from the Lilongwe City Council that were most responsive to citizen reports. We suppose that this is the case because of the extensive engagement in project activities that we undertook in engaging councillors in Lilongwe on the project as compared to the other cities. Lilongwe had benefited from extensive engagement because the researcher is based in Lilongwe and the lead implementing organisation of the Mzinda project; mHub is also based in Lilongwe.

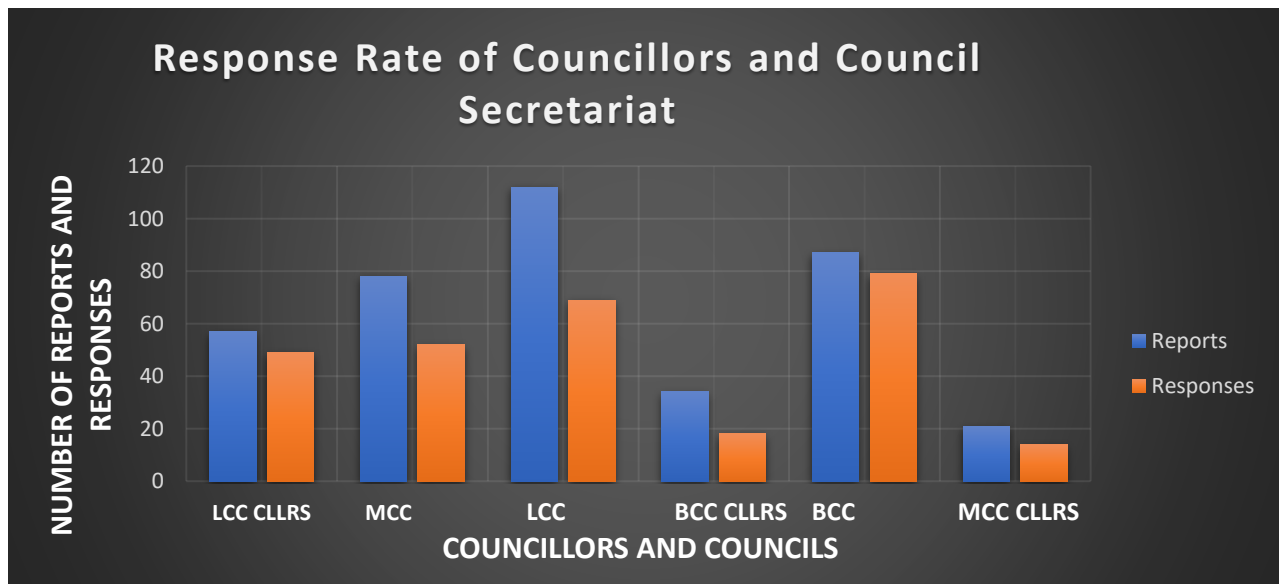


Figure 9.5: Response rate of councillors and Council Secretariat

9.4. Activities Conducted during the Mzinda Platform deployment

In this section, we present the activities that were implemented during the deployment of the Mzinda platform. These include community campaigns, trainings, radio programs and print media engagement, among others. We also highlight some of the lessons learned in the course of implementing these activities

9.4.1. Community campaigns

Building rapport with citizens and having a platform where citizens can learn on the importance of citizen engagement is key in enhancing citizen participation. Extant literature suggests that people do not necessarily participate in ICT led Citizen engagement platforms because of the technology channels but rather because there is inherent willingness by the citizens to participate (Herringshaw, 2018; Bailur and Gigler, 2014). Citizens may also participate because they believe in the system and that they will get feedback or action (Bailur and Gigler, 2014). As such, we cannot over emphasize the need to complement the technology channels for citizen engagement with non-technological mechanisms. Our aspiration was to create an activated citizenry that could participate as well as enable institutions and systems that would accommodate and leverage citizen's views into their plans, actions, policies, and budgets. It is with this regard that the Mzinda team deployed community campaigns.

A total of fifty-one (51) community campaigns were deployed in prime locations (markets, towns, and bus depots) within the cities of Blantyre, Lilongwe and Mzuzu but also in the 8 districts of Mulanje, Balaka, Kasungu, Mmbelwa, Lilongwe rural, Blantyre rural, and Zomba. We estimate to have reached out to an estimated 50,000 citizens. The community campaigns brought together citizens, councillors, council officials and representatives of ESCOM and the Waterboards. The community campaigns also brought together youth, women, members of faith-based groups, the disabled and traditional leaders. We leveraged existing community hierarchy structures, through area development committees, chiefs, and block committees to get word out to the community. The following were the objectives of the community campaigns: -

- To make citizens aware of their right to engage with duty bearers and service providers.
- To make citizens aware of the obligations of duty bearers such as councils, councillors, ESCOM and Waterboards.
- To make citizens aware of the Mzinda platform and channels used for engaging on the Mzinda platform.

- To bring together a platform for citizens, councillors, MPs and service providers to physically engage.

We used theatre and music as a way of mobilizing citizens to gather at a central place and to ultimately deliver messages on the Mzinda platform. Flyers and T-shirts bearing information about Mzinda were distributed to citizens to encourage participation in the quiz sessions. After introducing the Mzinda platform, citizens were given a challenge to send SMS reports to the platform on service delivery and local development issues in their area. Selected messages were read out for citizens during the community campaign. The community campaigns also served as a platform for citizens to engage with their councillors and local chiefs who were given the platform to engage with citizens in a town hall format which is not common.



Figure 9.6: Councillor for Namiyango ward in Blantyre City, Raphael Mzimu, engaging with citizens at an awareness campaign held in his ward on 26th of January 2017.



Figure 9.7: The Mzinda team engages citizens in Mtandire Ward in Lilongwe city during a community campaign.

Figure 9.8: A screenshot of a citizen report through the Mzinda platform sent during a community campaign to which there was a comment from another citizen and a response from the Lilongwe city council public relations officer Ms. Tamara Chafunya.

[REPORTS](#)
[SUBMIT A REPORT](#)

Concern on Upgrading of The Road in Area 24

VERIFIED

🕒 10:15 Apr 24 2017 📍 Area 24, Lilongwe

🏠 Roads

Description

We citizens of Area 24 feel cheated with the way upgrading of the NCIC road to ZBS has been done. We had expected that the upgrading of the road would run from the M1 Road at NCIC passing through Area 24 Market to ZBS however the upgrading seems to have ended at Area 24 Trading Centre. Why is this the case?

Comments

John (Apr 24 2017)
The quality of work also leaves a lot to be desired. The road has already developed potholes.

T Chafunya (Apr 24 2017)
Indeed the upgrading of the road was supposed to reach as far as ZBS covering 2.69km but because the funds allocated for the project were not disbursed in full we had to reduce some distance on the road. The funds have since been made available and the remaining section will be given the required attention.

Throughout the community campaigns, citizens expressed multiple challenges on local development and service delivery challenges experienced in their areas. The most cited challenges being concerns of poor sanitation and hygiene in market areas, poor roads, lack of consistent and clean water supply as well as intermittent and long stretched power outages. The Mzinda platform added other reporting categories apart from water, electricity, sanitation, and roads based on reports that came through the platform on issues to do with other social service deliver issues.

It was evident that the majority of citizens that gathered at the community campaigns were not fully aware they had a right to engage with councils, councillors, ESCOM and the Waterboards. We learned that the majority of citizens who gathered at the community campaigns had not engaged with their councillor, MP or ESCOM or the Waterboards on local development and service delivery of essential services. After learning of the Mzinda platform; citizens expressed keen interest in using the Mzinda SMS channel in particular. Subsequently, it was noted that there was an increase in the number of SMS reports sent to the Mzinda platform after each community campaign.

We had invited councillors to attend the community campaigns being an integral part of community development. However, when given the chance to speak, some councillors used the community campaigns as a political platform to share their political and development updates.

During the campaigns we distributed Mzinda branded Tshirts and Posters inscribed with the short and long code number to use when reporting to the platform. It was noted that on subsequent citizen engagement campaigns, there were citizens that still donned the Mzinda T-shirts and carried with them posters that had been shared on previous campaigns.

9.4.2. Meetings and training of councillors on use of the Mzinda platform

Considering the fact that Councillors are key stakeholders on local development; we met and trained all 65 councillors across the 3 cities of Blantyre, Lilongwe and Mzuzu between 2016 and 2017. In 2018, we trained 144 councillors from 8 districts of Blantyre rural, Lilongwe rural, Zomba, Kasungu, Machinga, Mulanje, Balaka and Mmbelwa. Meetings and training workshops with councillors were held to meet the following objectives: -

- To make councillors aware of the Mzinda platform
- To orient councillors on how to use the Mzinda platform
- To establish dialogue with the councillors for subsequent engagements

There were a number of lessons that we learned in the course of engaging councillors. It was evident that councillors were keen to use the Mzinda platform as means to engage with citizens in their wards on local development and service delivery issues. Whereas prior to deployment of the Mzinda platform; councillors were limited to physical engagement with citizens in their wards; majority of councillors mentioned to prefer using SMS to engage on the Mzinda platform than the web platform due to cost implications of accessing smart phones and data. Most councillors mentioned to have had limited or no access to smart phones or computers and that internet access was also limited and considered expensive. It was evident that the ability to use smart phones, computers and the internet was also limited amongst councillors. Councillors requested that the Mzinda project purchase smart phones or computers for them, however, the project was not able to fulfil this request due to funding limitations .

Some councillors were concerned that the Mzinda platform would be abused by other people to de-campaign incumbent councillors by sending malicious reports and that the platform would expose their shortfalls. We emphasized that reports would be verified and validated through trusted sources before they are published on the public portal.

9.4.3. Community meetings with Block Leaders

Councillors are representatives of wards. Wards are further broken down into blocks. Each block has a community leader selected by the community. We thus engaged over 120 block leaders in partnership with the Story Workshop. The purpose of engaging block leaders was to identify and empower community champions on citizen engagement within communities. The ward development committee members were trained on the use of the Mzinda platform. The block leaders have been promoting the use of the Mzinda platform in their respective wards alongside the network of youth organisations that we worked with such as St. Peters Youth.



Figure 9.9: A section of ward development committee members that attended the training for Chibanja ward in Mzuzu city.

Twenty-Four (24) awareness meetings were thus conducted in conjunction with ward councillors, the Malawi Local Government Association (MALGA), the Story Workshop Educational Trust (SWET) and the Directors of Finance from all 3 respective city councils of Blantyre, Lilongwe and Mzuzu to engage block leaders.

9.4.4. Meetings with City and District Councils

We met with all 3 City Councils of Blantyre, Lilongwe and Mzuzu and 8 district councils in Blantyre rural, Lilongwe rural, Mmbelwa, Kasungu, Balaka, Machinga, Zomba and Mulanje. We met with the Chief Executive Officers of city councils, District Commissioners, Mayors of cities, Public relations officers, and Directorate of units within the city and district council structures. The objective of the meetings with council officials were as follows: -

- To understand the role and activities undertaken by the city and district councils.
- To understand ways in which the councils currently engage with citizens.
- To understand the structure, systems and operations of the city and district councils.
- To understand mechanisms in which the councils currently engage with citizens.
- To understand ways in which the councils currently respond and act on citizen reports
- To understand the status of resources for the councils.

To orient designated council staff on how to use the Mzinda platform.

There are a number of lessons that we learned from this engagement process. It was observed that councils' current role caters for local development areas such as: - markets, sanitation and roads among

others. Unlike city councils, district councils were also mandated to manage water systems. Prior to the Mzinda platform, councils engaged with citizens through walk ins, voice calls and letters. However, none of the councils had a central repository where all citizen reports were collated for the record. Within the city councils, the office of public relations is in charge of handling citizen reports and channeling them to relevant departments. The office of the Public relations officer (PRO) was thus assigned to the Mzinda project as the point of contact in each of the three city councils. The public relations officers themselves were very keen to use the Mzinda platform. Whereas, at district councils, point persons for the project varied from directorates in Finance and Administration perhaps because the primary scope and focus on the deployment of Mzinda at district level had among other focus areas, the public expenditure tracking which fell under the Finance and Administration unit. The Directors of Finance and Administration at district councils did not consistently furnish us with the budget and expenditure reports on time or on the scheduled dates. Without the Access to Information Bill there was no enforcement to push the councils to share the budget and expenditure information. It was the intervention of the Malawi Local Government Association (MALGA) that ultimately enhanced access to the budget and expenditure information from councils.

In terms of response; response to citizens and market vendor reports from the district councils was rather slow in comparison to the city councils. We had to leverage our partnership with the Malawi Local Government Association (MALGA) as an umbrella body for all local government entities to push district councils on being responsive and actionable to citizens and market vendor reports.

We also had to leverage our partnership with MALGA for district councils to send in budget and expenditure reports each month as there was little or no willingness from councils to share this information. As a governing body for all local councils; MALGA had to integrate an obligation for councils to engage on the Mzinda platform as a part of the association's existing expectations from councils. MALGA dedicated their manager, Mr. Hardrod Mkandawire as an intermediary between the Mzinda project and district councils. Although the councils were able to engage; both the city councils and district councils were under resourced and hence found it difficult to respond and act adequately to all citizen reports.

It was easy to orient council staff to use the Mzinda platform on all channels from web, SMS and mobile applications as they were already tech savvy, had access and experience using the computer, the internet, smartphones, mobile applications and SMS. The Lilongwe city council was the most responsive council through its public relations officer Ms. Tamara Chafunya.

9.4.5. Engagement with ESCOM and Water board

ESCOM and Waterboards were the two main parastatals that were engaged on the Mzinda project as service providers of electricity and water. The quality of delivery of both essential services has been on the decline in recent decades with intermittent supply and outages. We thus engaged with ESCOM and the Water boards for the following reasons : -

- To understand how ESCOM and the Water boards currently engage with citizens on service delivery.
- To understand if there is an opportunity for an ICT based platform like Mzinda to complement existing mechanisms for engaging citizens.
- To understand the capacity of ESCOM and the Water boards (resource wise) to respond and act on service delivery reports from citizens.
- To introduce the Mzinda platform to ESCOM and the waterboards.

We learned that ESCOM has its main administrative unit based in Blantyre at the head quarters where key policy decisions are made for all delegated offices in all cities, districts, and locations. On the contrary, the water boards are decentralized and independent in each of the three cities. There is Blantyre Water Board in Blantyre, Lilongwe Water Board in Lilongwe, and Northern region water board in Mzuzu. Prior to the Mzinda platform, citizens engaged with ESCOM and the waterboards through voice calls to designated numbers for citizen reports or through walk ins and letters. However, there was no central system for documenting all reports.

We met with directors of public relations at each of the statutory corporations. Each organisation was keen to leverage the use of ICTs to engage with citizens through the Mzinda platform. The service providers were more interested in ensuring that they offered good customer experience and perceived Mzinda as a tool that would complement this aspiration. The service providers were keen to be perceived as being responsive and quick to act on citizen reports. However, all service providers bemoaned the large outstanding debts particularly with the government of Malawi as crippling their ability to have adequate resources to improve customer service delivery

9.4.6. Mzinda live radio programs on Zodiak Broadcasting Station

We undertook the recommendations from the baseline study to use radio as a means to enhance publicity and awareness of the Mzinda platform. We supported the airing of live radio programs on Malawi's largest private radio station Zodiak Broadcasting Station (ZBS). According to the Malawi

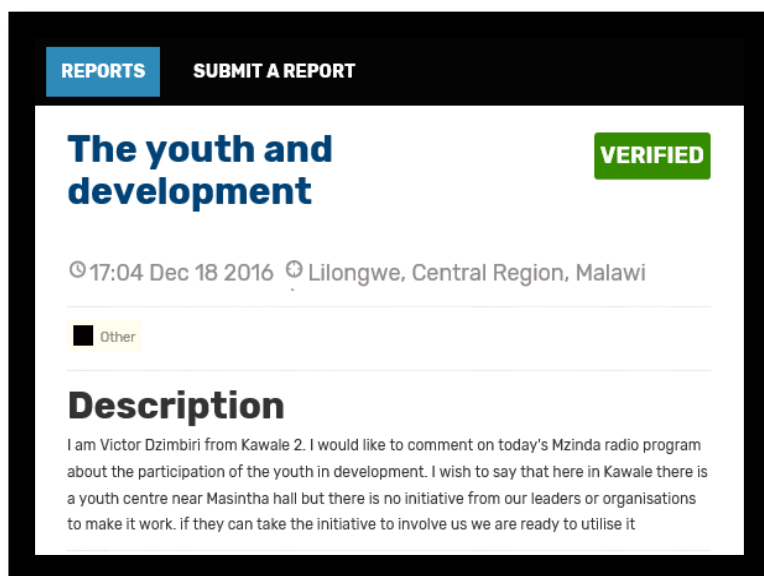


Figure 9.10: Screenshot of radio report

the Mzinda platform. Forty (40) radio programs were thus aired on topics related to citizen engagement with duty bearers and the Mzinda platform. The radio programs ran for 30 minutes time slots. The Mzinda radio programs had the following objectives: -

- To facilitate discussion on citizen engagement by bringing duty bearers such as councillors, MPs, representatives of ESCOM and the Waterboards together with citizens on public radio.
- To facilitate discussion on roles of councils and civil society organisations in the governance space such as the Malawi Local Government Association, The Story Workshop Trust and Citizens for Justice, among others.
- To create awareness of citizens on the importance of citizen engagement.
- To make citizens aware of the Mzinda platform.
- To highlight some of the successes and benefits of using the Mzinda platform by sharing

⁸⁸ https://www.macra.org.mw/wp-content/uploads/2020/08/radio_listenership_2013.pdf

⁸⁹ <http://populationmalawi.org/wp1/wp-content/uploads/2019/10/2018-Malawi-Population-and-Housing-Census-Main-Report-1.pdf>

success stories from other citizens, councils, ESCOM and Waterboards.

- To highlight some of the unresolved issues reported on the Mzinda platform.
- To introduce citizens to the concept of public expenditure tracking and how they can engage their councils on public expenditure vis-a-vis local development projects.

Each radio program had a prevailing topic of discussion. The researcher was the producer of the radio programs. The researcher would debrief the radio host and panelists prior to airing on topics of discussion ensuring there was continuity from previous topics and emerging issues. Each program had a wide array of panelists ranging from citizens to service providers or council representative or civil society partners. Citizens were encouraged to send feedback and reports during and after the radio programs. Some of the reports from citizens were also read out during the radio program to enhance the discussions.

It was evident that there were new citizens that sought to use the Mzinda platform each time after a radio program had been aired as evidenced by SMS reports sent in and USSD hits to the Mzinda public expenditure tracking system. There were times when the radio programs became really contentious between panelists based on topics of discussion. For example, once a councillor almost traded barbs with a chief from his area on the program because of a misunderstanding on the roles of councillors. The radio host had to insert an interlude to quell the situation. While this was not intended, on the positive side, it is a sign of the depth and richness that the discussions and debates offered. This incident is also a reflection of the status of relationships between duty bearers, lack of coordination and presents a speculation of the challenges of citizen engagement.

Although initially, we had predefined topics for each radio program, it became apparent that there was need to be agile and iterate topics of discussion based on outcomes of preceding radio programs. There was need to pick up on loose ends and emerging themes than stick to the scripted outline of topics. That way, the radio programs became more responsive to prevailing conversations and offered continuity. See Annexure 3 for sample reports from selected radio programs.

The radio station was instrumental in offering guidance to finding a slot that would ensure optimal reach of citizens. A slot for Sunday 17.00 pm was used on a prime day to reach majority of people on recess. We thus learned that timing of radio programs to reach targeted audiences is key. During the radio program, emphasis on channels of reaching the Mzinda platform was made mostly for SMS and USSD channels. This was the case considering that majority of the Malawi population did not have

access to smart phones and also considering that only about 19% of the population had access to the internet⁹⁰

9.4.7. Recorded Community Podcasts for Radio and videos for TV broadcast

We considered that some citizens may not be able to catch the live radio programs and embarked on taking a roving audio recorder and video to communities to capture citizen's views off air. While the live radio programs would often focus on the panelist's discussion; the roving audio and video camera offered a more dedicated platform for citizens to speak out their views.

The video clips and audios recorded would ultimately be aired on TV and radio. The podcasts provide a channel for citizens to engage in more deeper conversations within their spaces. There was also an opportunity for such conversations to stimulate more debate and conversations amongst citizens when aired on TV and radio. At the time of writing this thesis, the radio and video clips had just been finalized and started being aired on radio and TV. The audios and videos were done in partnership with The Story Workshop. The Story Workshop uses theatre and multimedia to enhance citizen engagement.

Leveraging partnership with an organisation like the Story Workshop to produce the audio and video content was valuable as they are experts in the theatre space where the researcher does not have expertise. This reiterates the lesson that it is important to leverage partnerships. Citizens were keen to engage with the roving audio recorder and video camera. The conversations with citizens were deeper and more engaging within their spaces unlike with the limited 30-minutes time slot on the live radio program. This was actually the first time that the citizen engagement and Mzinda conversations had gone on video recordings and as such citizens expressed excitement to share their views through video and the ultimate potential of having the content aired on national TV.

⁹⁰ <https://www.mobileconnectivityindex.com/>

9.4.8. Print and Online media Engagement

In order to enhance further follow up on citizens reports and engagement with duty bearers; we engaged with print media houses and online media platforms. The print and online media platforms reviewed some citizen's reports that required further triangulation with citizens, duty bearers and service providers to enhance transparency, accountability, and answerability. We thus established a partnership with the Nation Newspaper which is one of the two leading daily papers in Malawi. Some critical citizen reports were further investigated and written as news pieces in the print media. The journalist would triangulate views of all concerned parties. For example, there was a case of waste from a low-density area being dumped in a high-density area. The journalist captured the views of residents in both locations and views from the city council. The council ultimately resolved to ensure that waste was collected from the high-density location and dumped at a designated place. We have attached some print media features on the project in Figure 9.11. Below are links to some articles that were carried in the media about the ICT for Citizen Engagement project.

<http://mwnation.com/mzinda-platform-registering-success/>

<http://mwnation.com/ll-mayor-in-road-maintenance-campaign/>

Nation Newspaper, April 21, 2017



The Nation newspaper. Monday, 29 August 2016



The Nation newspaper. Thursday, 1 September 2016.



The Nation newspaper. Friday, 29 July 2016.



The Nation newspaper. Monday, 26 September 2016



The Nation newspaper. Thursday, 16 December 2016



Fig 9.11: Newspaper features on Mzinda

9.4.9. Social Media Engagement

We established social media accounts on Facebook and Twitter to enhance publicity of the Mzinda platform and engagement with Citizens using social media. The Facebook account had over 1,016 likes and there were 714 followers on Twitter by January 2019. Facebook and Twitter were used in the following ways:

- to post news of activities such as citizen engagement campaigns,

- to post selected reports from citizens, reminders on the Mzinda radio programs, notifications from service providers, public expenditure tracking graphics, informative and persuasive questions and, for
- to post content that would enhance knowledge on citizen engagement and awareness of the Mzinda platforms.

It is evident that the social media engagement was not done immensely as much as we would have wanted to. Among other reasons, is that the project was understaffed and lacked dedicated social media personnel. Further, social media boosting was not adequately budgeted for in the two phases of the project as priority of funders was primarily on community campaigns and radio. Regardless of the aforementioned limitations; social media presented a great opportunity to particularly engage citizens on the digital media platforms mostly present in the 3 city councils where majority of social media users reside. We noted that in Malawi, social media is still perceived as an elite space as only about 19% of Malawi's population have access to the internet⁹¹. Further, it was estimated that as of February 2019, there were about 540,900 Malawians on Facebook, an equivalent of only 2.6% of the population⁹². This is evidence that the social media space is still for the elite few in Malawi. We speculate that this could be as a result of low penetration of smartphones, prohibitive costs of data and lack of digital skills among other reasons. As a result, the majority of the Mzinda engagement was done through community campaigns and mass radio. This is reflected in the majority of the reports sent to the Mzinda platform that came through SMS. It can be concluded that the Mzinda platform's largest catchment area was Malawians with access to basic mobile phones with basic SMS and USSD capabilities and likely not on smartphones or those with access to social media. Cumulatively only about 1,800 citizens interacted with the Mzinda content at one point or the other through social media platforms.

9.4.10. Mayoral Debates

The 2017, Mayoral elections debates were going to be held for the first time in the history of Malawi and that of the three cities of Blantyre, Lilongwe and Mzuzu. The idea to organise the debates was hatched by Zodiak Broadcasting Station (ZBS) against the background of Mayoral elections that were

⁹¹ <https://www.mobileconnectivityindex.com/>

⁹² <https://napoleoncat.com/stats/facebook-users-in-malawi/2019/02>

set to take place as follows:- 5th of January, 2017 in Lilongwe and on the 9th of January, 2017 in Blantyre and Mzuzu cities.

Zodiak Broadcasting Station is a media house that has the largest footprint in radio broadcasting with the highest listenership of over 76%⁹³. The media house also has a television station. ZBS has organized a number of debates before such as the Presidential debates for the 2014 tripartite elections among several others.

ZBS approached the implementation team of the Mzinda project on the possibility of a partnership in organizing the debates. The partnership with Zodiak in hosting the Mayoral debates was also in consideration of the existing relationship with the radio station in airing the Mzinda weekly radio programs.

The Mzinda implementation team agreed to partner with ZBS in hosting the Mayoral elections debates as we hypothesized that such debates would provide a platform for the ordinary citizens and councillors to engage with their aspiring elected leaders that sought a higher position of Mayor. It was anticipated that through the mayoral debates; citizens would learn of the manifesto of mayoral candidates for their respective cities. It was also anticipated that citizens would highlight deficiencies in service delivery within their cities for consideration by the mayoral candidates after ascending to the high office.

The following were the objectives of the Mayoral Debates:

- To provide a physical platform for interaction between mayoral candidates and citizens physically, live on radio and television.
- Candidates for the position of Mayor in the three cities of Blantyre, Lilongwe and Mzuzu were expected to share their manifesto and detail how they were going to overcome challenges of service delivery in the three cities.
- To provide a platform for citizens and other stakeholders to appraise the manifesto of the candidates for the position of Mayor and seek clarifications where necessary.
- To provide a platform for citizens to share their concerns with the candidates on development issues from their respective wards and the city.

⁹³ https://www.macra.org.mw/wp-content/uploads/2020/08/radio_listenership_2013.pdf

- To provide a platform, live on radio and television through which citizens are sensitized on the duties of a Mayor and the desirable qualities of one.

To ensure that the mayoral debates went well, the following plans were put into place. A Request to conduct the debates was sent out to all city councils. This was done to ensure the councils are informed of the intention to engage councillors and that they share information on the councillors that had expressed interest to contest in the respective three cities. A Request to have a councillor from each political party was made to various political parties so that the party secretariat is informed of the intention to engage one of their members. Dissemination of information on the planned debates to citizens and other stakeholders was done by ZBS through radio and television advertisement. We took the initiative to invite members of committees in wards and constituencies to attend the debates. Invitations were also sent out to other civil society organisations in the three cities of Blantyre, Lilongwe and Mzuzu.

The Mayoral election debate for Lilongwe city did not take place as the council said all parties had agreed to reveal the names of their nominated candidates only on the day of the elections. Only Mzuzu and Blantyre debates were held albeit a low turnout from candidates but full audiences.



Figure 9.12: Pictorial view of the Mayoral debates. A full audience with an empty high table where mayoral candidates were expected to sit after candidates did not show up

The Story Workshop Educational Trust (SWET) assisted with mobilization of community leaders in Blantyre to attend the mayoral debates. SWET also recorded the mayoral debates for airing on the deepening democracy television program to increase awareness on what transpired and let other citizens as well as elected leaders appreciate the concerns that some of the citizens raised. Other organisations like Concerned Youth Organisation (CYO) in Blantyre and Catholic Commission for Justice and Peace (CCJP) in Mzuzu were in attendance to trigger debate amongst candidates on what plans that they had regarding each of the organisations' areas of focus such as youth issues and the promotion of justice and peace.

The majority of the contesting councillors (8 out of 9) shunned the debate, so only one candidate showed up. The councillors cited various reasons for excusing themselves. Even in the absence of some mayoral candidates or where none of the contestants showed up; citizens provided input on what they sought to see in the mayor's manifesto in the respective cities. Two comprehensive reports of issues raised by citizens from Blantyre and Mzuzu were compiled and shared with the new Mayors, the respective city councils, and individual councillors from specific wards. This was to ensure that the expectations of citizens were still noted by the new Mayors, the city councils as well as specific councillors.

The prospective Mayors were requested to share their development plans of their respective cities for the next two and half years in office. These plans were shared with citizens on the Mzinda radio platform as well as during community campaigns so that progress checks on implementation can be done. Feedback from citizens on the plans was directly shared with the Mayors. We learned that since it is councillors that vote for the mayor; the mayoral candidates may not have felt the urgency to engage with citizens as a key to getting votes. This raises the question on what motivates duty bearers like Mayors to engage. Is it to get votes or for the larger cause of development and improved service delivery? It became apparent that how one would perform during the debates would not have had much bearing on his chances of winning. The mayoral elections were heavily politicised as they went beyond the individual contestant but more of the discretion of their political party. Regardless of the aforementioned challenges citizens and various stakeholders took so much interest in the debates and came in their numbers both in Mzuzu and Blantyre. It showed that citizens have the desire to have their ideas on development considered.

9.5. Customisation of the Mzinda Project for other Use Cases

During the implementation of the Mzinda project NGOs; local government, civil society organisations and citizens requested the Mzinda project to consider customisation of the platform for other use cases

within the civic engagement space. This is testimony that the Mzinda platform has demonstrated potential to enhance novel citizen engagement mechanisms. Although, the Mzinda platform was initially developed to facilitate engagement between citizens, councillors, councils, ESCOM and the Waterboards; it became necessary to pivot and respond to demand for other specific use cases. There are three civil society led initiatives where the Mzinda platform has been customised for so far namely:

- to enhance engagement between market actors and the local council in 64 markets,
- to enhance public expenditure tracking within 8 district councils, and
- to facilitate elections monitoring in the 2019 Tripartite elections and 2020 Fresh Presidential election in Malawi.

Apart from these requests to pivot the technology platform to the aforementioned use cases, there are still outstanding requests from three civil organisations from Malawi and Zambia that seek to integrate use of ICTs for citizen engagement first, the National Civic Education (NICE)⁹⁴ is a civil society organisation with the largest footprint of over 6000 civic education officers across Malawi. NICE seeks to deploy a customised use case of the Mzinda platform for enhanced citizen engagement on governance issues post elections second, PANOS Institute Southern Africa is an NGO/Civil society organisation based in Zambia⁹⁵ that seeks customisation of the Mzinda platform for an elections monitoring use case lastly, FODEP, a civil society organisation in Zambia seeks the customisation of the Mzinda Platform for an elections monitoring use case in Zambia.

9.5.1. Customisation of the Mzinda platform to enhance engagement between market actors and local councils

We were approached by the DAI to partner on a USAID funded project within the Governance and accountability space. The Local Government Accountability Project (LGAP) is a five-year project implemented by DAI in Malawi with support from USAID from 2016 to 2021⁹⁶. The project sought to foster accountability of local governments in Malawi by improving capacity and accountability of local governments initially in 8 of 28 districts. The initial target districts were: - Lilongwe rural, Blantyre rural, Mulanje, Kasungu, Mmbelwa, Balaka, Machinga, and Zomba. The LGAP project sought to strengthen citizen engagement, improve the broader national policy and the environment for

⁹⁴ <http://www.nice.mw/>

⁹⁵ <http://www.panos.org.zm/>

⁹⁶ <https://www.dai.com/our-work/projects/malawi-local-government-accountability-and-performance-lgap>

decentralization. The ultimate goal of the project was to facilitate the integration approach where Malawian local government institutions can lead in maintaining ownership and accountability within their systems. The project also aimed at promoting collaboration and co-location among the government, private sector, and CSOs, including social organisations (SOs), research centers, and universities (DAI, 2016).

LGAP deployed a market engagement program after establishing that there was a huge outcry by local market actors on two fronts. The first issue was the lack of information and transparency on the utilization of revenue collected in the local markets. The issue was raised by vendors plying their trade in the markets and citizens utilising the markets. The Second issue was that of poor infrastructure in the markets. Vendors, market actors and citizens had no idea of how much revenue was collected and how it was being used. Market users were clearly not a part of defining the local

development projects within the markets. Before this intervention, market vendors made contributions to market revenues and the district council decided how the funds were to be used. Market users had no information on the revenue collection figures neither did they have tangible avenues to shape ideas on what development projects must be prioritised within the vicinity of the markets to meet the prevailing needs and local demand.

LGAP requested the Mzinda team to develop a customised piece of the platform that would provide the following functionalities:

- a. Provide an SMS platform through which market revenue collectors would send in details of revenue collected in each market, every month to the platform via SMS using a coded syntax: District + Market Code + Revenue collected in a particular month.
- b. Provide a platform to profile market vendors into a database with details such as names, gender, phone numbers and markets where they ply their trade.
- c. Provide a platform through which SMS could be pushed to registered market vendors from the 64 markets in 8 district councils on revenue collected in their respective markets and basic details on what the funds were used for.
- d. Provide a platform through which market vendors could send in reports on their service delivery needs in markets via SMS to the platform.
- e. Provide a platform through which market vendors could provide feedback on the amount of revenue collected in the market versus what is was being used for.
- f. Provide a platform through which market actors and users such as vendors and citizens would send in messages to choose their top 3 service delivery projects that LGAP should undertake

in their respective markets for example: installing dust bins, water pipes and setting up market shelters. LGAP would consolidate the vendors, market actors and citizen's demands for infrastructure projects collated via SMS to the Mzinda system into one or two key infrastructure projects that are needed in each market. LGAP had a budget to construct either boreholes, market sheds, slabs, refuse banks among other infrastructures. The infrastructure would be for each market based on the demand.

- g. Provide a platform where ordinary citizens would send in messages on general service delivery concerns via SMS. This would be called the general grievance reporting system for the attention of councils. For example, reports sent through the general grievance system covered areas such as: - the status of the market infrastructure, market revenue collection, status of projects and other operational elements of the markets.
- h. Provide an SMS channel through which prominent issues on service delivery, corruption, infrastructure and human resources among other issues, would be collected, analysed and presented to inform the broader LGAP project and respective councils of emerging and existing issues in various markets under the LGAP project.
- i. Establish a mechanism where relevant messages and requests pertaining to specific markets are shared with the District council representative(s). In two (2) Districts, the council point of contact assigned was the Director of Finance whereas in six (6) district councils; it was the Director of Administration. The council point of contact would thus take reports and air out the needs of citizens to the council meetings for prioritization and consideration in council budgets. Any response from the council to specific reports would be widely broadcast by the system to registered market vendors in a particular market via an SMS push. Whereas prior, there was no direct, automated linkage for the council to collate reports from vendors and other market actors.
- j. A platform that would cater for more enhanced citizen engagement by following up on more systemic issues that impact service delivery such as prioritization of development projects to be undertaken, district council budgets, revenues, and tracking expenditure at the local level.

9.5.2. Activities undertaken under the LGAP project

LGAP conducted entry meetings in 64 markets in 8 districts from January to February of 2018 to introduce the project. Vendors and other market actors signed up to send and receive information on

revenues collected in their respective markets each month. In addition, vendors were oriented on how to send messages to the Mzinda platform, to indicate their top three priority projects within the markets. LGAP had a pool of funds to deploy citizen driven development projects in all 64 markets. Ultimately, the city councils would continue to integrate the system for engaging market vendors within their systems. Market revenue collectors were also trained on how to send market revenue details each month to the system using the syntax: **District + Market Code + Revenue collected**. District council staff were introduced to the project and oriented on the platform. Market revenue details for each market would then be sent as an SMS to each market vendor registered on the system to enhance transparency. Point of reference persons were identified at the district council level to indulge on reports coming through the platform. Arrangements were made for district councils to share budgets and expenditure details each month to align with the budget and expenditure tracking piece of the project.

9.5.3. Implementation Overview of the LGAP Project

Within the 12 months duration of the LGAP project implementation a number of achievements were made. An SMS short code **6466** was successfully configured on the Mzinda Platform through which market revenue collectors sent messages on revenue collected in markets using specific syntax; **District + Market Code + Revenue collected**. About **2,498** market vendors were registered on the Mzinda system from 64 markets in 8 districts. Over 24,743 messages were sent to market vendors and actors against a targeted 25,113 representing a 98% push rate which was 2% short of the target.

There were 219 reports sent by the market vendors to the system using the syntax and SMS channel. 64 market revenue collectors reported market revenue on average each month using the syntax and SMS channels set. Of the 219 reports from market vendors; 71% of reports were responded to by the councils representing 1% above a targeted average of 70% response rate. Whereas a 42% action rate was recorded from 8 district councils on market vendor reports sent through the SMS platform: being 8% below a targeted rate of 50%. 98% (129 males and 13 females) of the targeted 145 Councillors from all 8 councils were trained on the use of the SMS platform and so far 54% of the councillors trained have used the SMS platform by sending feedback on market revenue collection messages and or being responsive to market vendor reports.

Based on the data collated from market vendors through the Mzinda system and community interface meetings; LGAP deployed and completed infrastructure projects in 49 of the targeted 64 markets.

There were 28 boreholes, 8 market sheds, 3 outdoor refuse skips (metal heavy), 3 refuse bunks concrete, 2 concrete slabs installed in the 49 markets. Using the Mzinda system SMS was pushed to all registered market vendors on start and status of infrastructure projects deployed within their markets.

Table 9.3: Market vendor reports, responses and resolved issues per district as of 30 November 2018

N o.	District	Short Code	All Reports	All Responses	Percentage Response Rate	Percentage Resolved
1	Lilongwe	LL	48	34	71%	33%
2	Blantyre	BT	21	16	76%	57%
3	Balaka	BLK	22	16	73%	32%
4	Kasungu	KU	29	18	62%	55%
5	Mulanje	MJ	41	32	78%	46%
6	Machinga	MHG	18	14	78%	28%
7	Zomba	ZA	16	7	44%	19%
8	M'mbelwa	MB	24	18	75%	58%
Total Reports			219	155	71%	42%

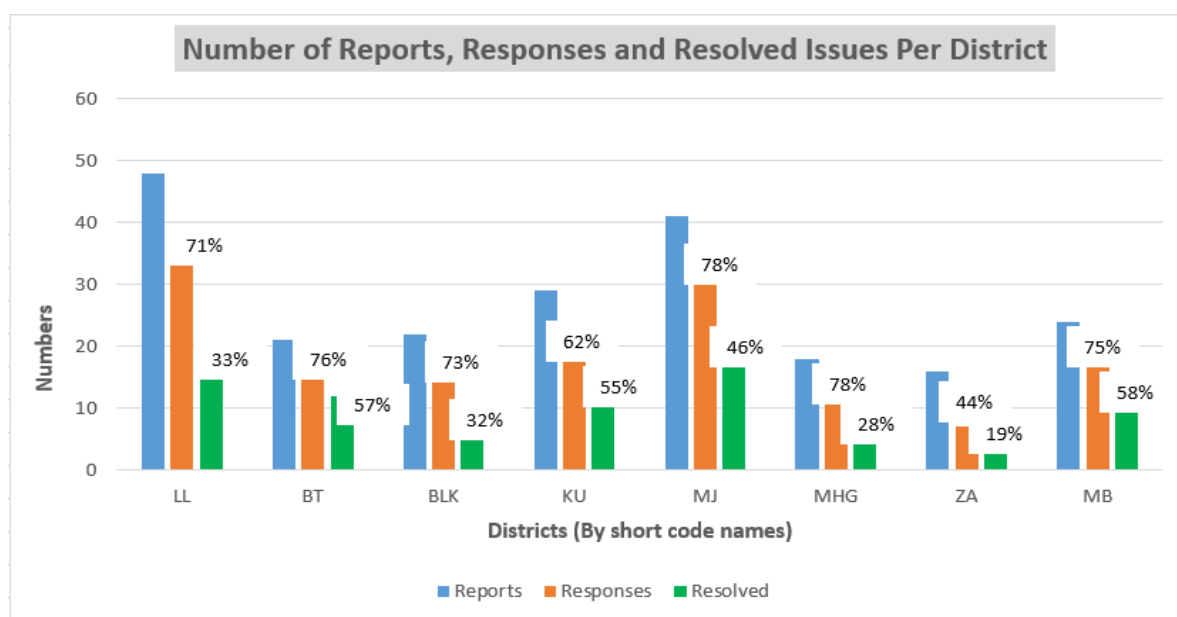


Figure 9.13: Graph on market vendor reports, responses and resolved issues per district

28% (26 out of 92) of the resolved reports were under sanitation; being requests for an improvement in the work of market cleaners and councils to clear waste at dumping sites in markets. Whereas 26% (24 out of 92) of the resolved reports were on delays to pay council workers in markets in particular revenue collectors and cleaners on time. These concerns were mostly raised from markets in Mulanje district. 21% (19 out of 92) of the resolved reports were on requests for councils to make an inquest in the conduct of some market revenue collectors whom it is believed are corrupt and collude with other vendors not to pay the full market fee. 12% (11 out of 92) of the resolved reports were requests for councils to intervene in conflicts among vendors emanating from allocation of market vending places by market chairs and or the involvement of village leaders. 13% (12 out of 92) of the resolved reports were requests for councils to take initiatives in ensuring supply of safe water in markets, construction of infrastructure like toilets and market shades among others.

Table 9.4: Market vendor reports and response from district councils per month as at 30 November 2018

No.	Month	All Reports	Responses from District Councils	Percentage Response Rate
1	February	40	16	40%
2	March	16	9	56%

3	April	10	8	80%
4	May	42	39	92%
5	June	21	16	76%
6	July	23	19	83%
7	August	8	6	50%
8	September	29	25	86%
9	October	13	9	69%
10	November	14	10	71%
Total Reports		219	111	71%

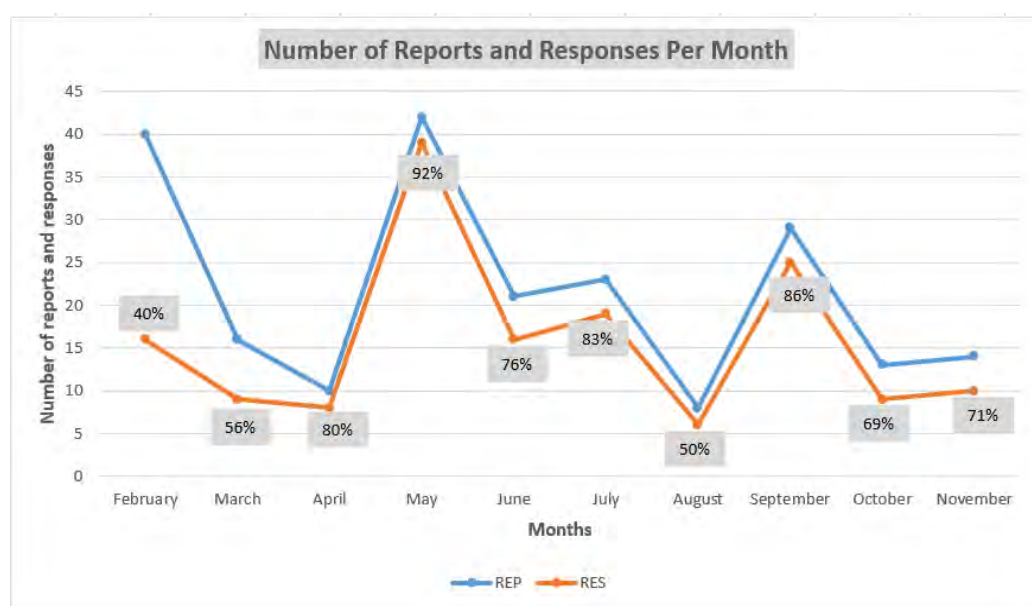


Figure 9.14: Graph on market vendor reports and responses per month as at 30 November 2018

Table 9.4 and Figure 9.14 show that there was a consistent rise in the response rate from inception to a peak in May, as vendors had just been registered and introduced to the platform. During this period, the vendors were actively sending through their concerns with regards to the markets and getting responses from the system. However, there was a fluctuation in reports and response rates from May to August as most of the issues already raised were not re-logged through the platform. Some vendors

reduced use of the platform owing to lack of action on some seemingly short to medium term reports. Delays to begin works on proposed projects in each market by LGAP, led to some vendors questioning the future of the promised projects. Some vendors also questioned if the use of the SMS platform was an option through which they would be assured of action as promised. An initiative was taken to regularly push messages to market vendors informing them of progress in plans to roll out works on the various projects chosen in each respective market. This re-ignited market vendors use of the platform and the number of reports increased in September. It is thus evident that response and action from duty bearers was a stimulant for market vendors to engage further.

Table 9.5: Categorised market vendor reports as at 30 November 2018

No.	Category	All Reports	As a Percentage of All Reports
1	Infrastructure	72	33%
2	Electricity	19	7%
3	Water	33	15%
4	Sanitation	36	16%
5	Revenue Collection	39	18%
6	Human Resource	20	9%
Total Number of Reports		218	

From Table 9.5, it can be seen that Infrastructure was the category with the highest percentage of reports out of the total 219 reports sent through the platform from the LGAP districts. There was a consistent rise in the percentage of reports in the water category across all quarters from 8%, 12%, 13% and closing at 15% as market vendors requested updates on when work on the construction of boreholes was going to start in their respective markets.

The majority of reports on revenue collection focused on market vendors raising their concerns on the possible lack of accountability by revenue collectors in their respective markets. This was the case where market vendors were not convinced with the reported figures on revenue collection as shared by the councils through the SMS platform.

Most reports on human resources were requests for councils to increase the number of workers in markets and tips of pending reports of existing strikes by workers in markets owing to delays to receiving their dues. These reports were promptly shared with councils and it is good to note that most

councils were responsive as was seen in the case of Chilobwe market in Blantyre and Limbali in Mulanje.

Vendors registered on the Mzinda platform

Table 9.6: Market vendors registered on the Mzinda platform

No.	District	Registered via SMS	Registered via Kick-off meeting	Total Number Registered	Number of reporters	Percentage of vendors reporting
1	Lilongwe	77	*	77	11	14%
2	Blantyre	22	*	22	3	13%
3	Balaka	28	237	237	5	2%
4	Kasungu	81	344*	344	6	1%
5	Mulanje	1	*	1	1	100%
6	Machinga	16	167	167	0	0%
7	Zomba	5	128*	128	0	0%
8	M'mbelwa	19	*	19	2	10%
Total		249	876	995	28	3%

There was a visible gap between market vendors, actors and the councils on revenue collection and use of revenue prior to the program being deployed. We assume that this may be the case in other districts and markets. We also observed that Market vendors and actors were not actively involved in determining priority development projects for the markets prior to this program. However, with the deployment of the Mzinda platform; market vendors were keen to send in messages on the development projects needed in their respective markets clear evidence that engagement mechanisms were lacking prior. In the course of engaging with market actors, vendors and the councils, we learned that there was need to clearly explain to all actors involved that such initiatives are meant to strengthen engagement between the council and market actors towards ultimately deploying demand driven development projects in a collective and transparent manner and should not be viewed as policing or auditing or as fault finding mechanisms as was perceived by other stakeholders.

It was evident that responsiveness and actionability of duty bearers were a stimulant for further engagement by vendors and citizens. Vendors and Citizens mentioned that they were likely to engage again using the Mzinda system when they had received a response or action was taken on their previous

report. It was a combination of non technological engagement and technology enabled engagement that enhanced credibility of the initiative amongst market vendors. Market vendors reported that they were able to follow up on revenue collected within the markets with their market revenue collectors in person and also on their mobile phones through SMS pushed to them from the system. Further, market vendors mentioned that they were able to share their input on desired infrastructure projects to be deployed within each of their markets using SMS and community meetings. Some of the proposed infrastructure projects included boreholes and market sheds. Council meetings deliberated and decided on priorities for the ultimate infrastructure projects to be deployed within the markets based on tangible citizen voice from market vendors reports captured from physical community meetings and SMS reports on the Mzinda system.

Sharing information on the total market revenue collections to those who pay has enhanced transparency and accountability of the market revenue collector, market counter and market supervisors. Revenue collected has been used to pay revenue collectors, sweepers, security, purchases of sanitary equipment, deploying water points and paying for water bills among other uses.

9.5.4. Challenges encountered by the LGAP Market Program

There were a number of challenges encountered by the LGAP project. For example, some vendors were not able to grasp the syntax for sending messages hence creating an overload of unstructured messages that we had to physically sort at the back end of the system. We also learned that not all market users are tech savvy and keen to use SMS to report. Some market actors strongly prefer face to face interaction and majority would still want to complement use of SMS for reporting with physical interface. We thus recommend that; apart from leveraging the use of the Mzinda platform; there is still a need for physical interaction through community meetings between the council, market vendors, councillors, and other relevant stakeholders to enhance rapport and trust.

9.6. Customising the Mzinda Platform for Public Expenditure Tracking

Throughout the engagement with citizens on the Mzinda platform between 2016 and 2017, it was established that citizens sought a public expenditure tracking system through which they could keep track of how public funds at local government are spent. It had also transpired that councillors and other council officials were also interested in keeping track of whether such public funds were spent according to defined local priorities. Public expenditure tracking avenues have the potential to

empower citizens to become a part of decision making in issues that affect them and minimize the abuse of resources by local government through transparency and accountability. Further, through PETS there is an opportunity to provide citizens with near tangible outcomes and likely to enhance sustained, long-term civic participation (NDI, 2015)⁹⁷⁹⁸.

9.6.1. Methods for Public Expenditure Tracking

There have been several methods used for tracking public expenditure. Some of the common methods used are budget monitoring, public expenditure reviews and community-based monitoring. Since 2008, the Malawi Government introduced Public Expenditure Tracking Surveys (PETS) targeting primary beneficiaries of the planned and budgeted interventions. The purpose of the surveys was to provide information on the benefit, value, and short term impact that the funded interventions had on the quality of service delivery at the local level. However according to a report from the NDI, “the surveys are time consuming and require significant amount of resources to be implemented” (NDI, 2015 p.6). We thus sought to explore whether use of ICTs could be relevant in expediting the process of public expenditure tracking.

9.6.2. Outreach on Public Expenditure Tracking

The Mzinda project team reached out to citizens, councillors, and councils in 8 district councils and 64 markets targeted in the LGAP project with regards to Public Expenditure Tracking using the PET GUIDE. Over 145 councillors and 1500 citizens had been trained on public expenditure tracking. There are a number of facts that we gathered on the status of public expenditure tracking in the course of scoping the project. For example, we learned that there were no structured mechanisms for public expenditure tracking set within the existing systems. Subsequently, there was visible mistrust between citizens, councillors, and public councils on how development funds are utilized; citizens were not certain if funds were used for local development priorities. In addition, there was minimal and unstructured engagement between citizens, councillors, councils, and other relevant stakeholders. It was evident that consistent rapport had not been established for citizens and duty bearers to co-define local priorities where funds should be allocated to. Citizens were of the view that priorities for

⁹⁷<https://www.ndi.org/sites/default/files/PET%20CSOs%20Final.pdf>

⁹⁸<https://www.ndi.org/sites/default/files/Power%20to%20the%20People%20Guide%20V1.pdf>

expenditure were set by a few at the council and were not representative of the majority of citizen's views. Further, citizens were of the view that there was minimal transparency and questioned the accountability of public expenditure. On the other hand, councils were not keen to share all information on public expenditure as some council staff were of the view that public expenditure tracking is a way to police and audit their budgets; to find and expose fault.

9.6.3. Activities undertaken on the Public Expenditure Tracking initiative

We leveraged partnership with the Malawi Local Government Association (MALGA) to implement a number of activities on the PET initiative. In collaboration with the Malawi Local Government Association; we also engaged councils, councillors, citizens, District Executive Committees (DECs), Area Development Committees (ADCs) and Village Development Committees (VDCs) on the concept of public expenditure tracking.

We facilitated sessions on the need for collaborative efforts by all players in tracking public expenditure. The councils welcomed the initiative and referred us to the council's respective finance committees with regards access to information on project budgets, allocations, expenditure, and any other relevant information. In practice, information on budgets and expenditure was shared through MALGA as an association of all councils that councils yield authority to. MALGA would then relay the information to the Mzinda team.

A USSD platform was developed to provide a mechanism for collating and tracking public expenditure information by citizens on mobile phones through a guided menu. Complementing the USSD channel was a web page on public expenditure tracking that was developed to visualize the public expenditure tracking information for web users and subsequently integrated into the existing Mzinda platform. The PET system provided a mechanism for councils to share their budgets and expenditure on specific projects periodically.

After the budget and expenditure information was shared by the Directors of Finance and Administration at the councils through MALGA; the budget and expenditure information was then uploaded to the web platform and the USSD platform by the Mzinda team. Citizens accessed the system by dialing *646#1. The system brought a menu where citizens could select the council, ward, or project they seek to get budget and expenditure information. The system would return the information on budget and expenditure as can be seen in Figure 9.16. There was also a query report form, through which questions and or comments from citizens on council project budgets and

expenditure were recorded. Where necessary, investigations were done through the Malawi Local Government Association (MALGA) and findings were also communicated to citizens. We thus acted as an intermediary that facilitated engagement on public expenditure tracking between citizens and district councils through engagement with MALGA.

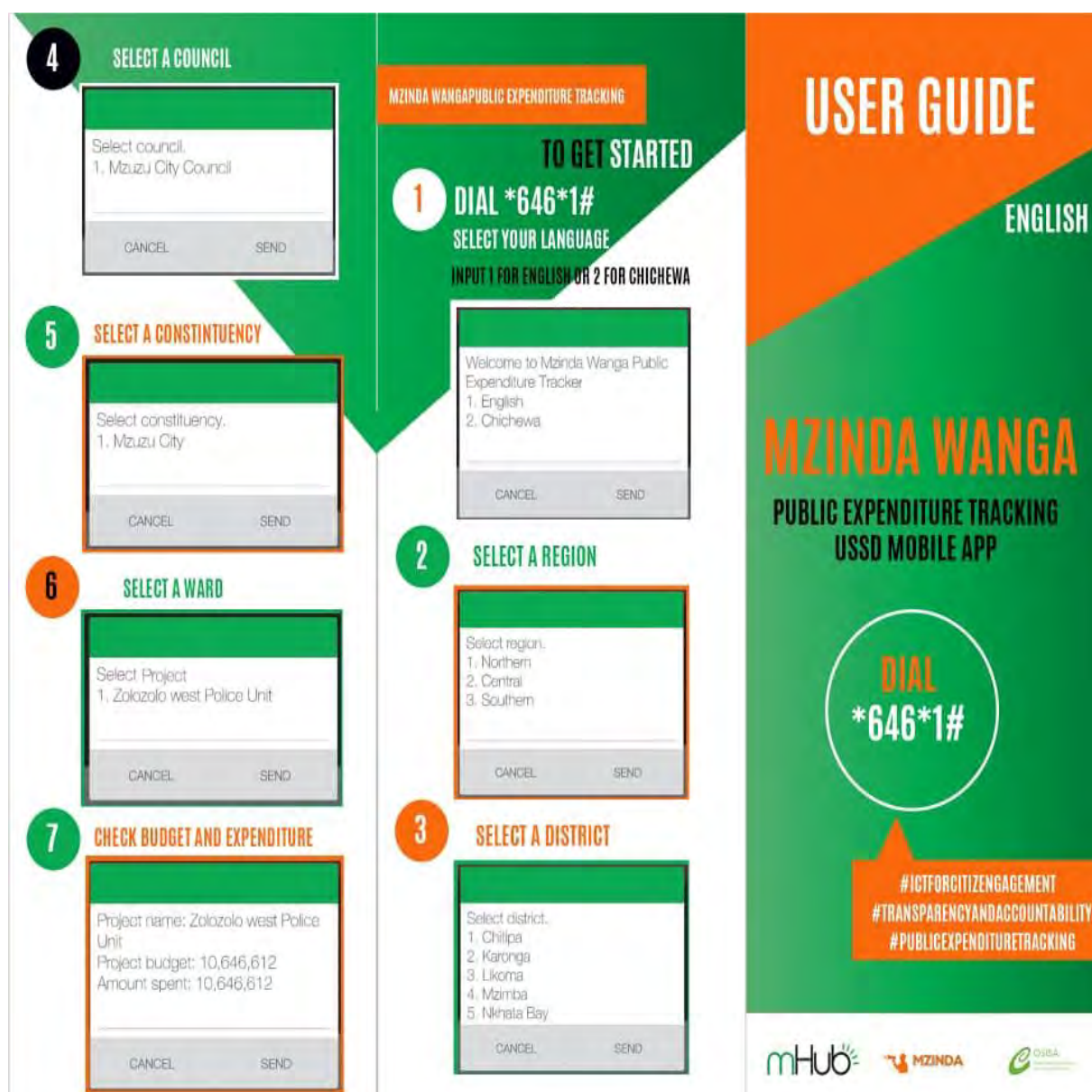


Figure 9.15: A guide to using the USSD public expenditure tracking system

9.6.4. Lessons learned on the Public Expenditure Tracking Initiative

It was not easy to break the current norm of managing budget and expenditure information as this information is perceived to be private and confined to the council alone. This is despite the obligation

councils hold to make this information public and available to citizens. Although citizens were able to query on certain budget and expenditure details using the mainstream Mzinda reporting channels of SMS and USSD; there is a need to close the loop between tracking the expenditure and ultimately defining subsequent budgets. We recommend that there is a need to publicize the PET system more in order to have more citizens using the system. For public expenditure tracking to be effective, there is need for cooperation and commitment of all concerned stakeholders such as citizens, councillors, District Executive Committees (DECs), secretariats, Members of Parliament, CSOs, Area Development Committees (ADCs), Village Development Committees (VDCs), communities, media and service providers.

- The role of MALGA in this initiative was very significant as district councils committed to providing the budget and expenditure tracking information to MALGA as an umbrella association. Otherwise, it would not have been easy for us to access such information. The partnership with MALGA and MALGA's role intimates the value of partnerships and leveraging existing structures in citizen engagement initiatives.
- "The expenditure tracking system should be explained to other actors as a tool of assistance rather than as an auditing mechanism. It is also important to assure local government officers and other representatives that the process is meant to promote positive change in local governments and enhance the relationship between citizens and their Council" (NDI, 2015 quoting NDI, 2010 p.6).

 Dashboard Citizen Reports Polls PET Engage Councillor News							
Project Title	Constituency	Ward	Fund	Planned Duration	Budget Estimate	Expenditure to date	Remarks
Construction of Golden Gate foot bridge	LL City South West	Mchesi	CDF	1 July 2018 - 30 June 2019	6,387,112.50	4,779,559.75	On course. 74% complete
Construction of A23 police unit	LL City South East	State House	CDF	1 July 2018 - 30 June 2019	3,486,500.00	3,486,500.00	Completed
Construction of Chilinde 2 Market shed	LL City South East	Chilinde 2	CDF	1 July 2018 - 30 June 2019	1,455,090.00	656,789.00	In progress. Half way through
Construction of classroom blocks at Chiponda Primary	LL City West	Chilinde 1	CDF	1 July 2018 - 30 June 2019	10,869,450.00		In progress
Supply and Installation of culverts at Green Valley	LL City Centre	Maria	CDF	1 July 2018 - 30 June 2019	8,149,175.00	5,702,675.00	Completed without drainage works
Completion of Biwi Clinic	LL City South West	Mchesi	IDF	1 July 2017 - 30 June 2019	118,947,989.78	71,870,947.96	60% works completed

Figure 9.16: A screenshot of the Public Expenditure Tracking (PET) section under Activities and Expenditure for Lilongwe City Council projects on the Mzinda website

As of December 2019, there had been a total of **1,919** requests for council project budgets and expenditure reports made through the Mzinda platform. Of the 1,919 requests, **1,402** requests which make up about 73% of the requests, had been made via the USSD platform whilst 456 requests (24%) and 61 requests (3%) had been made via the website and SMS respectively.

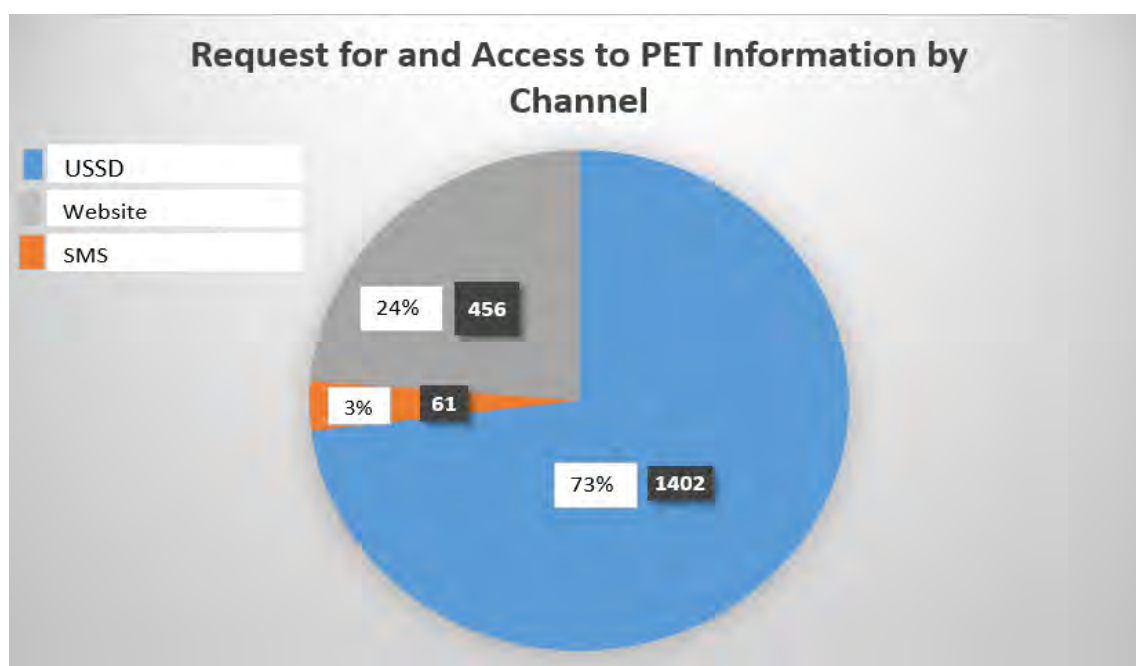


Figure 9.17: Request for and Access to information on Public Expenditure categorized by channel

The majority of people accessed the PET system via USSD. We assume that the higher percentage use of the USSD channel might be attributed to the fact that USSD is accessible on any mobile phone at no cost, there is no need for a smart phone or internet connection to access USSD. Figure 9.18 shows the request for as well as access to public expenditure information during the whole project duration.

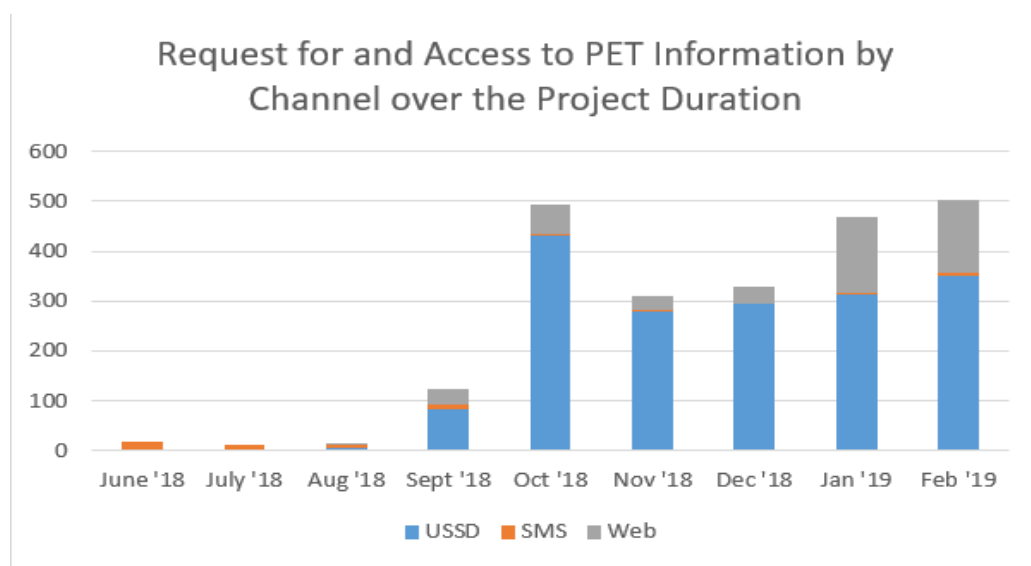


Figure 9.18: Request for and Access to Public Expenditure information by channel over the project duration

It can be observed in Figure 9.18 that there has been a consistent rise in the number of citizens requesting and accessing information on public expenditure from councils since November 2018. This can be attributed to more awareness efforts which were made through airing of radio programs on Zodiak Broadcasting Station since October 2018. The community awareness campaigns that were conducted in each of the three city councils of Blantyre, Lilongwe and Mzuzu were also a contributing factor.

It has to be noted that since project inception in March 2018 through to June 2018; councils were yet to provide information on project budgets and expenditure hence citizens had no access to the information. The information was only provided in June 2018 but an agreement with regards to the design of the section and presentation of the information on the website was only reached in August 2018. This explains the low number of hits to the system between June and August 2018, as the information was requested for and accessed via SMS only.

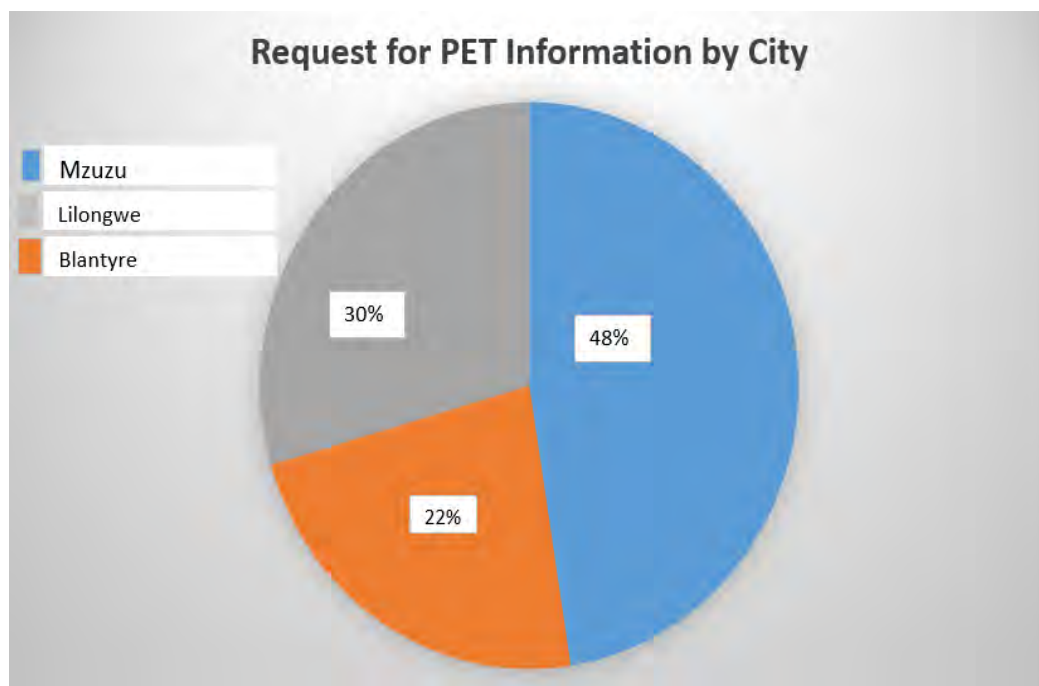


Figure 9.19: Request for Public Expenditure information analysed by city

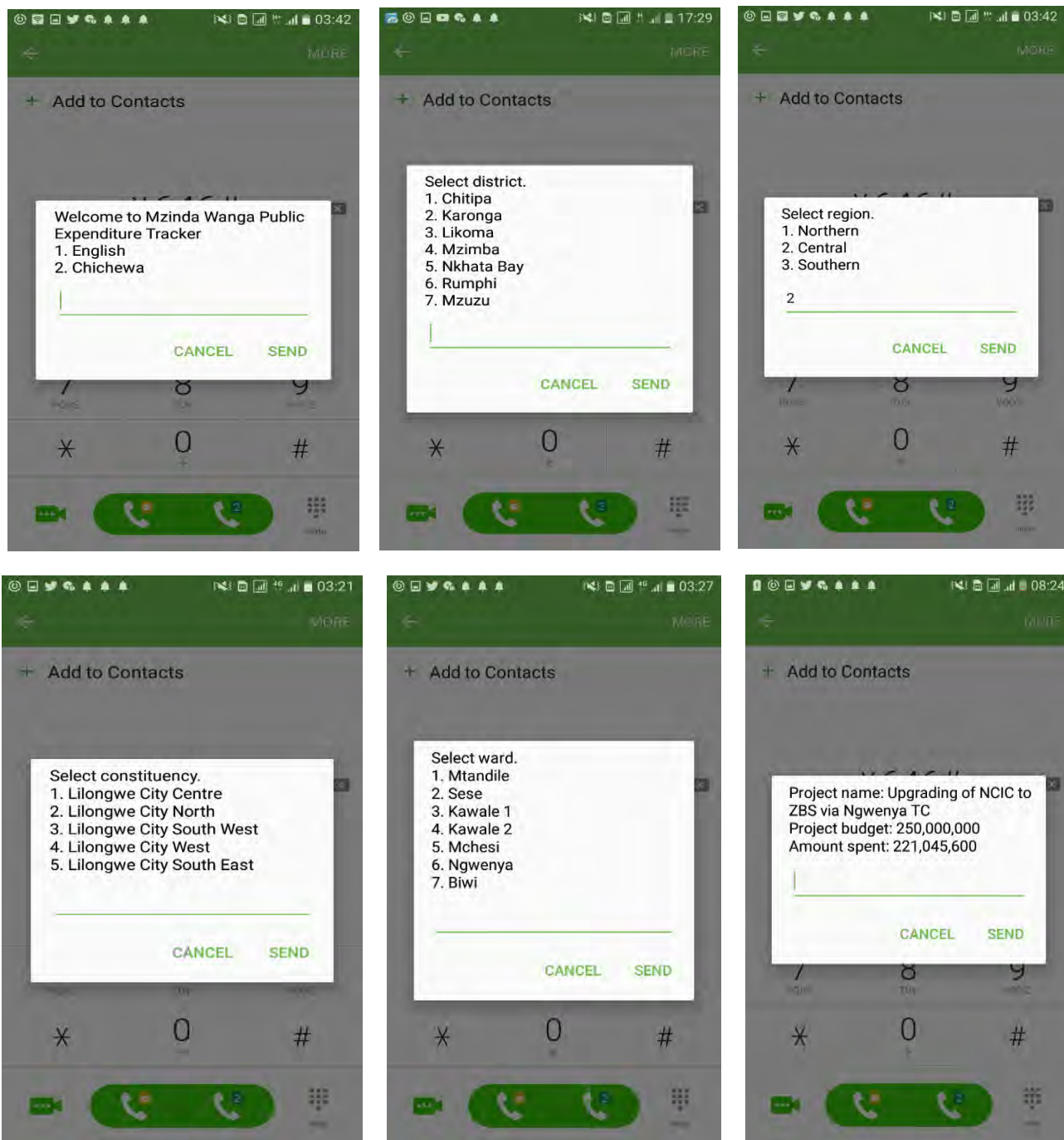


Figure 9.20: Screenshots on the flow in request for Public Expenditure information via USSD *646#1 in clockwise

QPI_20_8_18//Mzinda			
Project	Query on PET Information (QPI)	Response	Finding
1 Upgrading of NCIC road to ZBS via Ngwenya Trading Center Constituency: Lilongwe City South West Ward: Ngwenya Fund: Road Infrastructure Management Budget Estimate: K250,000,000 Funds Allocated: K250,000,000 Funds Spent: K221,045,600 Period: July 2017 - July 2018 Update: In progress Contractor: Dika Construction	Work on this road stalled some time back and then we were told works will resume but at that time the indicated end of the road upgrading was the main market. Yet here the indication is it has to go as far as ZBS (6 August 2018)	Upgrading of the road was supposed to reach as far as ZBS covering 2.69km but because the funds allocated for the project were not disbursed in full, initial construction reduced some distance on the road. The funds were then made available and work resumed and the remaining section will be given the required attention (7 August 2018)	Saying funds for the project were not disbursed in full is not correct. Rather the funds for this particular project were disbursed in full, but a part was redirected to the construction of another road where funds were apparently considered to have been under-budgeted. Funds have now been made available to finalise works up to ZBS. Delays have been due to change in the contractor because there were also reports of concerns with the quality of work especially between Area 22A and Penyenye (15 August 2018)
2 Construction of Classroom Block Biwi CDSS Constituency: Lilongwe City South West Ward: Biwi Fund: Basic Education Budget Estimate: K6,000,000 Funds Allocated: K6,000,000 Funds Spent: K7,648,980 Period: July 2017 - June 2018 Update: Completed Contractor:	Request at community and what was assured was two classroom blocks. But we only see one classroom block (19 July 2018) So from where was our councillor getting the assurance (20 July 2018)	A proposal might have been made for two classroom blocks but in the end it depends on how much from our overall budget we can allocate to a particular project as funds are limited. For this one an allocation was made for only one. (19 July 2018)	Yes. An allocation was made for only one classroom block, and eventually expenditure also exceeded the budgeted amount due to a rise in cost of materials. (21 July 2018) The councillor for the ward has been assuaging citizens that the other block will be constructed because he has been hopeful on a request he made to an organisation that constructed a block at a school in the neighbouring Kawale ward. (21 July 2018)

Figure 9.21: A screenshot of the Mzinda Public Expenditure Tracking (PET) information query report on two projects under Lilongwe City Council

9.7. Customising the Mzinda Platform for elections monitoring

Malawi hosted the nationwide Tripartite elections on 19th May 2019 and subsequently fresh Presidential Elections on Tuesday, 23rd June 2020. The June 23rd Presidential elections were held following the nullification of the Presidential elections held in 2019 by the High Court of Malawi⁹⁹. The nullification of the Presidential results was later upheld by the Supreme court of Appeal¹⁰⁰. The nullification was based on among other concerns, a plethora of irregularities in the elections process (High Court of Malawi, 2020). It thus became even more necessary for Civil Society organisations and other electoral stakeholders to ensure that the country experienced a free, fair, and credible election process.

⁹⁹ <https://www.aljazeera.com/news/2020/02/malawi-top-court-annuls-presidential-election-results-200203060112731.html>

¹⁰⁰ <https://www.voanews.com/africa/malawi-top-court-upholds-presidential-election-re-run>

To ensure that the elections were free and fair, a consortium of three civil society organisations called the Election Situation Room (ESR) was formed. The consortium consisted of the National Initiative for Civic Education (NICE), Public Affairs Committee (PAC) and the Catholic Commission for Justice and Peace (CCJP). The consortium deployed over 6000 observers and sought to leverage the use of ICTs to track and monitor (in real time) incidences around the election process from both observers and citizens across the country.

The consortium requested the Mzinda project to customise the Mzinda platform for elections monitoring. The main objective of the ESR was to facilitate the collation of real time data before, during and post the election for real time intervention by electoral stakeholders. The ESR aimed at facilitating a free, fair, and credible election. We thus customised and developed a system to cater for the following functionalities:

- A platform for citizens to report in real time on incidences around the election processes via SMS and the web platform.
- A platform through which over 6000 election observers deployed at each polling station and over 462 roving monitors would send in real time data based on the standard election observation checklist using a secure mobile application.
- A function within the system for data clerks to flag critical incidences that had been reported; to verify and validate critical citizen concerns and observer reports before making them public on the web portal.
- A dashboard (s) to visualise citizen reports and observer report aggregates.

Although the consortium did not intend to collect and tabulate results; we also built a platform for real time collation and tabulation of unofficial election results. The Mzinda platform was used for collating citizen reports whereas the observer reports were sent through a new platform specifically meant for the elections called “Maso Athu” which means “our eyes”. The platform was accessible at: <http://masoathu2020.com>

9.7.1. Structure of the Election Situation Room

The election situation room had five layers of operation. First, citizens and observers were at the base of the pyramid and acted as sources of data. Citizens accessed the platform via the Mzinda SMS line whereas observers accessed the platform through a mobile application. The second layer of the ESR consisted of data clerks who acted as points of verification, validation and flagging of incidences and

reports. The third layer of the ESR consisted of an expert team consisting of a Political Expert, a Data Scientist, and a Communications Expert whose role was to synthesize data and produce press briefings on the situation for the consortium to use in engaging the media and electoral stakeholders. The fourth layer of the ESR consisted of an intervention desk that encompassed representatives from the Malawi Police, Malawi Electoral Commission (MEC), and the Centre for Multiparty democracy (which is a collation of political party representatives) to escalate emerging reports for action as needed. Lastly, there was a representation of the consortium that engaged the media with periodic press briefings on emerging issues and a call to action as a last layer. Figure 9.22 is a graphical representation of how data flowed from observers

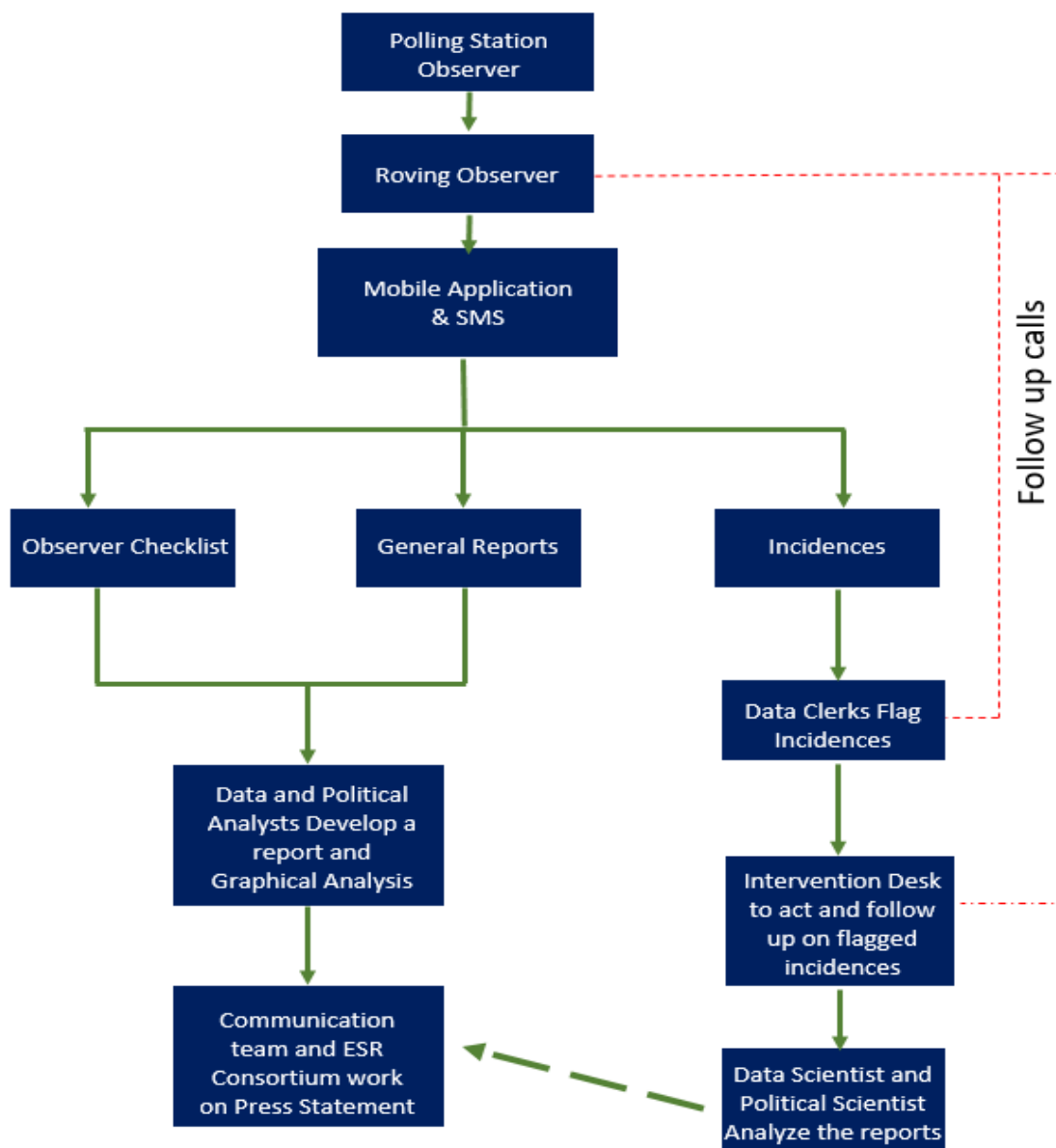


Figure 9.22: Structure of Election Situation Room

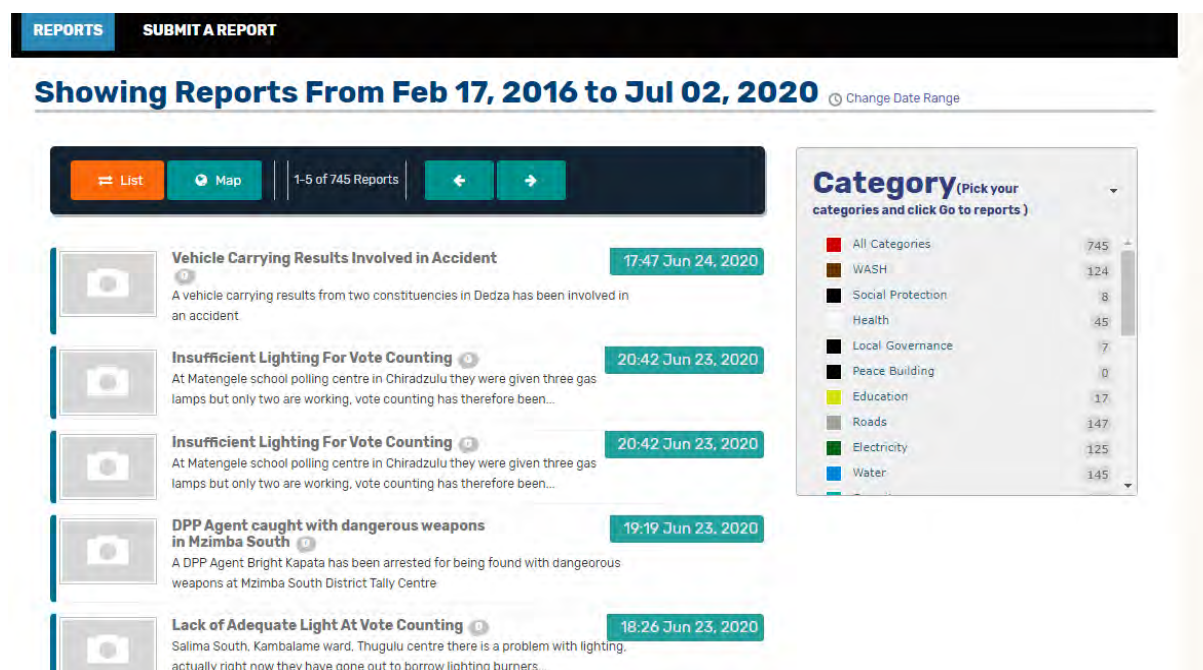
9.7.2. Activities undertaken in the ESR Project

There were a number of activities that were undertaken by the Mzinda project on the ESR before, during and after the elections. For example, we publicised the Mzinda SMS number through radio and local observer training sessions, for citizens to send in reports on incidences around the election. We developed an Android mobile application for observers to send in reports according to the traditional standard election observation check list. Each observer was assigned to a unique polling centre code and authentication details to access the mobile application. The checklist collated data at 3 intervals: morning, afternoon, and evening. We then made the mobile application to have the capacity to cache data and send the data over when an internet connection was available to align with low resource settings. We trained observers on how to install and use the mobile application. We also trained data clerks on how to flag incidences on the system, verify and validate critical data in the system by triangulating with trusted sources on the ground.

9.7.3. Achievements of the Election Situation Room Project

There were a number of significant achievements made through the ESR project. For example; over **6000** observers sent in standard election observation reports using the mobile application. These observer reports were analysed into informative graphics that the ESR used to report out on key Election indicators. There were 64 reports from citizens that were verified, validated, and made public on the Mzinda platform. Reports ranged from issues on violence, voter bribery and lack of voter resources among others. The reports were brought to the attention of the intervention desk that ultimately resolved **131** incidences that had been sent via the platform. The intervention desk escalated some of the reports to the Malawi Electoral Commission and Police Services to intervene quicker. The reports collated through the Mzinda platform also informed content of the Eight (8) Press statements that were made by the consortium to inform the public and electoral stakeholders on the status of the election process, areas of concern and calls for action where needed based on data collated through the technology platforms. Apart from making press statements; an ESR public room was also made available to the media and other electoral stakeholders including citizens to access and view visualizations of data coming through the Mzinda platform and the mobile application. A Twitter wall was also mounted to visualize all tweets around the standard elections' hashtags.

Figure 9.23 shows visualizations of the Mzinda Platform reports section, Maso Athu mobile application and dashboard.



16:08 82%

Question

Morning Afternoon Evening After Voting

PRIMARY ELECTIONS MORNING QUESTIONS

02/07/2020 16:08

District Name: LILONGWE

Constituency Name: Mapuyu North

Ward Name: Mapuyu

Polling Station Name: Mapuyu Court

Start Time: 06:00

End Time: 10:00

Observer Name: Monica Madulira

Observer Phone: 992608113

Questions

TIME

1a What time did the Polling Station open?

1b Was there a long voting queue/line when the Polling Station opened?

Yes / No

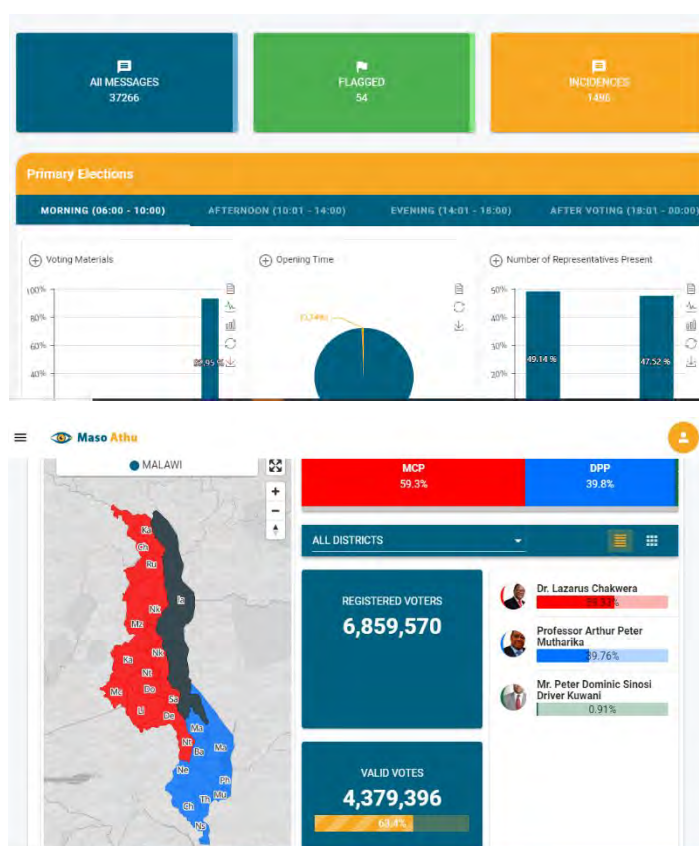


Figure 9.23: Visualizations of the Mzinda Platform reports section, Maso Athu mobile application and dashboard

It was difficult to get data from observers that were not tech savvy. In order to use a mobile application, observers needed to be tech savvy and have some experience of having used a smart phone. However, some of the observers that the consortium had deployed had never used a smart phone before and

struggled to use the android phones and the Maso Athu mobile application. We recommend that for similar deployments; the selection of observers must be done based on a combination of both experiences to monitor elections and the ability to use smartphones in particular mobile applications. During the training sessions, we noted that some observers were illiterate and had never used a smartphone. It was practically impossible to get these observers to be trained and use the platforms even though smartphones were distributed by NICE.

9.7.4. Next Steps

The National Initiative of Civic Education (NICE) intends to use the Mzinda platform in between elections to enhance engagement with citizens on governance, peace building and human rights issues among other civil issues. There have been two requests from Zambian CSOs, PANOS Institute Southern Africa and the Foundation for Democratic Processes (FODEP) to use the Mzinda platform and the Maso Athu platform for engagement with citizens and real time collation of data from observers in the 2021 Zambia general elections. There has been a request from the Christian Council of Lesotho to also use the Mzinda platform to enhance citizen engagement with local councils in Lesotho.

9.8. Conclusion

In this Chapter, we have outlined the Mzinda project set up; the achievements attained through the deployment of the Mzinda platform, activities that were undertaken, the roles of various stakeholders and lessons that we have learned. We have also highlighted the pivots that were made to the Mzinda Platform to facilitate engagement with market actors, enhance public expenditure tracking and for monitoring of the 2019 and 2020 elections. We have also made recommendations and outlined some of the next steps as to where else the Mzinda platform may be utilized subsequently.

From community campaigns, meetings, trainings, live radio programs, recorded radio programs and publications in print media; the Mzinda platform was able to reach many. We have also highlighted the partnerships leveraged with other projects and organisations in a quest to customise the Mzinda platform for other citizen engagement objectives. We have outlined the partnership with the Local Government Accountability Project (LGAP) in deploying an extended version of the Mzinda platform specifically for enhancing engagement between councils and market actors. We also highlighted the extension of the Mzinda platform for public expenditure tracking in partnership with the Malawi Local Government Association (MALGA). Based on the lessons learned in this chapter, we make the

following concluding remarks.

It is a combination of online and non technological mechanisms that made citizen engagement effective and inclusive. ICTs alone were not the panacea of all citizen engagement problems. In this Chapter, we have shown how a combination of community campaigns, meetings, radio programs and media engagement among other activities all enhanced citizen engagement. It is also evident that with adequate publicity of the platform through multiple channels, citizens are keen to engage with duty bearers and service providers. For example, we learned that after each community campaign or during a radio program on Mzinda, there were increased citizen reports sent to the platform.

There were more reports targeted towards city councils, followed by reports targeted at the Water Boards and ESCOM. The most actionable entity was the Northern region water board followed by ESCOM whereas the most responsive council was the Mzuzu City Council followed by ESCOM. We therefore can conclude that ESCOM had performed well in being responsive and actionable overall.

There were more reports on road issues followed by water, electricity, and sanitation issues in that order. However, the responsiveness and actionability of reports on the roads sector ranked 4th and 5th in terms of responsiveness and actionability. Perhaps because roads are a long-term issue to resolve and may require more resources. The Mzinda platform which was initially deployed to facilitate citizen engagement in 3 cities around 4 service delivery categories, has stimulated engagement models on other use cases, contexts, and geographies. This is evidenced by requests for customisation of the platform by the LGAP project targeting market actors in 8 districts and 64 markets, the Public Expenditure Tracking system and the elections monitoring use case. This is a clear demonstration of the increasing demand and need to leverage ICTs to enhance citizen engagement. The Mzinda platform was customised and extended to include the Public Expenditure Tracking module (PET) system to enhance budget and expenditure tracking in 8 district councils through partnership with the Malawi Local Government Association (MALGA). The deployment revealed that current mechanisms of engagement do not allow for citizens to access budget and expenditure information. Councils were also not keen to share this information. We thus learned that leveraging partnerships with existing organisations in diverse spaces is key to facilitate meaningful citizen engagement and overcome certain barriers. For example, without partnering with MALGA, councils would have had little or no incentive to directly share council budgets and expenditure reports with the researcher and the Mzinda project team. It is evident that responsiveness and actionability of duty bearers such as district councils is a key stimulant for further citizen engagement. Empirical evidence has shown that citizens engaged further where there was high responsiveness and actionability of duty bearers.

In terms of use of technology channels; it is evident that the USSD channel for PET was more utilized than SMS and the web platform. We assume that this could be the case as the USSD channel was accessible for free and can be accessed from any type of mobile phone. However, through the mayoral debates, we learned that there are certain ecosystem challenges that can only be resolved with political solutions and not necessarily citizen engagement or use of technology. Subsequent requests for customising the Mzinda platform may be overwhelming for the researchers to meet the demand hence the question on how to equip practitioners with tools to deploy similar or customised initiatives on citizen engagement using technology continues to linger. We thus consider deploying the Mzinda source code on GitHub repository for other practitioners to access.

Annexure 1: Profiles of Partner organisations and their corresponding roles on the deployment of Mzinda

Story Workshop Extension Trust (SWET) is a development communications NGO that utilizes mass media to drive an integrated approach to community empowerment and development. Through partnership with SWET, 80 community block leaders from Blantyre and Mzuzu were trained on the use of the Mzinda platform and sensitized to play a role in reaching out to their fellow citizens to participate in development. SWET also promoted the Mzinda platform in their weekly television shows on deepening democracy that were being aired on Zodiak and MBC television. Further, SWET also recorded podcasts on citizens views on local development and engagement with duty bearers.

The Malawi Local Government Association (MALGA) is an independent association of all local authorities in Malawi. MALGA took a lead in reaching out to 8 district councils to embrace the Public Expenditure Tracking platform. It was through MALGA, that councils submitted budgets and expenditure reports. MALGA also co-facilitated the training of councillors and conducting of community engagement meetings together with the researcher and the Mzinda project team.

Citizens for Justice (CFJ) is a non-governmental organisation founded in 2005 in Malawi. The core mission of CFJ is to conduct evidence-based advocacy and lobbying in advancing good governance and socio-economic justice. CFJ brought in experience in facilitating engagement with city councils, training of elected councillors and Members of Parliament as well as hosting of the Mzinda radio programs.

The National Initiative for Civic Education (NICE) partnered with mHub and Zodiak Broadcasting Station in organising the Mayoral debates prior to the mayoral elections that were held in the three cities of Blantyre, Lilongwe and Mzuzu in January 2017. NICE is public trust committed to

enhancing the ability of Malawian citizens (including disadvantaged groups) to exercise their democratic rights and responsibilities, as well as to participate in the democratic decision-making process at community, district and national levels.

The Mzinda team also collaborated with Concerned Youth Organisation (CYO), the Centre for Conflict Management and Women Development Affairs (CECOWDA), Active Youth Initiative for Social Enhancement (AYISE) and Chigodi women's group in organising community engagement meetings in Blantyre city. CYO and CECOWDA mobilised the youth and women to attend the meetings whilst AYISE and Chigodi women's group provided venues for the engagement meetings.

Annexure 2: Requirements Elicitation (Technical)

In the course of implementation of the Mzinda platform; we solicited key technical requirements from various stakeholders. Below, we capture various requirements from the different stakeholders.

Stakeholder	Technical Need	Means of obtaining information	Remarks
Citizens	Request for a Mobile application in addition to reporting through website, social media, and SMS	Citizen request during community awareness campaigns.	Done
	Request to add a short code as a means of reporting.	Citizen request during community awareness	Done for Airtel. Awaiting to finalise for TNM.

	Request for a Public Expenditure Tracking piece on the platform.	Community awareness campaigns, radio programs.	Designed a USSD platform for Public Expenditure Tracking. This was Deployed and now in first year of use.
Councillors	Provision of smart phones to access the Mzinda website besides getting reports through SMS	Feedback during training on using the platform (Lilongwe city councillors)	Not done. Some councillors already have phones through which they access the website and mobile app, all councillors get reports through SMS. Not viable
Utility service providers	Classify reports under a service to correspond to a particular service provider or city (e.g under water have another classification of reports for LWB or BWB) Despite an element of anonymous reporting, ensure utility service	Feedback during meetings on introducing the platform (NRWB)	Not done. Reports for a specific service provider forwarded directly besides possibility of service provider checking on the platform for reports

	providers have login credentials that can enable them obtain contacts of customers to easily communicate and take action		Contact details included in SMS's when forwarding reports to contact person
CSO's	Adding a short code as a means of reporting	Stakeholders interim feedback	Done for Airtel. Awaiting closure with TNM.

A report of an electric fault in Chilinde on the 2nd of November 2016 to which the Electricity Supply Corporation of Malawi (ESCOM) responded and sent their linesmen to rectify as confirmed by the sender of

REPORTS
SUBMIT A REPORT

Nthambo zaduka pa Jeyi Jeyi

VERIFIED

🕒 18:04 Nov 2 2016 📍 Lilongwe, Chilinde 2

Electricity

Description

Escom people would you pliz send men and rectify wires close to Chigayo cha Jeyi jeyi Chilinde 2 aduka. Damzy wa Swagga

the report below

A report expressing appreciation to the Electricity Supply Corporation of Malawi (ESCOM) for responding in good time to rectify an electric fault that had been reported through the Mzinda platform

REPORTS
SUBMIT A REPORT

Appreciation to ESCOM

VERIFIED

🕒 11:31 Nov 3 2016 📍 Lilongwe, Central Region, Malawi

Electricity



Description

Many thanks to Escom. They came through in good time after a report on Mzinda about fault with electric lines pa Jeyi Jeyi now everything is okay and the maize mili is working. Damzy wa Swagg

A report of non-collection of waste in Falls Estate, Lilongwe. The report was routed to the Lilongwe City Council who responded that action would be taken, and it indeed was taken as confirmed in the report below

REPORTS
SUBMIT A REPORT

Waste Accumulation in Falls Estate

VERIFIED

🕒 08:40 Dec 27 2016 📍 Lilongwe, Falls Estate

Sanitation and Waste Collection



Description

As it can be observed in the attached picture, waste has accumulated dangerously in Falls close to Msonkhamanja CCAP. This is because over the past two weeks the City Council did not come through to empty the waste storage dustbin at the dumping site. This is not only an eye sore but also a health threat. Action should be taken and fast.

A citizen appreciating the response from Lilongwe City Council after a report on the Mzinda platform. The citizen uploaded a picture of staff from Lilongwe City Council clearing the waste.

REPORTS
SUBMIT A REPORT

Appreciation and Plea

VERIFIED

🕒 09:54 Jan 1 2017 📍 Lilongwe

Sanitation and Waste Collection



Description

I have taken note of people from the Lilongwe City Council on site at the dumping site in Falls clearing waste that had been reported to have accumulated for some time. Though we appreciate their response, my plea is that they should not only stick to their schedule of waste collection but also be responsive to collect waste as when the waste storage dustbin is full unlike waiting for the overflowing of waste and calls from residents to act



A picture showing staff from Lilongwe City Council clearing waste in Falls Estate, Lilongwe.

A report of a burst water pipe in Chinyonga, Blantyre. The Public Relations Officer of Blantyre Water Board responded within minutes of the report being sent that plumbers had been dispatched. It was later confirmed that the pipe had been fixed. Below is an extract of a report that a citizen sent about a leakage in a sewer system. The responsible authority, in this case the Blantyre city council responded and resolved the problem.

Annexure 3: Selected reports and notifications on the Mzinda platform

**MZINDA**
Giving a voice to the Citizen

DashboardCitizen ReportsPolls

REPORTSSUBMIT A REPORT

Burst water pipe Chinyonga *RESOLVED*

VERIFIED

🕒 17:03 Dec 11 2016 📍 Blantyre, Southern Region, Malawi

Water

Description

There is a burst water pipe off Chinyonga stage. Water is spilling out heavily.

Credibility: 📊 📊 0

Comments

P Mateyu (Dec 11 2016)
Thanks for reporting. Plumbers being dispatched.

REPORTSSUBMIT A REPORT

Leakage in Sewer System *RESOLVED*

VERIFIED

🕒 14:48 Apr 27 2017 📍 Blantyre

Sanitation and Waste Collection



Description

There seems to be a leakage in the sewer system from the college of health sciences Blantyre campus as can be observed in the attached picture. This has resulted in waste spilling out to the narrow path that stems out of the high-way at Ginnery corner leading to chitawira. May the relevant authorities at Blantyre city council please engage management at the college.

Credibility: 📊 📊 0

Comments

P Nyasulu (May 2 2017)
There indeed was a sewer blockage and it has been rectified. Thank you for reporting.

Annexure 4 notification of reduction in water supply by the Lilongwe Water Board that was shared through the Mzinda platform on the 8th of December 2016. Citizens took note of the notice and engaged with the PRO of Lilongwe Water Board as highlighted in the comments



DashboardCitizen ReportsPolls

REPORTSSUBMIT A REPORT

REDUCTION IN PRODUCTION DUE TO HEAVY SEDIMENTS AT THE LILONGWE WATER BOARD TREATMENT WORKS

VERIFIED

06:24 Dec 8 2016Area 3, Likuni Road, Lilongwe

Water



Description

Lilongwe Water Board (LWB) would like to inform all its valued customers that following the on-set of the 2016/2017-rain season, water production to meet drinking standards is below the required capacity due to heavy siltation. This is usually the case with the first rains whereby the run-off brings with it heavy sediments that lodge at the intake reservoir.

The sediments comes from the erosion of the bare catchment caused by wanton cutting of trees, poor agricultural practices and livelihood activities such as sand mining on the Lilongwe River banks. In spite of LWB's efforts to manage wide variety of environmental issues, there has been an unprecedented increase to the sediment load for the past 10 years.

Comments

Blessings (Dec 8 2016)

Noted. This explains everything, I had noted that despite an improvement in supply over the past few months, of late madzi anakhala ngati ayambaso kuvuta nde timadabwa kuti bwanji. Anyway good that you keep us informed

O Lipenga (Dec 8 2016)

Clarify on the "few weeks" after the rains please... do you mean the first rains or after the whole rainy season next year

BRIGHT SONANI (Dec 9 2016)

Blessings and O. Lipenga thank you so much for the responses. O.Lipenga we really mean "A few week of the rainfalls" or we could say "A few weeks into the rain season". The thing is and as stated in the notice the first days of the rainfall are very 'bad' for water treatment especially with the current degradation as the first rains washes or should we say sweeps all the loose sand, soil, debris down into the river and up to the treatment system but after the 'cleaning' of the first 'few' rains the level of the wash aways lowers. You can not be precise of the time because this also depends on how much rains we are having and how much sand, soil and debris is being swept at one goal. Hope we have attempted to answer your question.

CHAPTER 10

Mzinda Post deployment assessment

Introduction

After a year of deploying the Mzinda platform, we conducted an assessment to understand ways in which people had used the Mzinda platform. We also wanted to understand how the Mzinda platform can be improved and why others may have used the platform whilst others may not have used it. Data captured from the post deployment assessment would ultimately be used to compare with what was captured in the baseline study in measuring the short-term impact of using the technology platform in enhancing citizen engagement.

It must be noted that the study was done before the public expenditure tracking system had been deployed. The study was also done before Mzinda rolled out in the 8 additional district councils in partnership with LGAP. As a result, there is no data with regards to these two aforementioned initiatives in this assessment. We submit that, in subsequent research, the public expenditure tracking and use of Mzinda in the 8 district councils may be worth exploring to understand the impact.

10.1. Population Sample and Sampling Techniques

Sampling of respondents in the baseline and post deployment assessment study was based on citizens that were living within the jurisdiction of the initial three pilot city councils of Blantyre, Lilongwe and Mzuzu. In the post deployment study; further purposive sampling was used to target respondents that would have used the Mzinda platform either by reporting on service delivery or participating in the polls or indeed directly engaging with a local councillor or service provider using the platform. The purposive sampling on the post deployment assessment study was to ensure that we can gauge the factors that would have influenced or constrained citizen's behavior intention and actual use of the Mzinda platform for citizen engagement. At the highest, there were 144 responses to the survey.

10.2. Demographic Data

Of the 143 respondents, 95% were Malawian Nationals, 3.5% were Malawians of Asian origin and 1.5% were foreign nationals. In terms of geographical spread, 32% of the respondents were from Lilongwe and 33.6% were each from Blantyre and Mzuzu respectively. One respondent mentioned they live in another municipality, Kasungu. 49% of respondents were female whereas 51% were male.

39% of respondents were aged between 18-30years whereas 36.8% of respondents were aged between 31-45 years. 19.4% were aged between 46-60years and 5% were aged over 60 years.

10.2.1. Level of Education

In this post deployment assessment, 2% of the respondents reported to have had no education at all. We compared the level of education reported during the baseline study with that reported during the post deployment assessment. There was no significant difference between the level of education of respondents surveyed in the two studies. Unlike in the baseline study where post secondary education level was considered as one category; in the post deployment study, we further disaggregated post secondary education to three levels; diplomates, degree holders and postgraduates. In the post deployment assessment, there were 29.4% of respondents who had attained diplomas, 17.5% of respondents had a degree whereas only 4.9% of respondents had attained postgraduate studies.

Table 10.1: Level of education

Level of Education	Primary	Secondary	Post Secondary
Percentage Baseline (N=144)	11.2% N=16	28% N=40	60.8% N=88
Percentage Post Deployment (N=125)	11.9% N=15	34.3% N=43	51.8% N=65

10.2.2. Occupation of respondents

34% of respondents reported to be businesspersons whereas 19.4% of respondents mentioned that they never had a job. 6.9% of respondents were domestic workers, 2.8% were either Army or Police officers; 15.3% were drawn from the civil service and NGO sectors, 10.4% were farmers.

10.3. Use of Technology

10.3.1. Ownership of mobile phones

The majority of respondents mentioned that they owned a mobile phone. 95.8% of respondents owned a cellphone whereas 4.2% did not own a cellphone. Of the 6 respondents that did not own a phone; only 66.7% had access to a phone of another family member who had a phone. There is no

significant difference in the ownership of mobile phones between respondents in the baseline and respondents in the post deployment assessment.

Table 10.2: Ownership of mobile phones

Do you have a mobile phone?	Yes	No
Baseline N=125	95.2%	4.8%
Post Deployment Assessment N=143	95.8%	4.2%

10.3.2. Type of Mobile phones used

It was established that the majority of respondents used android based smartphones. Samsung was the most common brand of mobile phone used by 31.5% of respondents followed by 22.4% of respondents that mentioned to use ITEL. 13.3% of respondents used Nokia whereas the Techno brand was used by about 8.4% of respondents. The Huawei brand was used by 4.9% of respondents whereas 5.6% respondents indicated to use the iPhone. As presented in the table below, there is no significant difference from what had been established in the baseline study on the type of mobile phones used by respondents. In the baseline study only 89 of 125 respondents were able to identify the model of a phone that they used whereas in the post deployment assessment 98% of respondents were able to identify the brand of mobile phones that they used. Table 10.3 shows the different operating systems for the phone models used by respondents as derived from an online search. Some respondents had more than one phone hence the total number of phone models and corresponding operating systems captured is more than the number of respondents.

Table 10.3: Operating systems for mobile phones

Operating System	Android	Blackberry	iOS	Microsoft	Nokia	Symbian	Others
Baseline % of Phones N=89	54%	4%	6%	8%	12%	1%	21%
Post deployment Assessment N=142	58.8%	0%	4.5%	0%	13.3%	0%	23.4%

10.3.3. Use of mobile data services

Of 139 respondents, about 33.8% of respondents had never used data services on their mobile phones. 38% of the respondents had used data on their mobile phones often, whereas 26.2% of respondents had used data a few times a day. This means that those that had never used mobile data services before are likely to have not interacted with the Mzinda mobile and web application. We make a comparison of the responses captured in the baseline to those captured in the post deployment assessment below:

Table 10.4: Use of mobile data services

	Never used Data	Use Data services once a day
Baseline	26.2%	77.4%
Post deployment Assessment	33.8%	65.2%

10.4. Knowledge of and utilization of the Mzinda Platform

About **67% of respondents had heard about the Mzinda platform** whereas 33.1% had not heard about the Mzinda platform. Of the 49 respondents that had not heard of the Mzinda platform, 81.6% mentioned that they would be willing to use the platform whereas **18.4% said they were not willing to use the platform.**

When asked why they would not use the Mzinda platform; 11 respondents mentioned an array of reasons for not being willing to use the Mzinda platform. The table below shows all the reasons given by respondents.

Table 10.5: Reasons for not using the Mzinda platform

Reason for not using the Mzinda Platform	Number of respondents
I am not sure it is effective	1
It is expensive	2
I do not know how to read and write	2
I have never heard about the platform	2

I have heard of the platform but do not have information	1
No reason	1
It is involving	1

10.4.1. Preferred Channels for engagement

The most preferred channels of engagement on the Mzinda platform by those who had not used the platform yet were SMS, Phone call, Facebook, Mobile Application, Website and Twitter in that order of preference.

10.4.2. Channels used by citizens to report to the Mzinda platform

In the post deployment assessment, we sought to find out which mobile channels had actually been used for engaging on the Mzinda platform. The results of the assessment show that SMS was the most utilised channel through which respondents had engaged on the Mzinda platform. Most of the respondents mentioned they had used SMS to report on the Mzinda Platform accounting for 75% of reports. Whereas 11.4% of respondents mentioned to have used Facebook to report to the Mzinda platform, 9.1% of respondents had used the website to send in reports and 6.8% of respondents had used both the mobile application and through a phone call. Twitter was the least used channel to report on the Mzinda platform. This shows that SMS was used the most by respondents to report to the Mzinda platform whereas Twitter was the least used. This insight mirrors the baseline data which showed preference for using SMS as a channel for engagement and Twitter as the least preferred. This insight also shows that use of the Mzinda mobile application is very insignificant. We can relate to the data above that about 33% of respondents had never used data services. By inference, we can conclude that this group would have never used the mobile application.

Table 10.6: Access to mobile channels at baseline and use of mobile channels to access the Mzinda platform

Platform	Access To Mobile Channels At Baseline	Channels Used To Access The Mzinda Platform
SMS	91.1% N = 3	75% N = 66
Facebook	71.8% N = 89	11.4% N = 10
E-mail	52% N = 67	54% N = 18

Twitter	31.5% N = 38	1.1% N = 1.1%
Instagram	30.6% N = 38	0% N = 0
Whatsapp	69.4% N = 86	1% N = 1
News	53.2% N = 66	52.2% N = 1
Website	21.8% N = 27	9.1% N = 8
Website	3.2% N = 4	3.2% N = 3
Mobile app	No data	6.8 %N = 6

10.4.3. Channels for publicising the Mzinda platform

To understand the most effective channels of publicising the Mzinda Platform, respondents were asked of the channel through which they had heard of the Mzinda platform. It was established that more than half of the people had heard of the Mzinda platform through community campaigns. Peer to peer communication from friends, radio, Facebook and Twitter followed in that order. We thus conclude that community campaigns were the most effective mechanism to publicize the Mzinda Platform. This is a key observation that emphasises the need for a combination of both online and non technological mechanisms to enhance citizen engagement.

Table 10.7: How respondents heard about the Mzinda platform

Channel	Percentage	Number of respon dance
Radio	18.9%	N = 24
Community campaign	52.8%	N = 67
Facebook	10.2%	N = 13
Twitter	3.1%	N = 4
Newspaper	1.6%	N = 02
Whatsapp	0.8%	N = 1
Friend	26%	N = 33
Data collector	2.4%	N = 3
Family member	0.8%	N = 1

10.4.4. Reporting using the Mzinda platform

Of the 144 respondents, 117 responded to the question on reporting to the Mzinda platform. **About 69% of 117 respondents sampled had reported to the Mzinda platform representing 56% of the total sample.** About 30.8% of 117 respondents had never reported to the Mzinda platform. **There are people that had heard about the platform and had not reported to the platform yet.** This is worth noting as it highlights that publicity does not lead to adoption and use of the platform.

The table below shows the reasons that the 28 respondents who had heard of the Mzinda platform but had not reported to the platform gave for not having reported to the platform. Reasons range from having nothing to report on, that it is expensive to report on the platform or that they had just learned about the platform recently.

Table 10.8: Reasons for not using the Mzinda platform after hearing of it

Reasons for not reporting	Numbers
I had nothing to report on	10
It is expensive	3
I did not know how to report	1
I did not know much about it	11
I cannot use the platform, I am old	1

Respondents were asked on the type of message or report that they had sent to the Mzinda platform. Majority of citizens, about 53.8% mentioned they had reported on a fault whereas 36.3% reported on a service delivery issue and 34.1% reported on a community problem. It is evident that majority of users of the Mzinda platform reported on faults related to service delivery.

Table 10.9: Type of message that was sent to the Mzinda platform

Type of message	Report on service delivery	Report on community Problem	Report on a Fault	Road issues	Domestic issues	None	Security
Percentage	36.3%	34.1%	53.8%	1.1%	3%	9.9%	1.1%

N=91	N=33	N=31%	N=49	N=1	N=3	N=9	N=1

10.4.5. Targeted duty bearers for citizen reports

Respondents highlighted that the Water board, ESCOM, City Councils and Councillors were the most targeted entities of the reports sent through the Mzinda platform. Of 88 respondents; 50% mentioned that they had targeted their reports to the Water Board, whereas 38.6% had targeted their reports to ESCOM, 34.1% had targeted their reports to the city council, 23.9% of reports targeted the councillors. There was a fair amount of reports targeted to Members of Parliament. 12.5% of reports targeted health service providers, whereas 6.5% of reports were for education service providers and 1.1% of reports were targeted towards security agencies.

These results show that Citizens were able to use the Mzinda platform to report on other issues that were not within the intended scope of the platform and not within the scope of the duty bearers that currently use the Mzinda platform such as the Waterboards, ESCOM, City Council and Councillors. This insight shows that citizens find Mzinda as a platform that should offer more than what was intended in terms of focus areas. Hence, it is worth considering extending the platform to be used by duty bearers in the health, education, and security sectors, among others. **Only 6.7% of respondents that reported to have had technical difficulty in using the Mzinda platform** while 67.8% mentioned that they had no difficulties in using the Mzinda Platform.

We present a replication of the table that was presented in Chapter 2 and Chapter 7 showing the status of engagement in 2005, 2008, 2012 as adapted from Khaila and Chibwana (2005); Tsoka and Chinisnga (2008); Tsoka and Chunga (2012) respectively. We further insert data from 2017 as per results of our baseline study and data from 2017 from this post deployment assessment for purposes of comparison.

Table 10.10: Engagement from 2005-2017

Year	Engaged with Councillor	Engaged with MP	Engaged with Local Council	Engaged with Service Provider
2017 Post deployment Assessment	23.9%	5.7%	34.1%	50% Waterboard; 38.6% ESCOM

Year	Engaged with Councillor	Engaged with MP	Engaged with Local Council	Engaged with Service Provider
2016 Baseline	12.8%	6.4%	16.4%	51.2%
2012	18%	15%	11%	No Data
2008	9%	15%	8%	No Data
2005	18%	12%	9%	No Data

Data in Table 10.9 shows that there has been significant improvement in engagement with local councils and councillors after the Mzinda platform. There has been a significant decrease in engagement between citizens and MPs over the years. We acknowledge that in the baseline, we had not separated ESCOM and the Waterboards to gauge separate engagement with each entity. As such it is difficult to clearly compare the 51.2% engagement with service providers, we had captured at baseline with the specific level of engagement with ESCOM and Waterboards that citizens reported in the post deployment assessment.

10.4.6. Responsiveness and Action to citizen reports from the Mzinda platform

About 80% of the 87 respondents mentioned they had received some feedback on a report they had sent to the Mzinda platform, whereas 19.5% of respondents mentioned they had not received any feedback. **Only 62.5% of respondents reported that action was taken on their report sent to the Mzinda platform.** We can thus conclude that the Mzinda platform provided an **80% responsiveness rate and 62.5% action rate** during the post deployment assessment. These rates align with data on the actual platform as presented in Chapter 9 where it was recorded that there had been an **86%** response rate and **76%** action rate to the **811** citizen reports sent through the Mzinda platform from the initial cities of Blantyre, Lilongwe and Mzuzu.

Respondents considered the City Council to be the most actionable followed by the Water boards, local councillors and Members of Parliament in that order. Local councillors were the most responsive duty bearers on the Mzinda platform whereas City Council and the Water Boards were rated almost

the same as regards their responsiveness. Although MPs were not among the key targeted duty bearers of the Mzinda Platform; they received a significant rating to be the duty bearers that some citizens would never want to engage with.

Table 10.11: Citizens' views on responsiveness and actionability of duty bearers and service providers and whether they would reengage.

Duty Bearer	Responsive	Actionable
Councillor	Baseline:64.7%	52.9%
	Assessment: 78%	64%
	Mzinda Platform: 79%	62%
MP	Baseline: 45.5%	36.4%
	Assessment:20.8%	11.5%
	Mzinda Platform: 21%	9%
City Council	Baseline: 72.2%	72.2%
	Assessment: 84%	78%
	Mzinda Platform:62%	58%
ESCOM or Water Board	Baseline: 85.7%	77.1%
	Assessment: 88%	86%
	Mzinda Platform:81%	86%

10.4.7. Period taken between citizen report and action

In Table 10.11 we present the diversity in answers with regards to the time it took between a citizen sending in a report and when action was taken. Majority of reports that were resolved in less than a day were faults reported on water and electricity.

Table 10.12: Period it took for action to be taken

How long it took for action to be taken	Percentage
Less than a day	14.1%
1 week	18.8%
2 weeks-4weeks	17.6%
Within 3 days	10.6%
More than a month	12.9%
More than 3 months	1.2%
2 days	4.7%
4 days	3.5%
Other	16.6%

10.4.8. Citizens 1perception of influence on duty bearers using the Mzinda platform

About 62% of respondents felt that through the Mzinda platform; they were able to influence duty bearers to improve on their services. It is evident that there is a correlation between citizens that felt they had influenced duty bearers to those that had mentioned that their reports were responded to and acted on. This shows that a citizen may equate their influence on duty bearers to the responsiveness and actionability of the duty bearers on a citizens' report.

Table 10.13: Citizen's influence on service providers

Did citizens perceive to have influence on service providers	Yes	No	I don't Know	Maybe
Baseline	28.6%	27.6%	13%	30.8%
N=124				

Assessment	61.8%	11.1%	22.2%	4.9%
N=144				

There were several reasons given by Citizens that did not think that the Mzinda platform accorded them an opportunity to influence service providers. The table below captures some of the feedback.

Table 10.14: Why Mzinda did not influence service providers

Reasons why the Mzinda Platform did not accord citizens the opportunity to influence service providers	Number of respondents
It is expensive	2
We did not have the opportunity to influence service providers views on policy	1
I have not used it yet	12
Service providers did not ask for citizens views	1
The information about the platform was not convincing that I would use it to influence service providers	1

10.4.9. Did Service delivery improve after using the Mzinda platform?

About 66% of the respondents were of the view that service delivery improved after they reported using the Mzinda platform. 16.3% of respondents felt that the service delivery had improved for some services but not all; whereas 16.3% felt that regardless of their reports using the Mzinda platform, service delivery had not improved. There is a correlation between the citizens that mentioned that service delivery had not improved and those that mentioned that they had not received a response to their report and that no action was taken on their reports. Overall, 90% of respondents mentioned that the process of reporting on the Mzinda met their expectation.

10.4.10. Helpfulness of the Mzinda platform

The majority of citizens perceived the Mzinda platform as being very helpful in reporting on service delivery of essential services such as water, electricity and sanitation. Respondents also found the feedback mechanism from service providers to be extremely helpful whereas the awareness of notifications from service providers to respondents was also considered useful. Majority of citizens had never used the poll facility which is only available on the website and mobile application. The underutilisation of the poll facility correlates with the minimal use of the web and mobile applications where the poll facility is accessible.

10.4.11. Users perceptions on core areas of the Mzinda platform

Respondents were asked on their perceptions of the Mzinda platform as regards core areas of the system. Reporting on service delivery was ranked as the most helpful followed by feedback from service providers. Other functionalities that were rated are presented in the table below.

Table 10.15: Citizen perception on functionalities of the Mzinda platform

	Very Helpful	Helpful	Never used this area	Sometimes Helpful	Not Helpful
Reporting on service delivery	66	24	8	1	0
Awareness of notifications by service providers	32	44	16	7	0
Participation in polls	23	26	46	7	0

News articles shared	23	36	37	8	2
Feedback mechanism from service providers	38	36	16	10	2

10.4.12. Improving the Mzinda platform

There were several suggestions from citizens with regards to how the Mzinda platform could be improved. Many suggested that the SMS line should be free. Others suggested the need to upload multimedia files. Others suggested the need for another mobile application other than an Android application alone. Some suggested that there should be more awareness campaigns and to integrate Television as a medium. Others proposed options to send audio files than text-based content only to the Mzinda platform. Some requested for immediate responses and to be informed when action would be taken. Table 10.15 below illustrates some of the views and voices of respondents.

Table 10.16. Suggestions on how to improve the Mzinda platform

• Make videos available • Include an option to upload audios and voice notes • There should be more classification of polls • Mobile application should not only be on android • Listing of reports on website must be extended • Include city policy notifications or information • Get SMS notifications on service delivery interruptions • Quick response on when action will be taken	• Get instant responses • Include a toll-free number • Include what others are reporting • Better pictures of councillors • Increase community awareness campaigns. Increase awareness on TV • More T-shirts for free with Mzinda messages

10.4.13. Would citizens use the Mzinda platform again? Why?

We sought to understand if respondents would use the Mzinda platform again to gauge subsequent interest of respondents in engaging through the platform. **96.7% of citizens mentioned that they would use the Mzinda platform in the next year.** The respondents willing to use the Mzinda platform in the next year include 33% that had not previously heard about the Mzinda platform before this survey.

Majority of respondents mentioned that they would use the Mzinda platform again because they see that action is taken when they send a report. A significant number of respondents mentioned that they would use the Mzinda platform again because it is quicker to report on the platform, some mentioned that they are able to get feedback on their reports whereas others mentioned that there is improvement in service delivery as a result of sending reports to the Mzinda platform. Of the 11 respondents that mentioned that they would never use the Mzinda platform; 4 mentioned that it is expensive to send messages.

10.4.14. How did citizens engage if they did not use the Mzinda platform?

We sought to understand how engaged citizens were with local council, councillors, ESCOM and the Water Boards where they did not use the Mzinda platform. It is evident that there has been a significant reduction in use of other channels in between the baseline and the post deployment assessment. Table 10.16 shows other channels that citizens used other than the Mzinda platform.

Table 10.17: What other channels did citizens use to engage if not for the Mzinda platform?

Channel of engagement	Timeline	Councillor	MP	City Council	ESCOM or Water Board
Met in person	Baseline	58.8%	36.4%	21.2%	37.8%
	Assessment	25%	9.02%		8.3% ESCOM 9.7% Water boards
Wrote a letter	Baseline	11.8%	27.3%	3.8%	
	Assessment	7.6%	6.94%		6.94% ESCOM 7.6% Water boards
Sent an email	Baseline		9.1%		

	Assessment	69%	2.8%		1.4% ESCOM 1.4% Water boards
Called on the phone	Baseline	17.6%	9.1%	9.6%	47.3%
	Assessment	5.5%	6.25%		ESCOM 38.9% Water Boards 37.5%
Signed a petition	Baseline			0%	.69% ESCOM .69% Water Boards
	Assessment	1.4%	11.1%		
Other	Baseline	11.8%	18.2%	3.8%	9.5%
	Assessment				

10.5. Councillor Survey Results

There are 23 councillors in Blantyre city, 27 in Lilongwe and 15 in Mzuzu. We interviewed a sample of 24 of 75 councillors representing 72% of all councillors. 41.7% of respondents were drawn from Lilongwe whereas 33.3% were from Blantyre and 25% were from Mzuzu. Of these, 79% of councillor respondents were male whereas 21% were female councillors. Over 70% of the respondents were aged over 31 years, whereas 25% were aged between 45 and 60 years. As is expected, all councillors were Malawians.

10.5.1. Understanding of the role of a Councillor

We sought to find out about the councillor's level of education and how well they understood their role. 45.8% of councillors had only attained up to secondary school level education, whereas 50% had attained diplomas. With regards to understanding the role of councillors, majority of councillors mentioned that their role was to engage with and represent their subjects at the local council, ensuring equitable distribution of development projects in their ward and following up with councils on expenditure of development projects for efficient utilization of the local development fund. Before the

Mzinda platform was deployed, councillors mentioned to have engaged with citizens through community meetings in communities, blocks, and wards.

10.5.2. How did the councillors use the Mzinda platform?

All councillors that were interviewed had been trained on the use of the Mzinda platform. About 75% of councillors had used the Mzinda platform at least 2 to 3 times a week. Whereas 21% had used the Mzinda platform once a week and 4% of councillors had used the platform on a daily basis. Most councillors mentioned that they had used the Mzinda platform to respond to citizens reports, share notifications, participate in polls and to read news. All councillors perceived reporting through SMS as the most valuable channel or mechanism of engaging through the Mzinda platform followed by engagement through Mzinda project staff. The mobile application and web application were the least useful for councillors. Councillors acknowledged the role that the Mzinda project staff played in being intermediaries between citizens and the councillors.

Table 10.18: Frequency of using the Mzinda platform

Frequency of Use	Daily	2 to 3 times a week	Once a week	Once a fortnight	Once in a month	More than a month
Percentage of councillors N=24	4.2%	75%	20.8%	0%	0%	0%

10.5.3. Did service delivery improve because of using the Mzinda platform?

About 96% of councillors were of the view that citizen engagement had improved because of using the Mzinda platform. We further sought to understand if there had been improvements in service delivery that could be alluded to use of the Mzinda platform. **97% of councillors alluded the improvement in service delivery to the use of the Mzinda platform** whereas the rest were not sure whether there was a direct relation between use of the Mzinda platform and improved service delivery. Majority of councillors were of the view that their response time to citizen reports had improved because of using the Mzinda platform meaning that councillors were able to respond faster to citizen reports. Over 78% of councillors were of the view that action time by the city council had improved because of using the Mzinda platform whereas 17% of councillor respondents were not sure if the time

taken to act on citizen reports by the city council had actually improved. About 83% of councillors thought that the Mzinda platform is well known amongst their subjects whereas about 17% of councillors were of the view that the Mzinda platform is yet to be known amongst their subjects. **Over 75% of councillors were of the view that there were no adequate resources available to act on citizens reports** whereas 21% believed there were enough resources to address citizen's reports.

10.5.4. What can be done to make the Mzinda platform be well known and be used by many citizens?

Councillors were of the view that more community campaigns and ward visits by Mzinda staff and radio advertising would be key in enhancing the visibility or knowledge of the Mzinda platform amongst citizens. Councillors were also asked how they thought the Mzinda platform could improve. There were a diverse range of propositions. Setting up an SMS short code was eminent as this would be easy to remember by citizens than the long number in use at the time of the survey. Some suggested that citizens and councillors must send messages for free to the system. The need for more awareness campaigns was intimated by many in a quest of the need to enhance citizens knowledge on the Mzinda platform.

10.6. Focus Group Discussions with Citizens and Partner Organisations on the Mzinda platform

We engaged an external evaluator; Dr. Hafeni Mthoko to speak with partner organisations or intermediaries of the project on their takeaways from the Mzinda Project. Below we outline some of the, take aways from the focus group discussions with citizens in Area 23, Zodiak Broadcasting Station, Malawi Local Government Association and the Lilongwe City Council. Dr. Mthoko also conducted interviews with Mzinda project staff and data enumerators.

10.6.1. Focus Group Discussion with Citizens and Councillors

Together with a local partner called St. Peters Youth organisation; we convened a focus group discussion between Dr. Mthoko and the citizens. The objectives of the focus group discussion were the following:

- To understand ways in which citizens engage with duty bearers such as councillors and service providers like Waterboard and ESCOM.

- To understand citizens' level of awareness of the Mzinda platform, ways in which they have used the Mzinda platform, frequency of use, purpose of use and the results of using the platform.
- To understand citizen's level of satisfaction with local development and service delivery.
- To understand ways in which the Mzinda platform and outreach programs can be improved.

There were 25 citizens gathered that had been mobilized by St. Peters Youth organisation. 30% were female and 70% were male. The group also included the local councillor and community leaders like the chief and a block leader. Citizens mentioned that previously, they would engage with their councillor through face to face interaction or through voice calls on the phone whereas they had to go to the Water board or ESCOM in person if there were issues to report. Citizens alluded to the fact that it was challenging to get hold of the councillors.

However, after deployment of the Mzinda platform, citizens mentioned that an additional channel had been added and that they are currently also able to engage with their councillor through the Mzinda platform. Citizens mentioned that they all used SMS as a channel to report on the Mzinda platform. Citizens were able to recall the Mzinda long number and the majority of citizens even had the fliers or were wearing Mzinda branded T-shirts that they had received during the Mzinda community campaigns the previous year. All citizens acknowledge to have heard of the Mzinda platform through community campaigns and some also mentioned to have heard of the platform through the Mzinda radio program on Zodiak Broadcasting Station.

Citizens mentioned a number of reasons for using the Mzinda platform including the following:- to test if the platform works, to report a service delivery issue and to engage with their councillor on local development issues such as the need for toilets at the local market, paving of the road and installation of water kiosk in the area.

Citizens mentioned that, they had seen some positive results and feedback on issues about the paving of the road and installation of water kiosks which they reported to their councillor through the Mzinda platform. It was highlighted that the installation of toilets in the local market and issues on the need for improved sanitation services at the local market were yet to be addressed.

Citizens suggested that the Mzinda number should be shorter so that it is easy to remember. There was also a suggestion to make the SMS channel free for citizens than the current status where citizens have to pay a standard SMS rate.

Councillors mentioned that resources were a challenge in the implementation of development projects in their areas which made it difficult to implement certain development projects that citizens asked for through the platform.

10.6.2. Discussions with Lilongwe City Council Public Relations Officer

Dr. Hafeni and the researcher engaged with the Lilongwe City Council as one of the stakeholders that used the Mzinda platform to engage with citizens. The purpose was to gauge the council's perceptions of the Mzinda platform, ways in which they had used it and how they envisioned the future of the Mzinda platform.

Herewith excerpts from the discussion with Lilongwe City Council PRO, Ms. Tamara Chafunya.

The City Council acknowledged the need to have an independent platform where they could get tangible feedback from citizens. The council mentioned that prior to the Mzinda platform, there had not been any other platform like this and that citizen engagement was mostly done through traditional channels. Through Mzinda, the council has been able to engage with citizens more directly and in real time. It was mentioned that initially the council was skeptical of the platform as they thought the platform would be used by some citizens to attack the council. However, the council quickly realised that the Mzinda platform was a trusted source to enhance engagement with citizens in real time. The PRO mentioned that majority of reports she had seen come through the platform were on refuse collection and sanitation in the city. She also highlighted that it is easier for her to refer the reports sent through the system to relevant officers quickly once they come through the system by copying and pasting via text or email.

10.6.3. Discussions with Zodiak Broadcasting Station

Dr. Mthoko also engaged with Zodiak Broadcasting Station (ZBS) which was the media partner on the Mzinda project. ZBS had been airing the Mzinda radio programs over the years of implementation. ZBS highlighted their role in supporting the production of the Mzinda radio program. The format of the program was such that we would collaborate on producing the radio programs with the radio station. A sketch of a topic, points of discussion and panelists for each program was outlined prior. Often, there were at least 2 panelists for example a citizen, representative of the city council or the water board, or ESCOM or a local community leader. The producer or presenter would walk through

the topic of the day and indulge the panelists in a discussion session asking probing questions on the topic. Subsequently, the presenter would indulge listeners considered to be the citizens from the constituency to send in their views and sentiments. Listeners' views were sent in via SMS and read during the live program to stimulate further conversation.

The response from citizens was overwhelming. ZBS mentioned that although the initial focus of the project was the 3 cities of Blantyre, Lilongwe and Mzuzu; there had also been feedback from the rural areas. It was evident that the Mzinda platform was not just relevant to urban city dwellers but also to people from the rural districts. It had also been noted that some of the issues that were reported to the platform were not within the initial scope of the platform which were initially water, electricity and sanitation. The producer highlighted that there were some issues reported by citizens that were not directly related to the scope of the project e.g. health and education issues. The producer also noted that the Lilongwe Water Board was the most forthcoming service provider that was available each time they were invited to feature on the radio program. He also mentioned that MP's and Councillors were keen to participate. However, the other service providers such as ESCOM and other City councils were elusive and not consistent in participating on the radio program. He also noted the difficulty that MPs and Councillors had in tackling issues of local development citing lack of understanding on procedures he mentioned that, from his understanding and from the interaction citizens had with duty bearers on the radio program, it was evident that there was very minimal interaction between citizens and duty bearers. His impression was that duty bearers do not hold community meetings in their localities hence the radio programs and the Mzinda platform provided a good space for interaction. He highlighted the need to consider scaling the platform to the whole country to cater for the needs of more Malawians for greater impact using innovative technologies.

However, to attain national scale, there would be need for a big publicity drive to raise awareness of the platform, he noted. He suggested that apart from having studio based radio programs with the duty bearers, it might be ideal to actually record physical community meetings within the locations to make certain episodes of the programs in a quest to enhance real engagement and amplify local voices. He intimated the need to consider extending the scope of the project to rural masses citing the active engagement on SMS from rural communities.

10.6.4. Applying the modified UTAUT Model to the Mzinda Platform

As articulated in Chapter 5, we built a modified UTAUT (2003) model that included Attitude and Self Efficacy as constructs that would likely determine behavior intention. We sought to redevelop the UTAUT model and validate the appropriate scales for each of the constructs. This was done because the developers of the UTAUT (2003) model have acknowledged the limitation of the scales that were used to measure the ultimate core constructs of the model (Venkatesh, 2003). Whereas other authors have highlighted the shortfall of the UTAUT as being the pruning of Attitude and Self Efficacy as constructs, as the two are perceived to determine behavior intention (Moghavvemi, 2014 p.2), (Dwivedi, Rana, and Jeyaraj, et al., 2019 p.1). All analysis was performed using the R software with the aid of the lavaan package.

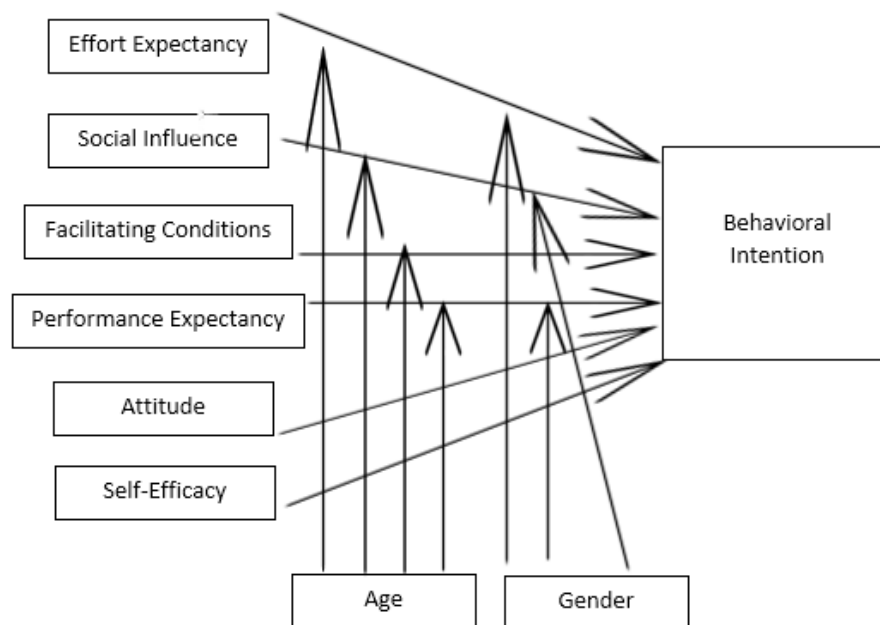


Figure 10.1: The modified UTAUT Model

10.6.5. Reliability and Internal Consistency

First, we sought to measure the stability of the data in the two questionnaires to ensure that the questionnaires could always elicit consistent and reliable responses even if questions were replaced with other similar questions (Cronbach, 1951; Santos,1999). We use 0.7 as an acceptable minimum threshold for Cronbach alpha in this research as recommended by Field (2009). All Cronbach Alpha

reliability coefficients for the multiple test items for both the baseline and post deployment assessment data were in the range 0.64-0.962. This result represents moderate to high reliability for the questionnaire. The reliability coefficients for the model constructs used in the research for the baseline study and post deployment assessment are shown in Table 10.18.

Table 10.19: Cronbach alpha coefficients

Factor	Before Mzinda	After Mzinda
Performance	0.741	0.778
Effort	0.883	0.791
Social	0.874	0.853
Facilitating	0.787	0.644
Self Efficacy	0.758	0.776
Attitude	0.687	0.684
Behavioural intention	0.962	0.704

10.6.6. The Bartlett's test

The Bartlett's test (Bartlett, 1937) is used to test if some samples are from populations with equal variances. We conducted the Bartlett's test to test the null hypothesis, **H₀** that all k population variances are equal against the alternative that at least two are different. We thus, reject the null Hypothesis and conclude that at least two are different. This tells us that the correlation matrix is an identity matrix, and the use of factor analysis is appropriate.

Table 10.20: Bartlett test of the survey

Bartlett's test	d.f.	X ²	P (< 0.05)
Before	31	400.83	2.2e-16
After	31	691.65	2.2e-16

10.6.7. Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA)

We conducted an Exploratory Factor Analysis to see if the items load as set by the UTAUT theory. Using the EFA, we separate the multiple items that are used to measure the behavior intention. The aspiration is to have the items' factor load to be above 0.40 at minimum as recommended in Information Systems research (Straub et al., 2004). We subsequently used Confirmatory Factor Analysis to extract the factor scores which again test each factor's reliability independently and extract the factor scores which would be used to represent the constructs value for further analysis (DeCoster, 1998).

We present the loadings on each factor from the exploratory factor analysis in Table 10.20 indicating that five factors were underlying the conducted survey and confirm again that these factors were

internally consistent. Note that loadings less than 0.4 have been removed from the output, due to the low weight on the underlying factor. The individual items (communalities) demonstrate how well the models is working for each individual item. Items FC19 and PE4 showed values less than 0.5, which does not affect the adequacy of the model. The items PE2, PE3, SI13 and SI14 showed cross-loading, being removed and the factorial model was run again. The full model with 26 variables explains 67.38% of the variance among these survey items.

Table 10.21: Exploratory Factor loadings and communalities based on principal components analysis with varimax rotation for the baseline questionnaire

	EE	BI	SI	FC	PE	SE	Communalities
PE1	-	-	-	-	0.612	-	0.57
PE2	-	0.548	-	-	0.547	-	0.77
PE3	0.408	-	-	-	0.584	-	0.59
PE4	-	-	-	-	0.419	-	0.44
EE5	0.441	-	-	-	-	-	0.50
EE6	0.798	-	-	-	-	-	0.76
EE7	0.848	-	-	-	-	-	0.83
EE8	0.834	-	-	-	-	-	0.80
AT9	-	0.621	-	-	-	-	0.61
AT10	-	-	0.411	-	0.504	-	0.63
AT11	-	0.5554	-	-	-	-	0.50
AT12	0.781	-	-	-	-	-	0.73
SI13	-	0.503	-	0.408	-	-	0.69
SI14	-	0.466	0.412	0.504	-	-	0.78
SI15	-	-	0.862	-	-	-	0.91
SI16	-	-	0.831	-	-	-	0.83
FC17	-	-	-	0.692	-	-	0.69
FC18	-	-	-	0.771	-	-	0.86
FC19	-	-	-	-	-	-	0.34
SE20	0.572	-	-	-	-	0.413	0.62
SE21	-	-	-	-	-	0.466	0.36
SE22	0.607	-	-	-	-	-	0.61
SE23	0.567	-	-	-	-	-	0.47
BI28	-	0.878	-	-	-	-	0.86
BI29	-	0.896	-	-	-	-	0.89
BI30	-	0.887	-	-	-	-	0.88

10.6.8. Factor Analysis Results for the Post Deployment Assessment Study

Item loadings on each factor resulting from the exploratory factor analysis for the post deployment assessment study are presented in Table 10.21. In contrast to the EFA results of the baseline, the results of the EFA for the questionnaire applied after use of the Mzinda platform, indicated a greater presence of cross-loadings. The Facilitating factor presented loadings in several dimensions, which makes it impossible to define a dimension for the Facilitating factor. With the exception of item FC17, the other items presented a communality greater than 0.5. A new analysis was performed by removing items

S13, S14, S22, and FC17. The full model with 26 variables explains 61.20% of the variance among these survey items.

Table 10.22: Exploratory factor loadings and communalities based on principal components analysis with varimax rotation for the post deployment assessment study

	PE	SI	SE	BI	NFA*	NFA*	Communalities
PE1	0.699		-	-	-	-	0.60
PE2	0.756	-	-	-	-	-	0.68
PE3	0.435	-	-	0.559	-	-	0.60
PE4	0.512	-	-	-	-	-	0.52
EE5	0.528	-	-	-	-	-	0.54
EE6	-	-	-	-	0.614	-	0.52
EE7	0.509	-	-	-	-	-	0.63
EE8	0.466	-	-	-	-	-	0.57
AT9	-	-	-	0.566	-	-	0.64
AT10	-	-	-	0.505	0.560	-	0.72
AT11	0.415	-	-	-	-	-	0.49
AT12	0.550	-	-	-	-	-	0.61
SI13	-	0.593	0.554	-	-	-	0.72
SI14	-	0.541	0.703	-	-	-	0.86
SI15	-	0.685	-	-	-	-	0.60
SI16	-	-	0.604	-	-	-	0.58
FC17	-	0.408	-	-	-	-	0.23
FC18	-	-	-	0.606	-	-	0.62
FC19	-	0.689	-	-	-	-	0.58
SE20	-	-	-	-	0.656	-	0.76
SE21	-	-	0.637	-	-	-	0.57
SE22	-	-	0.768	-	0.481	-	0.84
SE23	-	0.602	-	-	-	-	0.55
BI28	-	-	-	0.597	-	-	0.50
BI29	-	-	-	0.722	-	-	0.58
BI30	-	-	-	-	-	0.831	0.81

NFA* - No associated factor

10.6.9. Confirmatory factor analysis

Confirmatory factor analysis (CFA) was carried out to verify if the factors are adequate for the prediction of the Behavior Intention to use the Mzinda System. The adequacy of the model was assessed using CFI that can vary from 0 to 1 and the RMSEA which can be defined by 0.01, 0.05, and 0.08 to indicate excellent, good and mediocre fit, respectively. The results of the CFA adjustment test indicate that the model is adequate, with CFI = 1 and RMSEA between 0 and 0.018.

Table 10.23: Survey variance explained by factors for the baseline questionnaire

Dimension	Variance (%) – 26 items	Variance (%) – 18 items
1	19.61	22.00
2	17.54	17.00
3	9.53	12.54
4	8.80	10.41
5	8.20	6.11
6	3.70	-
Variance total	67.38	68.06

The results of the CFA adjustment test indicate that the model used at the baseline is moderate, with CFI = 0.649 and intermediate values for RMSEA between 0.05 and 0.08

Table 10.24: Adjustment of CFA for the baseline data

Test	Result
CFI	0.649
RMSEA	[0.05; 0.08]

Table 10.25: Survey variance explained by the factors for the post deployment assessment data

Dimension	Variance (%) – 26 items	Variance (%) – 18 items
1	13.15	19.32
2	12.69	17.83
3	11.28	11.05
4	10.61	9.28
5	9.19	8.48
6	4.28	-
Variance total	61.20	65.96

The results of the CFA adjustment test indicate that the model is moderate, with CFI = 1 and intermediate values for RMSEA between 0.00 and 0.018

Table 10.26: Adjustment of CFA for the post deployment assessment data

Test	Result
CFI	1.00
RMSEA	[0.00; 0.018]

10.6.10. Bivariate Correlation

Since the CFA has confirmed that the models are adequate to predict Behaviour Intention, it means we can now measure the relationship between the variables. Before we can conduct the multiple regression analysis to explain factors that influence BI, we sought to generate bivariate correlations between each of the six variables. We find that the correlations are all positive, indicating that we can proceed with the multiple regression analysis, as there is null correlation. Table 10.26 and 10.27 show Bivariate Correlation at Baseline and the post deployment assessment.

Table 10.27: Matrix correlation for latent variables for the baseline study

	Performance	Effort	Self-efficacy	Social	Behavior
Performance	1.00				
Effort	0.696	1.00			
Self-efficacy	0.919	0.836	1.00		
Social	0.661	0.601	0.944	1.00	
Behavior	0.485	0.468	0.794	0.644	1.00

Table 10.28: Bivariate Correlation at Post Deployment Assessment. Matrix correlation for latent variables for the Post Deployment Assessment Study

	Performance	Effort	Self-efficacy	Social	Behavior
Performance	1.00				
Effort	0.99	1.00			
Self-efficacy	0.907	0.731	1.00		
Social	0.711	0.626	0.913	1.00	
Behavior	0.574	0.554	0.613	0.634	1.00

10.6.11. Multiple Regression Models

Since the CFA has confirmed that the models are adequate to predict Behaviour Intention and that the Bivariate correlation has also confirmed all positive correlations amongst the variables; we did conduct multiple regression modelling. We conducted regression modelling in order to understand the relationship between Behavior Intention and the independent variables. We present the relationship between Behavior Intention and the six predictor variables in a typical regression equation:

$$BI_i = \beta_0 + \beta_1 * EE_i + \beta_2 * SI_i + \beta_3 * PE_i + \beta_4 * SE_i + \varepsilon_i$$

BI is Behavioural intention; PE: Performance expectancy; EE: Effort expectancy; SI: Social Influence; FC: Facilitating conditions, where β_0 represents the general average associated with all observations, β_1 is the coefficient associated with the PE effect, β_2 is the coefficient associated with the EE effect; β_3 is the coefficient associated with the SI effect; β_4 is the coefficient associated with the FC effect.

10.6.12. Results of Multiple Regression Analysis at Baseline Study

In the baseline study, we found that there was no significant influence of the latent variables, PE, EE and SI on BI ($p < 0.05$). The variables used in the multiple regression account for 60.2% ($R^2 = 0.60$) of the variance in the intention to use ICTs to engage with councils, councillors, ESCOM and the Waterboard.

Table 10.28 shows the Regression analysis at Baseline showing the association between Behavior Intention and the latent variables of Performance Expectancy, Effort Expectancy, Social Influence and Facilitating Conditions. **It is evident that at baseline; (before deployment of the Mzinda platform) none of the social constructs or factors in the UTAUT model had significant influence on the Behavior Intention of citizen's to use ICTs to engage with councils, councillors, ESCOM and the Water Boards.**

Table 10.29: Regression analysis at Baseline showing the association between Behavior Intention and the latent variables of Performance Expectancy, Effort Expectancy, Social Influence and Facilitating Conditions.

Regressions	Estimate	Std. Error	P (< 0.05)
Behavior ~			
Performance	1.354	1.466	0.356
Effort	0.762	0.988	0.441
Social	1.757	1.649	0.287
Self-efficacy	1.856	3.123	0.406

10.6.13. Results of Multiple Regression Analysis during the Post Deployment Assessment Study

Based on data collected from the Post Deployment Assessment study, we found that there were two variables that were significantly associated ($p < 0.05$) with citizen's Behavioral Intention to use the Mzinda platform. The two variables were Performance Expectancy (PE) and Effort Expectancy (EE).

Table 10.29 shows the Regression analysis for the association between Behavior Intention and the latent variables of Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions after use of the Mzinda platform. Both PE and EE were positively moderated by age and gender. Performance Expectancy was positively associated with Behavioral Intention, with a strong association for females aged between 31 and 60 years. Male users showed greater Effort Expectancy to use the Mzinda platform, with a positive association for age. The older the person, the higher the Effort Expectancy. Behavior intention to use the Mzinda platform decreased with increasing age. The combined $R^2 = 75$ indicates that the significant predictor variables of Performance Expectancy and Effort Expectancy explain 75% of the behavioral intentional variation.

Table 10.30: Regression analysis post deployment

Regressions	Estimate	Std. Error	P (< 0.05)
Behavior ~			
Performance	19.535	0.832	0.000
Effort	-14.263	1.333	0.000
Social	-1.932	1.246	0.121
Self-efficacy	-0.688	1.244	0.580
Performance x Gender	47.810	2.278	0.000
Performance x Age	71.867	2.818	0.000
Effort x Gender	-35.497	2.773	0.000
Effort x Age	-19.488	3.338	0.000
Social x Gender	-5.708	3.082	0.064
Social x Age	-8.489	3.445	0.14
Self-efficacy x Gender	27.127	2.151	0.763
Self-efficacy x Age	0.789	0.196	0.556

10.7. Hypothesis Testing

Earlier in Chapter 5, we had introduced some of the hypothesis that we sought to test in this research.

Hypothesis	Result
H1: Performance Expectancy will have a positive influence on Behavior	Accepted
Intention of citizens to use ICTs to participate.	
H1a: Gender differences shall positively moderate the relationship between Performance Expectancy and Behavioral Intention.	Accepted
H1b: Age positively moderates the relationship between Performance Expectancy and Behaviour Intention.	Accepted
H2: Effort Expectancy will have positive influence on Behavioural Intention of citizens to use ICTs to participate.	Accepted
H2a: Gender differences positively moderates the relationship between of Effort Expectancy on Behavioural Intention.	Rejected
H2b: Age positively moderates the relationship between Effort Expectancy and Behaviour Intention.	Rejected
H3: Social influence will have a positive influence on Behaviour Intention of citizens to use ICTs to participate.	Rejected
H4: Facilitating conditions will have a positive influence on Behaviour Intention of citizens to use ICTs to participate.	Rejected

The Hypothesis made were propositions about the possible outcome of this research as regards variables that would influence Behaviour Intention of citizens to use the Mzinda platform in engaging with councils, councillors, ESCOM and the Water Boards. Based on the results of the regression model discussed in the preceding sections; we reflect on each hypothesis that was made in Chapter 5 and pass the result of whether it accepted or rejected based on the results presented

Note that we did not include the sub-Hypothesis on moderating factors of Social Influence and Facilitating Conditions because the latent variables themselves did not have a significant relationship with Behaviour Intention.

These results are evidence to show that prior to deploying the Mzinda platform, none of the social constructs of the modified model determined BI. Whereas, after deployment of the Mzinda platform, the results of the modified model show that that 75% of Behavior Intention variation is explained by the significant predictor variables of Performance, Expectancy and Effort Expectancy. This is greater than 70% of the variation in usage intention and acceptance of technology which was found in the original paper (Venkatesh, et al., 2003).

Apart from understanding the factors that influenced citizens to use ICTs to participate post deployment of the Mzinda Platform, the results presented here have also proven the validity of the original UTAUT model. Although we had sought to reconstruct the model with additional two constructs being Attitude and Self Efficacy that have been argued to be a basis of limitations of the UTAUT model, it is evident that these two constructs fall out due to low factor loadings. We thus have tested the content validity of the UTAUT (2003) model in the context of Malawi where citizens have used ICTs to engage with councillors, councils, ESCOM and the Water Board. We have enhanced the ecological validity of the UTAUT (2003) model.

10.8. Conclusion

In this Chapter, we have shared the results of the post deployment assessment study of the Mzinda platform that was conducted in 2017. We have found that majority of citizens that had heard about the Mzinda platform in the 3 cities, did use the platform. However, those that had heard of the platform and not used it cited a number of reasons for not using the platform which included that they did not have anything to report on and that it was expensive. All through the assessment study, there were repeated calls from citizen respondents, councillors, city council and Zodiak Radio Station for the SMS reporting channel to be zero rated to make access to the Mzinda platform less expensive. Community campaigns and radio were the most effective modes of publicizing the Mzinda platform.

Nonetheless, there were repeated calls to enhance publicity of the Mzinda platform using community campaigns, radio and television among others. It was interesting to note that despite having heard of the platform, there were still differences in the frequency of use of the platform by citizens. Majority of citizens used the Mzinda platform to report faults, service delivery problems and community problems in their areas. Respondents mentioned that reporting on service delivery was the most helpful

feature on the Mzinda platform. It has also been learnt that respondents reported on other issues like security, education and roads which were not initially scoped out. This is evidence that the platform can be utilised for reporting other social service delivery issues.

Of all the service providers, the Waterboards were the service providers that sampled respondents indicated to have engaged with most followed by ESCOM and the city councils. ESCOM were reported to be the most actionable entity. Although the platform was not initially meant to be used for engaging MPs; respondents mentioned to have utilized the platform to engage with MPs. 86% of respondents mentioned to have received feedback from the service providers whereas 65% saw action taken on their reports from service providers. There was clearly a difference between the responsiveness and actionability of service providers. 61.8% of respondents mentioned that they felt that they had influence on service providers through the Mzinda platform. We assume that the perception that citizens had influenced service providers aligns with the finding that 68% of respondents thought that service delivery had improved after reporting on the Mzinda platform.

We compared data on citizen engagement with councillors, councils, ESCOM, Water Boards and MPs from the post deployment assessment with corresponding data from the baseline in 2016; and literature on citizen engagement between 2005, 2008 and 2012. It is evident that citizen engagement had significantly improved, almost doubled where citizens engaged with councillors and the city councils. However, citizen engagement with MPs had significantly been on the decline over the years, whereas it was difficult to make a comparison on citizen engagement with ESCOM and the Water Board because there was no data available before the baseline, and the data we had collected at baseline did not disaggregate ESCOM and the Water Boards.

About 96.7% of respondents mentioned that they would use the Mzinda platform if given another chance. 96% of councillors sampled mentioned that service delivery had improved because of the Mzinda platform. However, the councillors also mentioned a lack of adequate resources as a deterrent to further improvement of services and development at the local level.

We can conclude that the Mzinda platform did accord citizens a channel for engaging with duty bearers and ultimately influenced improvements in service delivery, response and actionability of duty bearers to citizens. It is also evident that publicity of the platform is key to ensure widespread awareness amongst citizens. Use of diverse publicity channels maximizes the number of citizenry that can be reached with information on the Mzinda platform. A zero-rated SMS short code must be considered for deployment as suggested by citizens. In any case, an interrogation into the business model of the Mzinda system must be explored to enhance sustainability of the system.

Finally, we applied the modified UTAUT model (2003) and found that none of the predictor variables explained what factors that influence citizen's behaviour intention to use ICTs to engage prior to deploying the Mzinda platform. We later found out that after deploying the Mzinda platform; there were two variables that were significantly associated ($p < 0.05$) with citizen's Behavioral Intention to use the Mzinda platform. The two variables were Performance Expectancy (PE) and Effort Expectancy (EE). Both variables were moderated by age and gender. We found that the assertion we had made earlier to test the validity of Attitude and Self Efficacy as determinants of Behaviour Intention did not hold. It is evident that the original UTAUT model holds as 75% of Behavior Intention variation to use the Mzinda platform is explained by the significant predictor variables of Performance, Expectancy and Effort Expectancy. This is greater than 70% of the variation in usage intention and acceptance of technology which was found in the original paper (Venkatesh, et al., 2003).

CHAPTER 11

Conclusion and future research

Introduction

This Chapter concludes this research and provides a summary of the problem we sought to solve and the solution that was deployed. We also highlight a summary of the processes taken and highlight the key messages and findings from the research. We start with a recap of the premise of the literature and problem statement that motivated us to conduct this research. We also summarise the steps that were taken all through the project from the literature review through to the design of the Mzinda technology platform, implementation, and the post deployment assessment. We revisit the Research Questions set out in Chapter 1 and provide summary responses to each pointing to where in this research we have addressed the questions. We then provide a summary of the key messages and findings from this research. We outline the theoretical and practical contributions that this research makes to the body of knowledge. Finally, we highlight some of the limitations of this research, implications, and outline ideas for further research.

11.1. Background literature on the research

In recent years there has been an increase in the number of ICT led Citizen Engagement Initiatives that have been deployed (Hellström and Karefel, 2012; Cegarra, Cegarra and Córdoba Pachón, 2014; Omenya, 2013; Thinyane and Coulson, 2012; McGee and Carlitz, 2013; CIPESA, 2012; Peixoto and Fox, 2016). The use of ICTs to enhance citizen participation has enabled democratic appearance in ways that have not been imagined before. ICTs have provided platforms for participation that are not limited to physical places thereby almost literally opening the world (Van der Merwe and Bohler-Muller, 2013). Use of ICTs for citizen engagement has been touted to provide an opportunity to reinforce citizens voice, enhance transparency, accountability, and more targeted outcomes (Gigler, 2014). ICTs have been used as a tool to facilitate citizen engagement for the purpose of achieving some of the following outcomes: -

- enhanced citizen voice with government in policy making,
- implementation and monitoring.
- reporting on service delivery.

- enhanced Government responsiveness on service delivery to ultimately improve service delivery.
- and in participatory budgeting.

Despite the many examples of ICT led citizen engagement platforms; extant literature still suggests that documentation of such initiatives is still scanty, uneven, and sparse (McGee and Carlitz, 2013). There is thus a need to collate more evidence on the impact of ICT led citizen engagement initiatives. It has also been emphasized that the context within which such citizen engagement initiatives are deployed is a key differentiator to the outcome. "... all transparency and accountability initiatives unfold within complex, non-linear, contextually-specific social and political processes and it is these complex contexts and processes that they seek to change" (McGee and Gaventa, 2011 p.27).

Within the context of Malawi, it is on record that Malawians are very keen to participate in open and honest elections to choose political leaders and keep them accountable (Khaila and Chibwana, 2005). This is evident in the high voter turnout in elections. However, "for the deepening of democracy in Africa, surveillance of government also has to happen in between the 'ritual of elections' (Wasserman, 2011). The need to foster continued citizen engagement beyond elections, has been reiterated by Heller (2009) who posed the question: - "Citizens can vote, but can they participate consequentially?". This question is fundamental to our research as we seek to understand Malawi's challenge of minimal citizen engagement. Malawian citizens indeed participate in elections, but can they engage beyond the elections? This research is thus built on the hypothesis that, participation of citizens in elections alone is not enough to deepen democracy if the elected leaders are not held accountable of their performance in between one election and the other.

It has been established that the level of citizen engagement is rather low in between elections. There is very minimal engagement between citizens, elected leaders, and local government after elections (Chiweza and Tembo, 2012; Chingaipe and Musukwa, 2012; Khaila and Mthinda, 2006; Tsoka and Chinsinga, 2008; Tsoka and Chunga, 2012). In addition, service delivery of water, electricity and sanitation is also very poor¹⁰¹ (Mkadawire and Mpakati-Gama, 2015).

¹⁰¹ <https://malawi24.com/2020/03/22/escom-says-increase-in-demand-has-led-to-7-hour-blackouts/#:~:text=The%20Electricity%20Supply%20Corporation%20of,increase%20in%20demand%20for%20electricity.>

Despite the increased proliferation of mobile phones in recent years, there has been no record of an ICT led Citizen engagement initiative in Malawi.

This research thus sought to leverage the challenge of poor citizen engagement and the lack of use of ICTs to enhance engagement by developing a technology platform called Mzinda. The Platform provided diverse channels (SMS, USSD, Web, mobile application and social media) for citizens to engage with councils, councillors, ESCOM and waterboards on service delivery of water, electricity and sanitation. We later sought to apply the modified UTAUT model to understand the factors that influence Behavior Intention of citizens to use the platform to engage with councils, councillors, ESCOM and Water Boards.

11.2. Overview of the research study

Below is the summary of the steps we had taken in this research towards understanding the problem of citizen engagement, developing a solution, implementing it and extracting both theoretical and practical insights:

- We conducted a desk-based literature review on the following areas: - citizen engagement, Malawi's context on citizen engagement, use of ICTs for citizen engagement and the theories for use and acceptance of technology. We selected the UTAUT model (2003) to help us understand factors that influence citizen's use of ICTs to participate. The UTAUT model provides combined explanatory power of seven individual models combined and key moderating factors of age, gender, voluntariness, and experience (Venkatesh, et al., 2003). We modified the UTAUT model to test validity of additional social constructs of Attitude towards use of technology and Self Efficacy.
- This research was premised within the realism research philosophy using the deductive approach to understand the phenomenon on use of ICTs to participate based on an existing theory. We also highlighted the Theory of Change of the Mzinda Project, where we stated the current status of citizen engagement, the activities we had intended to undertake, assumptions, anticipated outcomes, and the ultimate goal of deploying the Mzinda platform.
- We conducted a Baseline study in the three cities of Blantyre, Lilongwe and Mzuzu. The results of the baseline have been presented to help us understand empirical evidence on use of ICTs and the status of citizen engagement. The baseline results also informed the design and deployment of the Mzinda technology platform.

- We have documented the design of the Mzinda technology platform and offer the source code as an open resource for other citizen engagement practitioners to customise accordingly. The Mzinda platform has been accessible via SMS, USSD, web and an android mobile application.
- We have documented the activities implemented and partnerships that were leveraged in the implementation of the Mzinda platform so as to gain traction from all actors including citizens, councils, councillors, ESCOM, the Water Boards, media, and civil society. We have also documented how the platform was utilized, disaggregating reports by sector, capturing empirical data on the responsiveness and actionability of actors to citizen reports. We have also documented lessons learned, challenges faced during the research and made recommendations for other practitioners and researchers.
- We have documented empirical evidence from the post deployment assessment study. The results of the assessment capture the perspectives of citizens, councillors, councils, and implementing partners post implementation of the Mzinda platform to establish whether use of the platform had indeed enhanced citizen engagement and service delivery.
- We applied the modified UTAUT model (2003) in understanding the factors that influenced citizen's Behavior Intention to use the Mzinda technology platform. Results of the UTAUT model enhance the validity of the UTAUT model in understanding use and acceptance of ICTs for citizen engagement in Malawi's context. The application of the modified UTAUT model also aligned with issues for further research identified by the developers of the UTAUT model and subsequent literature from other authors which among others were to do the following:- validate appropriate scales for each of the selected social constructs, to enhance content validity and to revalidate the model (Venkatesh, et al., 2003).

Additional issues for further research included: to Explore the effects of Attitude on Behaviour Intention as identified to be a likely determinant of Behavior Intention (Louho, et al., 2006; Oshlyansky, et al., 2007; Dijk, et al., 2008; Yuen, et al., 2010) and to explore the influence of Self Efficacy on Behaviour Intention as it has been found to be a determinant for motivation and performance of an individual (Bandura and Locke, 2003; Bandura, 1994, 1997).

11.3. Findings and messages from the research

Below we highlight some of the key findings and messages that we would like to contribute or affirm to literature on the use of ICTs for citizen engagement in particular from the context of Malawi's three cities of Blantyre, Lilongwe and Mzuzu. These findings and messages resonate within the context of empirical and theoretical evidence collated in this research.

- 1,030 citizen reports were sent through the Mzinda platform by citizens in three cities and eight districts in Malawi between 2016 and August 2020. 66 % of reports were sent via SMS whereas 34% of reports were sent via Web and mobile application. There were 1,919 requests for budget and expenditure tracking information to the USSD platform.
- The following stakeholders were actively engaged by citizens using the Mzinda platform:- Eight District Councils (Blantyre rural, Lilongwe rural, Machinga, Balaka, Mulanje, Zomba, Kasungu, M'mbelwa), Blantyre City Council (BCC), Lilongwe City Council (LCC), Mzuzu City Council (MCC), ESCOM, Northern Region Water Board (NRWB) and Lilongwe Water Board (LWB).
- There was an **81% average** response rate to the **811** citizen reports sent through the Mzinda platform and an average 59% action rate to all reports sent through the Mzinda platform. There was a significant improvement in levels of citizen engagement with councillors, councils, ESCOM and the Water Boards using the Mzinda platform. The level of responsiveness and actionability of councils, councillors, ESCOM and Water Boards significantly increased with the deployment of the Mzinda platform.
- The Blantyre City Council had received the highest number of reports followed by the Lilongwe City Council. However, the most responsive utility was the Mzuzu City Council followed by ESCOM. In terms of action, the Northern Region Water Board recorded a 100% action rate which is perhaps also relative to the fewer number of reports received. Citizens sent in more reports on roads as compared to other service delivery issues. However, the most responsive sector was the Sanitation sector.
- There had been a significant decrease in citizen engagement with MPs from 2005 to 2020 based on data from literature and empirical evidence captured herein.
- Citizens used the ICT platform to send in reports on other service delivery categories outside the scope of the initial four sectors of water, electricity, sanitation, and roads. This signifies demand for more utilization of the platform across other social service delivery areas like health and education, among others.
- It was a combination of non-technological and online activities that enhanced knowledge of the Mzinda platform amongst key stakeholders. Community campaigns were the most effective, where theatre, music, t-shirts, and flyers among others were used as channels for dissemination of messages on the Mzinda Platform at community level. Radio programs print media engagement, trainings, and Mayor debates were some of the other activities that were deployed to enhance knowledge of the Mzinda platform.

- Leveraging partnerships with other civil society organizations and political will therein was key in enhancing outreach, scale and buy in from existing community or political structures.
- In the course of implementation, there was demand to customise the Mzinda platform for three other use cases as demanded for by civil society organisations. The three use cases were: - public expenditure tracking in eight districts, engagement with market actors in eight districts and nationwide elections monitoring.
- Although citizens were keen to follow budget and expenditure information, councils were not keen to share budget and expenditure information with citizens publicly. It took the intervention of the Malawi Local Government Association for Councils to consider sharing the budget and expenditure information.
- Citizens were of the view that use of the Mzinda platform had led to service delivery improvements.
- Citizens believed to have had twice the influence on duty bearers after using the Mzinda platform.
- The factors that influenced citizens in the three cities of Blantyre, Lilongwe and Mzuzu to use and accept the ICT platform to engage were: - Performance Expectancy and Effort Expectancy. Both Performance expectancy and Effort Expectancy were moderated positively by age and gender. Social Influence and Facilitating Conditions were not significant influencing factors for citizens behavior intention to use the Mzinda Platform.
- Prior to deploying the Mzinda platform, none of the social constructs of the modified UTAUT (2003) model determined Behavior Intention, perhaps because there had not been any platform like Mzinda. Whereas, after deployment of the Mzinda Platform, the results of the modified UTAUT model show that 75% of Behavior Intention variation is explained by the significant predictor variables of Performance Expectancy and Effort Expectancy. This is greater than 70% of the variation in usage intention and acceptance of technology which was found in the original model (Venkatesh, et al.,2003). Performance Expectancy is particularly eminent in females within the age bracket of 31-60 years. Age positively moderates the Performance Expectancy. Performance Expectancy is particularly stronger for younger men and decreases with age. Whereas the older the citizens, the higher the Effort Expectancy. Effort Expectancy is stronger in males than females.
- We sought to test additional social constructs of Attitude and Self Efficacy as determinants of Behaviour Intention as suggested in other literature (Moghavvemi, 2014). However, we have established that Attitude and Self Efficacy were not significant determinants of Behaviour

Intention in this context. Ultimately, this finding reverts to validate the original UTAUT model that had pruned Attitude and Self Efficacy constructs after using the highest loading items from each of the core social constructs as recommended by Nunnally and Bernstein (1994). This finding also defies the suggestion by (Moghavvemi, 2014) that Attitude and Self Efficacy are determinants of Behavior Intention.

11.4. Research Questions

We highlight the research questions that we had sought to answer and point to where they have been addressed in this research.

What Factors influenced the use and acceptance of technology by citizens in engaging with local government, councillors and utility companies in Malawi.

This research question was answered in Chapter 10 based on results from the application of the modified UTAUT model in understanding the factors that influenced citizens use and acceptance of technology. Performance Expectancy (PE) and Effort Expectancy (EE) were found to be influencing citizen's Behavior intention to use the Mzinda platform. Both Performance Expectancy and Effort Expectancy were moderated positively by age and gender. Social Influence, Attitude, Self-Efficacy and Facilitating Conditions were not significant influencing factors for citizens to use the Mzinda Platform. The modified UTAUT model did not include the moderating factor of voluntariness of use and experience because use of the system was voluntary, and this was the first time the system was used.

This research has answered the following sub research questions:

1. Can use of ICTs enhance citizen engagement with councillors, councils, ESCOM and the Water Board in Malawi?

This research question was answered in Chapters 8 and 9. In Chapter 8, we captured aggregated data from the platform on how citizens used SMS, USSD, web and mobile application channels to engage with councillors, councils, ESCOM and the Water Boards. Citizens sent in 1,030 reports to the platform and made 1,919 budget and expenditure requests through the Mzinda platform. **There was an average 81% response rate and 59% action rate to citizen reports.** In Chapter 10, we presented results of a post deployment assessment where respondents acknowledged that citizen engagement and service delivery had improved because of use of the ICT platform.

- 2. Does use of ICT led Citizen engagement enhance responsiveness of duty bearer's and service providers?** In Chapter 9, we documented from the Mzinda platform, the rate of responsiveness of councils, councillors, ESCOM and the Waterboards to citizen reports which clearly shows that there had been an enhancement in their rate of responsiveness. An average 81% responsiveness was reported on all reports sent through the Mzinda platform. In Chapter 10, we also presented respondent's perspectives that there had been an improvement in the responsiveness of councils, councillors, ESCOM and the Waterboards.
- 3. Does the use of ICT led citizen engagement enhance actionability of duty bearers and service providers?** In Chapter 9, we presented the rate of actionability from councils, councillors, ESCOM and the Water Boards based on real data found on the Mzinda Platform. The data showed that there was an average 59% rate of actionability by the elected representatives and service providers. In Chapter 10, we also documented empirical evidence from the post deployment assessment, where respondents acknowledged there was an improvement in the actionability of duty bearers and service providers.

11.4.1. Research Contribution

This is the first time that an ICT led Citizen Engagement platform has been deployed in Malawi in a field where literature of ICT led citizen engagement initiatives remains uneven and sparse (McGee and Carlitz, 2013). We have also delved into the context of the three main cities in Malawi by providing contextual literature on the subject of use of ICTs for Citizen Engagement. This research thus contributes to extant literature and the body of knowledge on use of ICTs for Citizen Engagement being the first initiative to leverage ICTs for citizen engagement within the context of Malawi in the following ways:

11.4.2. Theoretical Contribution

This research provided a comprehensive review of technology acceptance models used in social psychology and Information Systems research. The research provided justification for selecting and applying a modified Unified Theory of Acceptance and Use of Technology (UTAUT) model. The model is used in understanding the factors that influence use and acceptance of technology by citizens as they engage the main public services providers which are the city councils, councillors, ESCOM and the Water Boards in Malawi. The findings reveal that Performance Expectancy and Effort Expectancy significantly influence the Behavior Intention of citizens to use the ICT platform to

participate. The results further show that Performance expectancy and Effort Expectancy are moderated positively by gender and age. We have also learnt that Social Influence and Facilitating conditions were not significant determinants or influencing factors for citizens to use the ICT platform to participate.

These results contribute to the validity of the theories of use and acceptance of technology in the context of using ICTs for citizen engagement in Malawi. The modified UTAUT model does not include moderating factors of voluntariness and experience.

Our theoretical findings also offer insight into theoretical construction of similar initiatives within this context to emphasise on the aspects of Performance Expectancy and Effort Expectancy of citizens.

Through this research, we have also proven the validity of the original UTAUT model. We had sought to reconstruct the UTAUT model with two additional constructs being Attitude and Self Efficacy that have been argued to be a basis of limitations of the UTAUT model (Moghavvemi, 2014). We sought to measure appropriate scales for each of the constructs with an emphasis on content validity as was recommended as an issue for further research by the developers of the model. It is evident that the constructs Attitude and Self Efficacy fall out due to low factor loadings. We thus have tested the content validity of the UTAUT 2003 model in the context of Malawi and can conclude that Attitude, Self-Efficacy, Social Influence, and Facilitating Conditions are not significant determinants of Behavior Intention in the context of this research. We have thus tested and enhanced the ecological validity of the UTAUT 2003 model.

11.4.3. Delivering an Open source code

This research has delivered the source code used in designing the web application, mobile application, SMS gateway and USSD applications that collectively make the Mzinda platform. We have made the Mzinda source code to be an open source resource for technology practitioners supporting the design and deployment of similar technology led citizen engagement platforms to edit and customise accordingly.

11.4.4. A case study on use of ICTs for Citizen Engagement

This research has contributed a comprehensive case study on the design and use of ICTs for Citizen engagement in Malawi's three cities, eight districts and beyond. The Case study includes literature on the context within which the research is premised as captured in Chapter 3. The research methodology

including the Theory of Change is captured in Chapter 6. Results of the baseline study are in Chapter 7 and inform the design of the technology platform as captured in Chapter 8. Chapter 9 documents implementation of the use case, activities, achievements, lessons learned, challenges and recommendations. Whereas Chapter 10, documents the post deployment assessment results from users' perspectives.

These Chapters form a comprehensive case study which can further be summarized and offer insights to practitioners and researchers within the space of citizen engagement in Malawi and similar contexts. The Case study is a contribution to the broader body of knowledge on use of ICT for Citizen Engagement where calls for more documented research on the impact of such initiatives are being made (McGee and Carlitz, 2013). The Case study also responds to the call to understand the users of citizen engagement initiatives (McGee and Carlitz, 2013; CIPESA, 2012; NDI, 2013). Finally, the case study also responds to the call to consider context in deployment of ICT led citizen engagement initiatives.

11.5. Implications of the research

This research has several implications on the use of ICTs for citizen engagement in Malawi's context and similar one's elsewhere. The research implies that there is now a proof of concept and an opportunity to leverage use of ICTs in combination with other non-technological mechanisms to reduce the challenge of citizen engagement in Malawi. The proposition to use ICTs is particularly defiant of certain assumptions we could have had considering a country like Malawi where only 19% of the population have access to broadband, 42% of the population has a mobile phone and 83% live below the poverty line (GSMA, 2019). The assumption that there would likely be low use of ICTs in such a context due to low access and cost implications is perhaps not necessarily generalizable to a larger extent.

This research implies that citizens can still leverage ICTs to participate regardless of the aforementioned barriers. This research makes the implication that, where there is latent willingness by citizens to participate, there may also be a latent potential that ICTs could be used as a channel for participation especially if combined with other non-tech mechanisms to enhance knowledge and awareness. The research, however, intimates the importance of designing the ICT platform according to the users' needs and preferences of ICT platforms. The research also affirms the implication that it is a combination of technology and non-technology interventions that make ICT led initiatives succeed. Indeed, ICTs are not the panacea of all problems. While there might have been good

successes recorded in this research, it must also be noted that these implications may only be applicable in the limited geographic and demographic context of the cities where this research was deployed and may likely be different elsewhere.

11.6. Limitations

Regardless of the key areas of improvement that we have noted in service delivery, and responsiveness and actionability of duty bearers to citizen's reports as a result of this research; there are certain limitations that we would like to highlight.

First, this research has geographic limitations to warrant a generic view on use of ICTs for citizen engagement in Malawi as a whole. The research was primarily conducted in the three cities of Blantyre, Lilongwe and Mzuzu. Over 85% of the Malawian population remains in the rural areas and only 45% of the population have mobile phones. The urban populace may thus not be a representation of the wider population. As such these results must be considered in the perspective of this limited geographical scope and never to be applied across the board to the entire Malawi populace.

The majority of people that used the Mzinda platform and responded to the post deployment assessment were purposely selected because they were likely to have heard or used the Mzinda platform. It would be interesting to conduct a proper random sample to gauge knowledge and use of the Mzinda platform.

We have validated the modified UTAUT model based on first time users and voluntary use of the platform. We have not yet accounted for alternative measures of intention because we had intended to test the ecological validity of the UTAUT model within the context of citizen engagement in a country like Malawi where use of ICT is very low with 45% mobile penetration and 19% mobile broadband penetration. We imagine that there must be alternative measures of intention to use the platform like Trust in the platform and stakeholders and that they can be explore subsequently.

11.7. Future research

In Future research we recommend the following areas for consideration:

- Extending the UTAUT model to explore additional variables that could have influenced citizens to use the Mzinda Platform such as Trust which has been included in a number of

similar studies where UTAUT has been applied. But more importantly, to explore testing of new variables based on the context of thematic areas that emerge as potential influencing variables to the intention to use technology by citizens to participate.

- With time, as citizens gain experience, it might also be useful to test out the full model on use behavior and an additional variable of experience as a moderating factor to the current model that we used. Within experience, we would recommend testing out whether prior responsiveness and actionability of service providers and duty bearers would account for significant influence on citizen's intention and use of the technology platform.
- Practitioners must consider ways and means to investigate modalities of enhancing integration and equity of use of ICT platforms like Mzinda by gender and age factors as it is clear that these two moderating factors play a significant role in moderating use of ICT platforms.
- This research was too broad in a sense due to the number of the stakeholders that citizens engaged with. It might be useful to conduct a very specific study on how citizens engage with each of the stakeholders and understand the dynamics of political will within the institutions and its impact on citizen engagement.
- This research was focused on understanding use of ICTs for citizen engagement; subsequent research could consider understanding the phenomena of citizen engagement in itself.
- Consideration can also be made to combine some of the empirical data captured herein with other empirical evidence to develop theories on use of ICTs for Citizen Engagement.
- Considering that we continue to receive several requests to pivot and customise the Mzinda platform to several use cases; it may be important to consider developing a practical "How to Do Guide for practitioners". There is an opportunity to build on to the operational model for Digital Citizen Engagement by Khene (2016) and to build a practical step by step "How to do Guide" for practitioners highlighting steps, roles, partners, processes, resources and deliverables to consider in deploying similar ICT led Citizen engagement initiatives.
- Subsequent research can focus on assessing and improving the functional performance of the Mzinda Platform to further citizen's use of the ICT platform by using the concept of design science.
- Evaluators of ICT4D may consider conducting an in depth evaluation of the Mzinda platform using the Theory of Change guide and assessment.

11.8. Final words

It is evident that ICTs present opportunities to enhance citizen engagement with duty bearers.

However, ICTs alone cannot attain the desirable result unless combined with other non-technological mechanisms. The importance of understanding the context and users of ICT led citizen engagement initiatives cannot be over emphasized. The demand for ICT led Citizen engagement use cases is well known and requires a diverse set of partnerships to implement. Political will and collaboration of technology practitioners, researchers, civil society organizations, Government as well as other stakeholders, is key to achieving tangible outcomes. We hope that there are valuable insights that we have unearthed in this research for other researchers and practitioners to make use of.

Appendix 1: Table 5.6: Summary of all theories and models with constructs adapted from (Al Mansouri, 2017).

	Models and Theories	Constructs
1.	TRA	Attitude towards using technology
		Subjective norm
2.	TAM/TAM2/ C-TAM-TPB	Perceived usefulness and Perceived ease of use
		Subjective norm
		Attitude towards using technology
		Subjective norm
		Perceived behavioural control
3.	MM	Extrinsic motivation
		Intrinsic motivation
4.	TPB/ DTPB	Attitude towards using technology
		Subjective norm
		Perceived behavioural control
5.	MPCU	Job-fit
		Complexity (reversed)
		Long-term consequences
		Affect toward use
		Social factors
		Facilitating conditions
6.	DOI	Relative advantage
		Ease of use
		Result demonstrability
		Trialability
		Visibility and Image
		Voluntariness
		Compatibility
	Models	Constructs

7.	UTAUT	Performance Expectancy
		Effort Expectancy
		Social Influence
		Facilitating Conditions
		Behavioral Intention to adopt
		Adoption Behavior
		Gender and Age
		Education Level
8.	SCT	Outcome expectations

Appendix 2: Table 5.7: Summary of studies that used Technology acceptance models and findings as adapted from (Al Mansouri, 2017).

Study	Place	Base Models	Factor/Constructs	Sample
Carter and Belanger (2004)	USA	(DOI)	Compatibility and image, relative advantages	140 Students
Carter and Belanger (2005)	USA	(DOI)+ (TAM)+ Web Trust	Perceived ease of use, trust, and perceived usefulness	140 Students
Warkentin, et al., (2002)	USA	TPB	Trust	1 000 taxpaying citizens in several nations
Dimitrova and Chen (2006)	USA	(TAM)+ (DOI)	Perceived usefulness, perceived uncertainty, interpersonal communication, mass media channels and civic mindedness	447 web-based survey
Horst, et al., (2007)	Netherlands	(TPB)+ (TAM)	Perceived usefulness, personal experiences, subjective norm, perceived behaviour control, risk perception and trust	238 a convenience sample
Van Dijk, et al., (2008)	Netherlands	UTAUT	Internet availability, knowledge of availability, digital channel preference and skill and	1225 a random e-mail samples (n=800), telephone

			experience of the technology	sample (n=416),
Study	Place	Base Models	Factor / Constructs	Sample
Kumar, et al., (2007).	Canada	TAM	Characteristics of the user, website design and service Quality	

Appendix 3: Table 5.8: Summary of limitations of Technology Acceptance Models

#	Models and Theories	Limitations
1.	TRA	The theory only applies to behaviour that is thought beforehand.
		Theory only works to predict behaviour where attitude and intention must agree on action, target, context, specificity and time. This is not realistic in all scenarios (Shephard, Hartwick and Warshaw, 1988).
2.	TAM/TAM2 / C-TAM-TPB	The theory relies on self-reporting by respondents
		Limited guidance on how to influence usage through design and implementation
		Lower explanatory power of the model Inconsistencies between previous studies
3.	MM	The model does not take into consideration gender, age, voluntariness, and experience as moderating factors on use of technology acceptance models.
4.	TPB/ DTPB	The theory does not investigate the relation of intention and behavior.
		Theory does not include demographic variables, assumes all people male, female of all ages will have similar experience and processes
		Uses Perceived behavioural control as an aggregate variable for all uncontrollable elements without specificity of factors
6.	DOI	Less strong in explanatory power of usage
		Less useful in predicting outcomes and guidance on accelerating adoption of technology
		May be less relevant to Africa and East Asian cultures
		Focus has been on innovation demand not innovation supply
7.	SCT	The Theory does not consider past experience as moderating factor for behaviour
		The theory is broad reaching and difficult to operationalize in its entirety.
		Self-efficacy

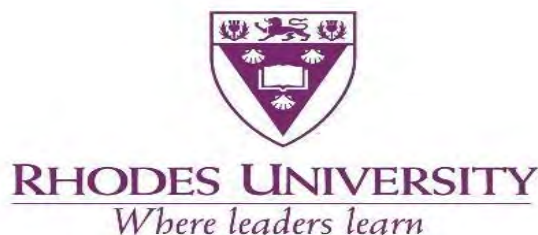
		Effects and Anxiety

Appendix 4: Theory of Change Assessment Guide

Key current situation on current situation	• What is the rate of citizen engagement with service providers and elected leaders? • Why is there minimal citizen engagement? How do citizens currently engage? • What channels do citizens use to engage with duty bearer? • What channels do duty bearers use to engage with citizens?
Key Questions On Activities	• How is the Mzinda platform developed? • What was the rationale for choosing the digital and non-digital channels used on the Mzinda platform? • How are citizens trained and made aware of the Mzinda platform? • How are councillors, city councils and service providers made aware of the Mzinda platform? • Which ones of the publicity and awareness mechanisms were more effective in enhancing knowledge of the Mzinda platform to citizens:- community campaigns, information sessions, radio programs, fliers and other mechanisms? • Which actors of the Mzinda platform were more active and engaged on the platform between citizens, councillors, MPs, ESCOM, Water boards and City Councils? • Which technology channels were used the most by citizens, councillors and service providers?
Key Questions on Assumptions	• How often did Citizens have access to a mobile phone or a computer or the internet? • Were citizens that were engaged in Mzinda activities and awareness campaigns aware and knowledgeable of the Mzinda platform and mechanisms for reporting to the Mzinda platform? • Did Citizens send in reports on service delivery of essential services or community issues to duty bearers through the Mzinda platform? • What were the recurring themes identified in citizen reports? • What is the disaggregation of citizen's reports by sector and service provider? • Were councillors able to access mobile phones and/or the internet to access the Mzinda platform? • Were councillors willing and able to respond to citizen's reports through the Mzinda platform? • Did councillors have access to adequate resources to act on citizen's reports that required action to be taken? • Did the City councils, Water Boards and ESCOM designate point persons on the Mzinda platform?

	• How responsive were the city councils, water boards and ESCOM to citizens reports through the Mzinda platform? • Did the city councils, ESCOM and water boards have access to adequate resources to act on citizens reports that required action? • Of the citizens reports that required short to mid-term action; what percentage were acted on and by which entities?
Key Questions on Outcomes	• How many Citizen reports on service delivery of essential services and community issues came through the Mzinda platform disaggregated by channel, sector, service provider or geographical region. • What was the responsive rate of councillors, city councils, water boards, ESCOM and other service providers to citizen reports? • How actionable were service providers and elected leaders to citizen reports that required action?
Key Questions on the Goal	• Has the rate of citizen engagement with elected leaders and service providers improved as a result of the Mzinda platform initiatives? • Are councillors, MPs, water boards, ESCOM and city councils responsive to citizen's reports because of the Mzinda platform and interventions? • Has service delivery of essential services improved because of the Mzinda platform and interventions?

Annexure 1: Confirmation of Ethical approval



Rhodes University Ethical Standards Committee, Rhodes University, P O Box 94, Grahamstown, 6140

Tel: +27 46 603 7366. Fax: +27 46 603 8934. Email: ethics-committee@ru.ac.za

23-May-2016

Dear Rachel Sibande

Ethics Clearance: Exploring the use of mobile phones for Citizen Engagement in Malawi

Principal Investigator: Rachel Sibande

This letter confirms that a research proposal with tracking number: RU-HSD-16-02-0025 and title: **Exploring the use of mobile phones for Citizen Engagement in Malawi** was given ethics clearance by the Rhodes University Ethical Standards Committee.

Please ensure that the ethical standards committee is notified should any substantive change(s) be made, for whatever reason, during the research process. This includes changes in investigators. Please also ensure that a brief report is submitted to the ethics committee on complete on of the research. The purpose of this report is to indicate whether or not the research was conducted successfully, if any aspects could not be completed, or if any problems arose that the ethical standards committee should be aware of. If a thesis or dissertation arising from this research is submitted to the library's electronic theses and dissertations (ETD) repository, please notify the committee of the date of submission and/or any reference or cataloguing number allocated.

Yours Sincerely,



Dr J. Marx: Chairperson RUEESC.

Note:

1. This clearance is valid from the date on this letter to the time of completion of data collection.
2. The ethics committee cannot grant retrospective ethics clearance.
3. Progress reports should be submitted annually unless otherwise specified.

Annexure 2: Invite to participate in evaluation



COMPUTER SCIENCE DEPARTMENT | Tel: +27 46 603 8291 | compsci @ru.ac.za

You are invited to participate in an evaluation study for a PhD research entitled “Exploring the use of mobile phones for citizen engagement in Malawi”. This study is being conducted by Rachel Sibande a PhD student in Computer Science at Rhodes University in South Africa.

The purpose of this study is to determine ways in which citizens engage with elected leaders, local government and key service providers. It also aims to determine ways in which citizens have utilized mobile technology in particular; mobile phones and the internet to participate at the local level. The study seeks to unearth factors that influence or restrict citizen’s use and acceptance of technology when used as a tool for citizen engagement.

We appreciate that you will take your time to complete this survey by answering the questions on the questionnaire attached. There is no right or wrong answer, but your opinions are important. There are no foreseeable risks in participating in this study. You are free to opt out of this process at any time of the interview. Your participation is voluntary and will not be affiliated to you as an individual hence you are not required to identify yourself. The data collected from this instrument will be kept with utmost confidentiality. Data collected and analysed from this study, may be published or presented elsewhere solely for purposes of this research.

A report of the study’s findings can be made available to you on request once completed. If you have any questions, complaints or require additional information on this survey; do not hesitate to reach me on +265 999 572 992 or email: rchavula@gmail.com. You may alternatively contact my supervisor; Prof. Hannah Thinyane on email h.thinyane@ru.ac.za. If there are any concerns on the ethical procedures of this research you may contact the Director of Rhodes Research Ethics Committee on: m.gobel@ru.ac.za and refer to ethics approval RU-HSD-16-02-0025.

Thank you for your support.

Rachel Sibande

Department of

Computer Science

Rhodes University

rchavula@gmail.com

Annexure 3: Participant consent form



COMPUTER SCIENCE DEPARTMENT | Tel: +27 46 603 8291 | compsci @ru.ac.za

PARTICIPANT CONSENT FORM

Research Project Title:	Exploring the use of mobiles phones for citizen engagement in Malawi
Principal Investigator:	Rachel Sibande
Supervisor:	Prof. Hannah Thinyane
Participant Information	I understand the purpose of this research study.
	I understand that my participation in this survey is voluntary. That I may opt out of the interview at any time.
	I understand that I will receive no direct benefits or payment in cash or kind for participating in the study.
	I understand that there are no foreseeable risks in participating in this study.
	I understand that while data collected may be used for publications and presentations; my personal information or responses will remain confidential and that I will not be identified.

I hereby voluntarily consent to participate in this study.

- ☐ Agree
☐ Disagree

Date:-----

Signed:.....

Annexure 4: Questionnaire for citizens

EXPLORING THE USE OF MOBILE PHONES FOR CITIZEN ENGAGEMENT IN MALAWI

Please answer all the questions in the space provided or tick where appropriate.

Section 1 captures basic demographic information. **Section 2** captures data on access to mobile technology and usage habits. **Section 3** relates to the status of citizen engagement and your current means of participation at the local level. **Section 4** tackles the Unified Theory of Acceptance and Use of Technology (UTAUT) model to measure your behavioral intention to use mobile technology for citizen engagement.

Please note: no personally identifiable information will be linked to your answers.

Questions in Sections 1 and 2 are adapted from Mobisam Baseline Questionnaire

SECTION 1: PERSONAL INFORMATION

1. Gender

- ☐ Male
☐ Female

2. Age

☐ 18 -30 years	☐ 46-60years
☐ 31-45 years	☐ Over 60 years

3. Nationality

☐ Native Malawian	☐ Malawian of other origin
☐ Malawian of Asian Origin	☐ Foreign National

4. Level of Education

- ☐ None
- ☐ Primary school
- ☐ Secondary school

- ☐ Diplomate
- ☐ Postgraduate
- ☐ Degree

5. Occupation

- ☐ Never had a Job
- ☐ Domestic Worker
- ☐ Army/Police
- ☐ Civil Servant

- ☐ Farmer
- ☐ Business Person
- ☐ Professional Service
- ☐ NGO

SECTION 2: ACCESS TO, AND USE OF MOBILE TECHNOLOGY

6.

☐ Yes

☐ No

If answer is Yes, go to Q8 or else go to Q7

7. Do you have access to another phone of a family member
or friend?

☐ Yes

☐ No

If answer is Yes go to Q8 Else go to Q12.

8. What make is the phone(s) you use? (Tick as many as applicable to you.)

- ☐ Nokia
- ☐ Huawei
- ☐ TECHNO
- ☐ HTC
- ☐ iPhone

- ☐ Samsung
- ☐ Blackberry
- ☐ Itel
- ☐ Motorola
- ☐ Other.....

9. What model is your phone(s) or the phone you have access to?

10. What mobile network operator(s) do you use?

☐ Airtel

☐ TNM

☐ Access

☐ MTL

11. How often do you use data services on your phone?

☐ Never

☐ Only once a day

☐ A few times a day

☐ Often

☐ I don't know

SECTION 3: CITIZEN ENGAGEMENT

12. Have you ever heard about the Mzinda platform? If Answer is Yes go to Q16 Else Go to Q13

☐ Yes

☐ No

The Mzinda platform is a citizen engagement platform through which citizens can engage with their duty bearers that include local ward councillors, utility service providers and the local government. Citizens can send an SMS, submit a report through a Mzinda mobile application or through the Mzinda website or the Mzinda Facebook page or Twitter Account.

13. Would you be willing to use the Mzinda platform? If answer is Yes go to Q14 else go to Q 15

☐ Yes

☐ No

14. What mechanism(s) would you prefer to use to engage on the Mzinda platform? Go to Q35

- ☐ SMS
- ☐ Facebook
- ☐ Don't know
- ☐ Website

- ☐ Mobile Application
- ☐ Twitter
- ☐ Phone call
- ☐ Other.....

15. Why would you not be willing to use the Mzinda platform? Go to Q35

.....

.....

.....

16. How did you hear about the Mzinda platform?

- ☐ Radio
- ☐ Community Campaign
- ☐ Facebook
- ☐ Twitter

- ☐ Newspaper
- ☐ Friend
- ☐ Whatsaap
- ☐ Other.....

17. In the past year how often did you report to the Mzinda platform? If your answer is None go to Q18 else proceed to Q19

- ☐ Once
- ☐ More than twice

- ☐ Twice
- ☐ None

18. Why did you not report or use the Mzinda platform after being aware of its existence?

.....

.....

19. What mechanism did you use to report to the Mzinda platform? You may select several

☐ SMS	☐ Mobile Application
☐ Facebook	☐ Twitter
☐ Website	☐ Phone Call
☐ Other.....	

20. Which channel did you prefer the most? Select one

☐ SMS	☐ Mobile Application
☐ Facebook	☐ Twitter
☐ Phone call	☐ website
☐ Other.....	

21. What sort of message did you send? You may select several

☐ Report on service delivery	☐ Reporting a fault
☐ Reporting community development issue	☐ None
☐ Other.....	

22. Who was the report (s) targeting? You may select several

☐ Councillor	☐ Member of Parliament
☐ Water Board	☐ ESCOM
☐ Health Service	☐ City Council
☐ Education Service	☐ Other.....

23. Have you had any difficulties reporting an Issue on the Mzinda platform?

☐ No	☐ Yes, lack of data
☐	☐

Yes, technical difficulties

Other.....

24. Did you get a response or feedback on your report (s)?

☐ Yes

☐ No

☐ For some yes

☐ For some no

25. Was action taken as regards your report?

☐ Yes

☐ No

☐ For some yes

☐ For some no

26. How long did it take for action to be taken?

☐ Less than a day

☐ 1week

☐ 2weeks – 4 weeks

☐ Within 3 days of reporting

☐ More than a month

☐ More than 3 months

☐ Other.....

27. Did the Mzinda platform accord you as a citizen the capacity to influence service providers like the city council, water board, ESCOM to improve their services? If answer is Yes go to Q 29 else got to Q28

☐ Yes

☐ No

☐ I don't know

☐ Maybe

28. Why would you say the Mzinda platform did not offer you the opportunity to influence service providers? Go to Q29

.....
.....

29. Did service delivery improve after you reported using the Mzinda platform?

☐ Yes

☐ No

☐ For some yes

☐ For some no

30. Did use of the Mzinda platform as a reporting mechanism meet your expectations?

☐ Yes

☐ No

Please Explain-----

31. How do you perceive the Mzinda platform as regards the following functionalities?

	Very Helpful	Helpful	Never used this area	Sometimes helpful	Not helpful
Reporting on service delivery					
Awareness of notifications shared by service providers					
Participation in polls					
News Articles shared					
Feedback Mechanism from Service Provider					

32. Which statement is true for each of the duty bearers like ESCOM, Waterboard, City Council, Councillors and MPs listed below as regards the Mzinda Platform?

	Are responsive to citizen reports	Actionable to citizen reports	I would engage again	I would never engage again
Local councillor				
City council				
ESCOM				
Water Board				
Member of Parliament				

33. Was there appropriate information provided on how to use the Mzinda platform?

☐ Yes

☐ No

34. What would you like to see improved on the Mzinda platform?

35. In the next year would you use the Mzinda platform? If no go to Q37

☐ Yes

☐ No

36. Why would you use the Mzinda platform again?

☐ It is cheap

☐ It is quicker to report

☐ Other

☐ I get feedback

☐ I see action taken after

☐ There is improved service after report

37. Why would you never use the Mzinda platform again?

☐ I did not get a response	☐ It doesn't make a difference
☐ It is expensive	☐ There was no action
☐ I don't think its useful	☐ I don't find it interesting
☐ Other.....	

38. If you did not use the Mzinda platform channels to report a matter to your duty bearers (the local council, councillor, Member of Parliament, and or utility service providers). How did you go about reporting it?

	Met in person	Used the phone	Wrote a letter	Sent an email	Signed a petition	Used other means
Local councillor						
Local council						
ESCOM						
Water Board						
Member of Parliament						

SECTION 4: Only for those that have used the Mzinda Platform. Factors that Influence use of the Mzinda platform according to UTAUT model

Social Construct	Performance Expectancy (PE)	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
PE1	PE1: I find use of Mzinda platform useful as a citizen.					
	PE2: Using the Mzinda platform enables me to engage with elected leaders, city council, local government and service providers more quickly					
	PE3: Using the Mzinda platform increases my productivity as a citizen.					
	PE4: If I use the Mzinda platform I have raised chances of my voice being heard.					
	EE1: My interaction using the Mzinda Platform has been clear and understandable.					
	EE2: It is easy for me to become skillful at using Mzinda Platform.					
	EE3: I find use of the Mzinda platform easy to use.					
	EE4: Learning to operate the Mzinda platform is easy for me.					
	AT1: Using the Mzinda Platform to engage with elected councillors, service providers and local government is a good idea.					

	AT2: Use of the Mzinda Platform makes my role as a citizen more interesting.					
	AT3: Engaging with elected leaders, local government					

	and service providers using the Mzinda platform is fun.					
	AT4: I like using the Mzinda platform					
	SI1: People who influence my behavior think that I should use the Mzinda platform to engage with elected leaders, local council and service providers.					

	SI2: People who are important to me think that I should use the Mzinda platform for engaging local council, elected leaders and service providers.					
	SI3: In general, the community has supported the use of the Mzinda platform.					
	SI4: Leaders in my community have been helpful in the use of Mzinda platform					
	FC1: I have the resources necessary to use Mzinda platform to engage elected leaders, local council					

	FC2: I have the knowledge necessary to use the Mzinda platform to engage elected leaders, local council and service providers.					
	FC4: A specific person (or group) is available for assistance in case of difficulties on use of the Mzinda platform as I engage with elected leaders, local council and service providers					
	SE1: I can complete a task using the Mzinda platform, if there is no one around to tell me what to do as I go.					
	SE2: I can complete a job or task using the Mzinda					
	platform, if I can call someone for help if I get stuck.					

	SE3: I can complete a job or task using the Mzinda platform if I have a lot of time to complete the task for which the mobile phone is provided.					
	SE4: I can complete a task using Mzinda platform, if I have just the built-in help facility for assistance.					
	AX1: I feel apprehensive about using the Mzinda platform for engaging elected leaders, local council and service providers.					

	AX2: It scares me to think that I could lose a lot of information using Mzinda platform by hitting the wrong key.					
	AX3: I hesitate to use mobile phone for fear of making mistakes I cannot correct.					
	AX4: I find Mobile phones somewhat intimidating to me.					
	BI1: I intend to use the Mzinda platform in engaging with elected leaders, local council and service providers in the next 12 months					
	BI2: I predict I would use the Mzinda platform in engaging with elected leaders, local council and service providers in the next 12 months					
	BI3: I plan to use the Mzinda platform for engaging elected leaders, local council and service providers in the next 12 months					

Annexure 5: Evaluation Questions for City Council, Water Board, ESCOM and other service providers.

Section 1: Demographics

1. Gender

- ☐ Male
☐ Female

2. Age

☐ 18 -30 years	☐ 46-60years
☐ 31-45 years	☐ Over 60 years

3. Nationality

☐ Native Malawian	☐ Malawian of other origin
☐ Malawian of Asian Origin	☐ Foreign National

4. Level of Education

☐ None	☐ Diplomite
☐ Primary School	☐ Degree
☐ Secondary School	

Section 2:

5. What is your Position in the organisation?

6. Explain your role in the organisation?

7. Before the Mzinda platform; what did the process of engaging with citizens on issues of service delivery look like in your organisation? What mechanisms did Citizens use to report or engage with the organisation on community problems or service delivery of essential services? Take us through the process of a citizen report from the time it would be received to the time it would have been resolved? How many people or departments would be involved? How much time would be taken on average between receipt to resolution? [Interviewer may draw illustration in support of narrative description]

8. What did the process of citizen engagement described in Q7 above look like after your organisation started using the Mzinda platform? [Interviewer may draw illustration in support of narrative description]

9. Who at the City Council or Water Board or ESCOM or other service provider was in Charge of reviewing reports on the Mzinda platform?

10. Who at the City Council or Water Board or ESCOM or other service provider was in Charge of taking action on reports on the Mzinda platform?

11. How often did you use the Mzinda platform?

☐ Daily	☐ 2 to 3 times a week
☐ Once a week	☐ Once a Fortnight
☐ Once a month	

12. Did you find the citizen reports targeted for your institution on the Mzinda platform relevant to the scope of your organisation?

☐ Yes	☐ No

13. In the past year, what other mechanisms did citizens use to engage with your organisation apart from the Mzinda platform?

14. Did your institution have adequate resources and personnel to act on reports that required action?

☐ Yes

☐ No

15. Please Explain the status of resources and personnel at your organisation. How many people work for the organisation and in what departments? Is there adequate staff to execute duties? How much of resources in funding and equipment is needed for efficient operation of the organisation? How much of funds and equipment is available? Is what is available enough for optimal performance?

16. How do you perceive the Mzinda platform as regards the following functionalities?

	Very Helpful	Helpful	Never used this area	Sometimes helpful	Not helpful
Reporting on service delivery					
Awareness of notifications shared by service providers					
Participation in polls					
News Articles shared					

17. Did you experience any challenges in using the Mzinda platform?

☐ Yes

☐ No

18. If Yes, Please Explain

19. In your opinion and experience; Did citizen engagement improve because of using the Mzinda platform?

☐ Yes

☐ No

☐ Not sure

☐ I don't Know

20. In your opinion, Do you think the response time to citizen's reports improved because of using the Mzinda platform?

☐ Yes

☐ Not sure

☐ No

☐ I don't Know

21. In your opinion, Do you think that action time improved because of using the Mzinda platform?

☐ Yes

☐ Not sure

☐ No

☐ I don't Know

22. In your opinion, Do you think service delivery improved because of using the Mzinda platform?

☐ Yes

☐ Not sure

☐ No

☐ I don't Know

23. How would you rate your relationship between your organisation and the Mzinda project team?

☐ Good, Cordial

☐ Not good

24. Did the Mzinda project team provide adequate information and training to help you use the platform?

☐ Yes

☐ No

25. How do you think the Mzinda project could improve?

26. In the next year, would your organisation continue to use the Mzinda platform?

☐ Yes

☐ No

27. What could be done to improve your relationship with the Mzinda Project?

Thank you for your time.

Annexure 6: Questions for Mzinda Project Staff.

1. Gender

- ☐ Male
☐ Female

2. Age

☐ 18 -30 years	☐ 46-60years
☐ 31-45 years	☐ Over 60 years

3. Nationality

☐ Native Malawian	☐ Malawian of other origin
☐ Malawian of Asian Origin	☐ Foreign National

4. Level of Education

☐ None	☐ Diplomate
☐ Primary School	☐ Degree
☐ Secondary School	

5. What is your position on the project?

6. Explain your duties and responsibilities on the Project?

7. Do you think your duties and responsibilities were adequate in contributing to the project's success? Please Explain.

8. Do you think you could do more for the project beyond your current duties? Please Explain.

9. What is your opinion of how the Mzinda initiative may have influenced citizen engagement?

10. What influence has the project had on service delivery of essential services e.g. water, electricity, sanitation, waste collection.-----

GENERIC QUESTIONS

11. Who designed the Mzinda platform?

12. What was the rationale for designing the platform in using the digital and non digital channels that were selected?

13. In your understanding, what were the anticipated roles of each of the actors and your opinion of their performance based on your experience on the Project?

	Anticipated Role	Performance
Citizens		
Councillors		
City Council		
Water Board		
ESCOM		

14. Do you think that the project timeline of 18 months was adequate to achieve the intended goals of the project?

☐ Yes

☐ No

15. What mechanisms were used to publicize the Mzinda platform?

☐ Radio

☐ Newspaper

☐ Community Campaigns

☐ Fliers

☐ Posters

☐ media

☐ Other...

☐ television

16. Do you think the Publicity was adequate?

☐ Yes

☐ No

17. What could be done to enhance more publicity of the Mzinda initiative?

18. In your own words what worked well or did not work well as regards the following initiatives conducted by the Mzinda Project:

a) Baseline Study

b) Platform design and deployment

c) Training

d) Community Campaigns

e) Media engagement

f) Partner engagement

19. What can be done to improve on the Mzinda platform project management?

20. What else can be done to improve on the Mzinda platform initiative?

Annexure 7: Evaluation Questions for Ward Councillors

1. Gender

- ☐ Male
☐ Female

2. Age

☐ 18 -30 years	☐ 46-60years
☐ 31-45 years	☐ Over 60 years

3. Nationality

☐ Native Malawian	☐ Malawian of other origin
☐ Malawian of Asian Origin	☐ Foreign National

4. Level of Education

☐ None	☐ Diplomate
☐ Primary School	☐ Degree
☐ Secondary School	☐ Post Graduate

5. What is your role as a Councillor?

6. Before the Mzinda platform; through what other means were you able to engage with citizens?

7. Have you used the Mzinda platform before and How?

8. How often did you use the Mzinda platform?

☐ Daily	☐ 2-3 times a Week
☐ Once a Week	☐ Once a Fortnight
☐ Once in month	☐ More than

9. How do you perceive the Mzinda platform in the following aspects?

	Very Good	Good	Not Good	Helpful	Not helpful
Reporting through SMS					
Reporting through Mobile App					
Reporting through Web App					
Quality of information gathered through Mzinda					
Engagement with project staff					

10. Do think you were adequately trained to use the Mzinda platform?

☐ Yes	☐ No

11. Did citizen engagement improve because of using the Mzinda platform?

☐ Yes	☐ No
☐ Not sure	☐ I don't Know

12. Do you think service delivery improved because of using the Mzinda platform?

☐ Yes

☐ No

☐ Not sure

☐ I don't Know

13. Did your response time to citizen's reports improve because of using the Mzinda platform?

☐ Yes

☐ No

☐ Not sure

☐ I don't Know

14. Do you think action time by the city council improved because of using the Mzinda platform?

☐ Yes

☐ No

☐ Not sure

☐ I don't Know

15. Are there adequate resources available to act on Citizen's reports? Please Explain the status of funds and resources.

☐ Yes

☐ No

16. Do you think the Mzinda platform is well known amongst your subjects?

☐ Yes

☐ No

17. What can be done to make the Mzinda platform to be known and used by most citizens?

18. How do you think the Mzinda platform could improve?

Thank you for your time!

Annexure 8: Radio Report Sample

WEEKLY REPORT ON THE MZINDA RADIO PROGRAM

Program Date: 19th August, 2018

Program Number: 1

Time: 05:30pm

Host: Chancy Muloza Banda (Zodiak)

TOPIC (s)	PANELIST	PROJECT TEAM	OUTCOME	ENGAGEMENT
a. Re-Introducing the Program and the new PET section.	a. Hadrod Mkandawire – Programs Manager (MALGA)	a. Blessings Chavula b. David Samuel	a. The project which started in 2016 has been extended, the ideal of the project is to encourage citizen's participation in different development sectors within their areas. b. Citizens understand the duties of the Council and their elected leaders b. Citizens understand the working relationship that exists between Council and the Councilors	a. What is the Project all about and what should people expect in the coming programs? b. What are the responsibilities of a council and working relationship with the councilors? C. What should the listeners and people in general do?

Session

1. **Mzinda Platform Reports:** Blessings Chavula, briefly highlighted some of the reports made on the platform for the past two years since the project started and the impact it has had on the citizens. Special mention was made on the new section that has been added on the platform so that the citizens don't just send the messages but are able to track different development projects taking place in their areas. He went on to say Public expenditure transparency will help tracking and following the money that has been allocated for a specific project taking place in different areas.
2. **The Topic:** Mr. Hadrod Mkandawire explained the mandate of the Malawi Local Government Association (MALGA), outlined the duties of Councillors, Members of Parliament and the expected working relationship between the two in conjunction with the City or District Council. Mr. Mkandawire said the Mzinda platform will play a crucial role in connecting Councillors with citizens, considering that many Councillors would not have had the opportunity to engage with citizens due to mobility challenges. He said that MALGA links the citizens with their councillors, and he said the coming in of Mzinda will add on many other ways the citizens can use to engage with their councillor.
3. **The Topic:** David Samuel stated the importance of using Mzinda platform, Going forward; airtel subscribers can also report via a short code 6466 besides the long tnm number 0 888 242 063. Discussions are under away with tnm to also get tnm subscribers a similar short code. However the new USSD code ***646#** will be used by our listeners to track different developments in their areas. He went on to say if you dial that code it would bring you all the three main cities in Malawi and if you select for Example Lilongwe it will request for a code of your area, let's say for example, Chilinde (CHW) it will show you what projects are in that area and their progress.
4. **Blessings Chavula-** he also highlighted that the reporting on Mzinda does not show your identity unless one want to reveal themselves and that is where the security is, the report will be forwarded to the duty bearer or city council without your name or number. He told the listeners that more panellists will be coming to interact with the listeners on how things are in their areas and how they communicate with their councillors for example.

Bibliography

1. Abers, R., 2001. Practicing radical democracy: lessons from Brazil. *disP-The Planning Review*, 37(147), pp.32-38. DOI: [10.1080/02513625.2001.10556786](https://doi.org/10.1080/02513625.2001.10556786).
2. Abramson, P.R. and Aldrich, J.H., 1982. The decline of electoral participation in America. *The American Political Science Review*, pp.502-521. <http://www.jstor.org/stable/1963728>
3. Ajzen, I. and Fishbein, M., 1973. Attitudinal and normative variables as predictors of specific behavior. *Journal of Personality and Social Psychology*, 27(1), pp. 41-57.
4. Ajzen, I. and Fishbein, M., 1977. Attitude-behaviour relations: A theoretical analysis and review of empirical research. *Psychological bulletin*, 84(5), pp. 888-918.
5. Ajzen, I., 1991. The theory of planned behaviour. *Organisational Behaviour and Human Decision Processes*, 50(2), pp.179-211.
6. Akbar, F., 2013. What affects students' acceptance and use of technology. *Dietrich College of Humanities and Social Science*
7. Al Mansoori, K.A., 2017. *Use of a modified UTAUT model to investigate Emirati Citizens' adoption of e-Government in Abu Dhabi*. Doctor of Business Administration thesis, Faculty of Business, University of Wollongong in Dubai, University of Wollongong, <https://ro.uow.edu.au/theses1/20>
8. Alam, M.Z., Hu, W. and Barua, Z., 2018. Using the UTAUT model to determine factors affecting acceptance and use of mobile health (mHealth) services in Bangladesh. *Journal of Studies in Social Sciences*, 17(2).
9. Allan, C. et al., 2011. Strengthening Social Accountability in Malawi. Centre for Social Accountability. *CSA's 'Rights-based approach'*, Retrieved on 14 August, 2015 from <http://www.icount.org.za/page.php?pid=7>.
10. Albert, I.O., 2009. Whose e-governance? A critique of online citizen engagement in Africa. *African Journal of Political Science and International Relations*, 3(4), pp.133-141.
11. Alshehri, M., Drew, S., Alhussain, T. and Alghamdi, R., 2012. The Effects of Website Quality on Adoption of E-Government Service: An Empirical Study Applying UTAUT Model Using SEM. *arXiv preprint arXiv:1211.2410*.
12. Alshehri, M.A., 2012. Using the UTAUT model to determine factors affecting acceptance and use of e-government services in the kingdom of Saudi Arabia. *Griffith University*.
13. Altheide, D. L., and Johnson, J. M., 1994. Criteria for Assessing Interpretive Validity in Qualitative Research. In N. K. Denzin and Y. S. Lincoln (Eds). *Handbook of Qualitative Research*, pp. 485-499. Thousand Oaks, CA: SAGE
14. Alvin, C.R. and G Bruce, S., 2008. *Linear models in statistics*. 2008 by John Wiley & Sons, Inc. Anderson, J.E. and Schwager, P.H., 2004. SME adoption of wireless LAN technology: applying the UTAUT model. In *Proceedings of the 7th annual conference of the southern association for information systems*. 7, pp. 39-43.
15. Armstrong, E., 2013. The Role of Active Participation and Citizen Engagement in Good Governance. *UN Public Administration Programme*. New York. Retrieved on 4 August, 2015 from <http://www.un.org/esa/socdev/egms/docs/2013/EmpowermentPolicies/Elia%20Armstrong%2>

16. Arnstein, S.R., 1969. A Ladder Of Citizen Participation. *Journal of the American Institute of Planners*, 35(4), pp.216–224.
17. Baiocchi, G., Heller, P. and Silva, M., 2011. *Bootstrapping democracy: Transforming local governance and civil society in Brazil*. Stanford University Press. Ebook: 9780804777797.
18. Baum, H.S., Neil, J.S. and Paul, B.B., 2001. Citizen Participation. *International Encyclopedia of the Social & Behavioral Sciences*. pp. 1840-1846.
19. Bengtsson, Å. and Wass, H., 2010. Styles of political representation: what do voters expect? *Journal of Elections, Public Opinion and Parties*, 20(1), pp.55-81.
20. Bingham, L.B., Nabatchi, T. and O'leary, R., 2005. The new governance: Practices and processes for stakeholder and citizen participation in the work of government. *Public administration review*, 65(5), pp.547-558.
21. Bratton, M. ed., 2013. *Voting and democratic citizenship in Africa*. Boulder, CO: Lynne Rienner Publishers.
22. Bandura, A. 1986., *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.
23. Bartlett, M.S., 1937. Properties of sufficiency and statistical tests. *Phil. Trans. R. Soc. London A*, 160, pp.268-282. <https://doi.org/10.1098/rspa.1937.0109>
24. Becker, R. A., Chambers, J. M. and Wilks, A. R., 1988. *The New S Language*. Wadsworth & Brooks/Cole.
25. Bimber, B., 2001. Information and political engagement in America: The search for effects of information technology at the individual level. *Political Research Quarterly*, 54(1), pp.53-67. <https://doi.org/10.1177/106591290105400103>
26. Birch, A. and Irvine, V., (2009). Preservice teachers' acceptance of ICT integration in the classroom: Applying the UTAUT model. *Educational Media International*. 46, pp. 295-315. 10.1080/09523980903387506.
27. Bratton, M., 2012. Citizen perceptions of local government responsiveness in Sub-Saharan Africa. *World Development*, 40(3), pp.516-527. 10.1016/j.worlddev.2011.07.003.
28. Brix, H., Lust, E. and Woolcock, M., 2015. *Trust, voice, and incentives: Learning from local success stories in service delivery in the Middle East and North Africa*. The World Bank
29. Buharimeter Poll Report, 2018. Africa Portal Online. Available : <https://www.africaportal.org/publications/buharimeter-poll-report/>
30. Bohler-Muller, N. and Van der Merwe, C., 2013. Digital communication, democracy and active citizen engagement in South Africa. *Africa Insight*, 43(3), pp.115-128
31. Boontarig, W., Chutimaskul, W., Chongsuphajsiddhi, V. and Papasratorn, B., 2012. Factors influencing the Thai elderly intention to use smartphone for e-Health services. *IEEE symposium on humanities, science and engineering research*. pp.479-483. 10.1109/SHUSER.2012.6268881
32. Bryman, A. 2012. *Social Research Methods*. 4th ed. USA: Oxford University Press

33. Callahan, K., 2007. Citizen participation: Models and methods. *International Journal of Public Administration*, 30(11), pp.1179-1196. DOI: [10.1080/01900690701225366](https://doi.org/10.1080/01900690701225366)
34. Cegarra, J.L.M., Navarro, J.G.C. and Pachón, J.R.C., 2014. Applying the technology acceptance model to a Spanish City Hall. *International journal of information management*, 34(4), pp.437-445
35. Cegarra-Navarro, J.-G., Garcia-Perez, A. and Moreno-Cegarra, J.L., 2014. Technology knowledge and governance: Empowering citizen engagement and participation. *Government Information Quarterly*, 31(4), pp.660–668. Retrieved on 10 June, 2015 from <http://www.sciencedirect.com/science/article/pii/S0740624X14001208>
36. Chasukwa, M., Chiweza, A.L. and Chikapa-Jamali, M., 2014. Public Participation in Local Councils in Malawi in the Absence of Local Elected Representatives-Political Eliticism or Pluralism? *Journal of Asian and African Studies*, 49(6), pp.705-720.
37. Check My Barangay., 2015. <https://www.makingallvoicescount.org/project/ansa-eap-check-my-barangay/>
38. Chilima and Another v Mutharika and Another (Constitutional Reference No. 1 of 2019)
39. Chingaipe, H. and Msukwa. C., 2012. Whose Voice? Citizen Participation and Influence in Public Policy Processes in Malawi. *Malawi Ecomic Justice Network*. Retrieved on 22 July, 2015 from http://www.academia.edu/4683131/Citizen_participation_in_Public_Policy_Processes_in_Malawi
40. Chinsinga, B., 2003. The participatory development approach under a microscope: the case of the poverty alleviation programme in Malawi. *Journal of Social Development in Africa*, 18, pp. 129-144. DOI:[10.4314/JSDA.V18I1.23822](https://doi.org/10.4314/JSDA.V18I1.23822)
41. Chiweza, A.L., 2010. A review of the Malawi decentralisation process: lessons from selected districts.
42. Chiweza, A.L. and Tembo, F. 2012. *Strengthening citizen demand for good governance Making it happen through Liu Lathu Pilot Projects in Malawi*.
43. Cho, E. and Kim, S., 2015. Cronbach's coefficient alpha: Well-known but poorly understood. *Organisational Research Methods*, 18(2), pp.207-230 <https://doi.org/10.1177/1094428114555994>
44. Christensen, T. and Lægreid, P., 2005. Trust in government: The relative importance of service satisfaction, political factors, and demography. *Public Performance Management Review*, 28(4), pp.487-511.
45. Coleman, S. and Gøtze, J., 2001. *Bowling together: Online public engagement in policy deliberation* pp. 39-50. London: Hansard Society
46. Collis, J. and Hussey, R., 2013. *Business research: A practical guide for undergraduate and postgraduate students*. Macmillan International Higher Education.
47. Collins, K. and Ison, R., 2006. Dare we jump off Arnstein's ladder? Social learning as a new policy paradigm. In: *Proceedings of PATH (Participatory Approaches in Science & Technology) Conference*, 4-7 Jun 2006. Edinburgh.
48. Compeau, D. R. and Higgins, C. A., 1995. Computer self-efficacy: Development of a measure

- and initial test. *MIS Quarterly*, 19(2), pp. 189-211.
49. Compeau, D. R., Higgins, C. A. and Huff, S., 1999. Social cognitive theory and individual reactions to computing technology: A longitudinal study. *MIS Quarterly*, 23(2), pp. 145-158.
 50. Constitution of the Republic of Malawi., 1994. Retrieved on 14 August, 2015 from [https://www.icrc.org/applic/ihl/ihl-nat.nsf/162d151af444ded44125673e00508141/4953f2286ef1f7c2c1257129003696f4/\\$FILE/Constitution%20Malawi%20-%20EN.pdf](https://www.icrc.org/applic/ihl/ihl-nat.nsf/162d151af444ded44125673e00508141/4953f2286ef1f7c2c1257129003696f4/$FILE/Constitution%20Malawi%20-%20EN.pdf)
 51. Cortina, J.M., 1993. What is coefficient alpha? An examination of theory and applications. *Journal of applied psychology*, 78(1), p.98.
 52. Cronbach, L. J., 1951. Coefficient alpha and the internal structure of tests. *Psychometrika*, 16, pp. 297– 334.
 53. Cupido, K. and Van Belle, J.P., 2012. Increased Public Participation in Local Government Through the use of Mobile Phones: What do Young South Africans Think? *Proceedings of the 12th European Conference on e-Government, Barcelona, Spain* pp. 159-168.
 54. Current africana 1993/4., 1995. *Review of African Political Economy*, 22(65),pp.379-460, DOI: [10.1080/03056249508704149](https://doi.org/10.1080/03056249508704149)
 55. Daka, G.C. and Phiri, J., 2019. Factors Driving the Adoption of E-Banking Services Based on the UTAUT Model. *International Journal of Business and Management*, 14(6). 43. [10.5539/ijbm.v14n6p43](https://doi.org/10.5539/ijbm.v14n6p43).
 56. Davis, F. D., 1989. Perceived usefulness, perceived ease of use, and user acceptance of information technology, *MIS Quarterly*, 13(3), pp. 319-339.
 57. Davis, F. D., Bagozzi, R. P. and Warshaw, P. R., 1992. Extrinsic and Intrinsic Motivation to Use Computers in the Workplace, *Journal of Applied Social Psychology*, 22(14), pp.1111-1132.
 58. Davis, F. D., Bagozzi, R. P., and Warshaw, P. R., 1989. User acceptance of computer technology: A comparison of two theoretical models, *Management Science*, 35(8), pp. 982-1002.
 59. DeCoster, J.,1998. *Overview of Factor Analysis*. [online] available at:<https://www.researchgate.net/publication/255620387>.
 60. Diga, K., 2017. A review of poverty reduction within local climate change initiatives: a case of eThekweni Municipality
 61. Dubow, T., Devaux, A. and Manville, C., 2017. *Civic Engagement: How Can Digital Technology Encourage Greater Engagement in Civil Society?* RAND
 62. Dwivedi, Y.K., Rana, N.P., Jeyaraj, A., Clement, M. and Williams, M.D., 2019. Re-examining the unified theory of acceptance and use of technology (UTAUT): Towards a revised theoretical model. *Information Systems Frontiers*, 21(3), pp.719-734. <https://doi.org/10.1007/s10796-017-9774-y>
 63. Edralin J.S., 1997. The new Local Governance and Capacity Building: A Strategic Approach: Examples from Africa, Asia, and Latin America. *Regional Development Studies*, 3, pp. 148-150

64. Edwards, D., Hudson, H., Anderson, C., McGee, R. and Brock, K., 2018. Supporting innovation and the use of technologies in accountability initiatives: lessons from Making All Voices Count.
65. Emmer, M. and Kunst, M., 2018. "Digital Citizenship" Revisited: The Impact of ICTs on Citizens' Political Communication Beyond the Western State. *International Journal of Communication*, 12, p.21. <https://ijoc.org/index.php/ijoc/article/view/772>
66. Etzo, S. and Collender, G., 2010. The Mobile Phone 'Revolution' in Africa: Rhetoric or Realty? *African Affairs*. 109. 10.1093/afraf/adq045
67. Falco, E. and Kleinhans, R., 2018. Beyond Information-Sharing. A Typology Of Government Challenges And Requirements For Two-Way Social Media Communication With Citizens. *Electronic Journal of e-Government*, 16(1).
68. Falco, E. and Kleinhans, R., 2018. Beyond technology: Identifying local government challenges for using digital platforms for citizen engagement. *International Journal of Information Management*, 40, pp.17-20.
69. Fatimah, S.Christian, M. Nurfadilah, A. Widiанти, S. and Rangkuti, Y.R., 2017. Connecting citizens to their governments: lessons from ICT-based governance initiatives in Indonesia, *Making All Voices Count Research Report*, Brighton: IDS
70. Ferro, E., Loukis, E.N., Charalabidis, Y. and Osella, M., 2013. Policy making 2.0: From theory to practice. *Government Information Quarterly*, 30(4), pp.359-368
71. Feruglio, F. and Rifai, A., 2017. Participatory budgeting in Indonesia: past, present and future. *Making All Voices Count Practice Paper*, Brighton: IDS.
72. Field, A. 2009. *Discovering Statistics Using SPSS*, 3rd Ed, London, UK: Sage Publications.
73. Fishbein, M. and Ajzen, I., 1975. Belief, attitude, intention and behavior: An introduction to theory and research. *Journal of Advertising Research*, 47(1), pp.25–32.
74. Finkel, S.E., 1985. Reciprocal effects of participation and political efficacy: A panel analysis. *American Journal of political science*, pp.891-913.www.jstor.org/stable/2111186. Accessed 15 Sept. 2020.
75. Finkel, S. 1987. The Effects of Participation on Political Efficacy and Political Support: Evidence from a West German Panel. *The Journal of Politics*, 49(2) pp. 441-464. Retrieved September 14, 2020, from <http://www.jstor.org/stable/2131308>
76. Fishkin, J.S., 1991. *Democracy and deliberation: New directions for democratic reform* (Vol. 217). New Haven, CT: Yale University Press.
77. Fishkin, J.S., 1995. *The Voice of the People*. Yale University Press
78. FixMyStreet, 2007. Available: <https://www.fixmystreet.com/>
79. Human Rights Watch, 2007. Ballots to Bullets. Organised Political Violence and Kenya's Crisis of Governance. Available: <https://www.hrw.org/report/2008/03/16/ballots-bullets/organized-political-violence-and-kenyas-crisis-governance>
80. Flick, U., 2011. *Introducing research methodology: A beginner's guide to doing a research project*. London: Sage
81. Flor, A., 2015. Constructing theories of change for information society impact research. *Impact*

- of information society research in the global south*, pp. 45-62. Singapore: Springer.
82. Foli, M., and Van Belle, J., 2015. Using mobile phones for public participation with local government in Cape Town 2015 *IST-Africa conference*, pp 1-10. 10.1109/ISTAFRICA.2015.7190526
 83. Fox, W. and Meyer, I.H., 1995. *Public administration dictionary*. Juta and Company Ltd. ISBN 0 70213219
 84. Fox, J.A., 2015. Social accountability: what does the evidence really say? *World Development*, 72, pp.346-361.
 85. Fung, A. and Shkabatur, J., 2013. Viral engagement: Fast, cheap, and broad, but good for democracy?
 86. Gabriel, P., Caldwell, G., Federlein, S., Gregory, S. and Wolfson, J., 2008. Realizing Rights. *Innovations* 3(2)p 19. Retrieved on 9 May,2015 from https://www.ndi.org/files/2329_sms_engpdf_06242008.pdf
 87. Gaventa, J. and Valderrama, C., 1999, June. Participation, citizenship and local governance. In *Background note for the workshop "Strengthening Participation in Local Governance," University of Sussex, Institute of Development Studies*, 21
 88. Gaventa, J., 2004. Towards participatory governance: assessing the transformative possibilities. *Participation: From tyranny to transformation*, pp.25-41.
 89. Grice, J. W., 2001. Computing and evaluating factor scores. *Psychological Methods*, 6(4), pp.430–450. <https://doi.org/10.1037/1082-989X.6.4.430>
 90. Gaventa, J. and Barrett, G., 2010. So what difference does it make? Mapping the outcomes of citizen engagement. *IDS Working Papers*, 2010(347), pp.01-72. https://doi.org/10.1111/j.2040-0209.2010.00347_2.x
 91. Gaventa, J. and Barrett, G., 2011. So what difference does it make? Mapping the outcomes of citizen engagement. *IDS Working Papers*, 347, pp.01-72. https://doi.org/10.1111/j.2040-0209.2010.00347_2.x
 92. Gaventa, J. and Barrett, G., 2012. Mapping the outcomes of citizen engagement. *World development*, 40(12), pp.2399-2410.
 93. Gaventa, J. and McGee, R., 2013. The impact of transparency and accountability initiatives. *Development Policy Review*, 31, pp. s3-s28. <https://doi.org/10.1111/dpr.12017>
 94. Gascó, M., 2003. New technologies and institutional change in public administration. *Social science computer review*, 21(1), pp.6-14. <http://ssc.sagepub.com/content/21/1/6> The online version of this article can be found at: DOI: 10.1177/0894439302238967 Social Science Computer Review 2003 21: 6
 95. Gigler, B.S. and Bailur, S. eds., 2014. *Closing the feedback loop: can technology bridge the accountability gap?* The World Bank.
 96. Gillis, M., Shoup, C. and Sicat, G.P., 2001. *World development report 2000/2001-attacking poverty*. The World Bank. <http://documents1.worldbank.org/curated/en/230351468332946759/pdf/226840WDR00PUB0ng0poverty0200002001.pdf>

97. Goldfrank, B. and Schneider, A., 2006. Competitive institution building: The PT and participatory budgeting in Rio Grande do Sul. *Latin American politics and society*, 48(3), pp.1-31
98. Grandvoinnet, H., Aslam, G. and Raha, S., 2015. *Opening the black box: The contextual drivers of social accountability*. The World Bank.
99. Grindle, M.S., 2010. Good Enough Governance Revisited. *Development Policy Review*. <https://doi.org/10.1111/j.1467-7679.2011.00526.x>
100. Gronlund, A., 2004. Introducing e-Gov: History, definitions and issues. *communications of the association for information systems*, 15(39), pp.713-729.
101. Grönlund, Å., 2004. State of the art in e-Gov research—a survey. *International Conference on Electronic Government* pp.178-185.
102. Hardina, D., 2004. Linking Citizen Participation to Empowerment Practice. *Journal of Community Practice*. 11. Pp.11-38. 10.1300/J125v11n04_02.
103. Heeks, R., 2002. Information systems and developing countries: Failure, success, and local improvisations. *The information society*, 18(2), pp.101-112. 10.1080/01972240290075039.
104. Heinrich, V. and Fioramonti, L. eds., 2007. *CIVICUS global survey of the state of civil society: Comparative perspectives*, (2). Kumarian Press
105. Heller, P., 2009. Democratic Deepening in India and South Africa. *Journal of Asian and African Studies*, 44, pp.123–149
106. Hellström, J. and Karefelt, A., 2012, March. Participation through mobile phones: A study of SMS use during the Ugandan general elections 2011. In *Proceedings of the fifth international conference on information and communication technologies and development* (pp. 249-258). Retrieved on 9 May 2015 from <http://dl.acm.org/citation.cfm?id=2160705>
107. Herman, W., 2011. Mobile Phones, Popular Media, and Everyday African Democracy: Transmissions and Transgressions, *Popular Communication*, 9:(2) pp.146-158, DOI: [10.1080/15405702.2011.562097](https://doi.org/10.1080/15405702.2011.562097).
108. Herringshaw, V., 2017. ICT-enabled citizen voice and government response approaches: unpacking assumptions and components, *Making All Voices Count Programme Learning Report*, Brighton: IDS
109. Herringshaw, V., 2018. Increasing citizen voice and government responsiveness: what does success really look like, and who decides? *Making All Voices Count Programme Learning Report*, Brighton: IDS.
110. Heywood, A., 2007. *Political Ideologies An Introduction*, 4th ed, Palgrave Macmillan, ISBN 0230521797, 9780230521797.
111. Heywood, A., 2019. *Politics*, 5th ed. [Macmillan Education UK](https://www.macmillaneducation.co.uk/); ISBN: 9781352005462
112. Holmes, B., 2011. *Citizens' engagement in policymaking and the design of public services*. Canberra: Parliamentary Library
113. Hollyer, J.R., Rosendorff, B.P. and Vreeland, J.R., 2011. Democracy and transparency. *The Journal of Politics*, 73(4), pp.1191-1205.
114. Holzer, M., Melitskin, J., Rho, S.Y. and Schweser, R., 2004. Restoring trust in government:

- The potential of digital citizen participation. *Frontiers of Public Administration*, 6, pp.6-23. http://www.businessofgovernment.org/sites/default/files/HolzerReport_0.pdf
115. Huggins, R. and Izushi, H., 2002. The digital divide and ICT learning in rural communities: examples of good practice service delivery. *Local Economy*, 17(2), pp.111-122.
 116. Hussein, M., 2003. The role of Malawian local government in community development. *Development Southern Africa*. 20.pp. 271-282. 10.1080/03768350302960.
 117. Hussein, M.K., 2004. Decentralisation and development: The Malawian experience. *Africa Development*, 29(2). [10.4314/ad.v29i2.22195](https://doi.org/10.4314/ad.v29i2.22195)
 118. Hussein, M., 2006. Capacity building challenges in Malawi's local government reform programme. *Development Southern Africa*. 23.pp. 371-383. 10.1080/03768350600843135.
 119. Hussein, M.K., 2010. The role of Malawian local government in community development. *Development Southern Africa*. pp.37-41
 120. I paid a Bribe, 2010. Available: <http://www.ipaidabribe.com/#gsc.tab=0>
 121. IDB, 2005. Assessment of Participatory Budgeting in Brazil. Available: [Publications.iadb.org/publications/english/document/Assessment-of-Participatory-Budgeting-in-Brazil.pdf](http://publications.iadb.org/publications/english/document/Assessment-of-Participatory-Budgeting-in-Brazil.pdf)
 122. Ifinedo, P., 2012. Understanding information systems security policy compliance: An integration of the theory of planned behavior and the protection motivation theory. *Computers & Security*, 31(1), pp.83-95. 10.1016/j.cose.2011.10.007.
 123. Ikhide, S., 1999. Local Government Finance and Accountability. In: D Oluwu et al (eds). *Governance and Democratisation in West Africa*, Dakar: Codesria, pp. 167-179.
 124. Institute for Democracy and Electoral Assistance, IDEA., 2015. Voter Turnout Database | Voter Turnout | International IDEA. Retrieved on 20 July, 2015 from http://www.idea.int/vt/viewdata.cfm#prebuilt=yes&countries=156&types=parl&fields=vt,reg_vap,pop&logurl=http%3A%2F%2Fwww.idea.int%2Fvt%2Fviewdata.cfm&timemode=all&quickView=false&qid=503014&d=4&h=17&m=50&ul=en
 125. Irvin, R.A. and Stansbury, J., 2004. Citizen participation in decision making: is it worth the effort? *Public administration review*, 64(1), pp.55-65.
 126. James, C., 2011. *Theory of change review: A report commissioned by Comic Relief*. Comic Relief. https://www.actknowledge.org/resources/documents/James_ToC.pdf
 127. Jeziker., 2015. Mobilizing youth to create change. *Innovations in health communications*. <https://ihealthcomms.wordpress.com/2015/08/10/u-report-mobilizing-youth-to-create-change>
 128. Jobe, W., 2013. Native apps vs. mobile web apps. *International Journal of Interactive Mobile Technologies (iJIM)*, 7(4), pp.27-32.
 129. Joshi, A., 2010. Review of impact and effectiveness of transparency and accountability initiatives: annex 1 service delivery. *Transparency and Accountability Initiative*, pp.1-17. SSRN Electronic Journal. 10.2139/ssrn.2188164
 130. Joshi, A., 2013. Do they work? Assessing the impact of transparency and accountability initiatives in service delivery. *Development Policy Review*, 31, pp.s29-s48
 131. Kabemba, C., 2003. The impact of democracy on public participation in the SADC region.

https://www.researchgate.net/publication/233563796_Ushahidi_or_'testimony'_Web_20_tools_for_crowdsourcing_crisis_information

132. Kasozi-Mulindwa, S., 2013. *The process and outcomes of participatory budgeting in a decentralised local government framework: a case in Uganda*. Doctoral dissertation, University of Birmingham.
133. Kenny, D.A., Kaniskan, B. and McCoach, D.B., 2015. The performance of RMSEA in models with small degrees of freedom. *Sociological Methods & Research*, 44(3), pp.486-507.
134. Kerr, N., 2013. Popular evaluations of election quality in Africa: Evidence from Nigeria. *Electoral Studies*, 32(4), pp.819-837.
135. Khaila, S. and Chibwana, C., 2005. Ten Years of Democracy in Malawi: are Malawians getting what they voted for? *Afrobarometer working paper* 46.
136. Khaila, S., and Mthinda, C., 2006. Give us a Chance! Uncovering Latent Political Participation among Malawians. Briefing Paper No.32. Retrieved on 22 July, 2015 from <http://afrobarometer.org/sites/default/files/publications/Briefing%20paper/AfrobriefNo32.pdf>
137. King, S.F. and Brown, P., 2007. Fix my street or else: using the internet to voice local public service concerns. In *Proceedings of the 1st international conference on Theory and practice of electronic governance*. pp. 72-80
138. Kota Kita, 2019. Available: <https://www.kotakita.org/>
139. Kumari, K. and Yadav, S., 2018. Linear regression analysis study. *Journal of the practice of Cardiovascular Sciences*, 4(1), p.33.
140. Kuriyan, R., Bailur, S., Gigler, S. and Park, K.R., 2011. Technologies for transparency and accountability: Implications for ICT policy and implementation. *Open Development Technology Alliance, World Bank, Washington, DC* 10.13140/RG.2.2.19320.24320
141. Kyriacou, A.P., 2008. Defining Accountability
142. Lee, Y., Kozar, K.A. and Larsen, K.R., 2003. The technology acceptance model: Past, present, and future. *Communications of the Association for information systems*, 12(1), p.50. DOI: 10.17705/1CAIS.01250 Available at: <https://aisel.aisnet.org/cais/vol12/iss1/50>
143. Leighninger, M. 2014. What We're Talking About When We Talk About the "Civic Field" (And why we should clarify what we mean). *Journal of Public Deliberation*, 10(1), 8. DOI: <http://doi.org/10.16997/jdd.186>
144. Legris, P., Ingham, J. and Colletette, P., 2003. Why do people use information technology? A critical review of the technology acceptance model. *Information & management*, 40(3), pp.191-204. 10.1016/S0378-7206(01)00143-4.
145. Lin, F., Fofanah, S.S. and Liang, D., 2011. Assessing citizen adoption of e-Government initiatives in Gambia: A validation of the technology acceptance model in information systems success. *Government Information Quarterly*, 28(2), pp.271-279.
146. Local Government Act of Malawi., 1998. Retrieved on 14 August, 2015 from <http://faolex.fao.org/docs/pdf/mlw138973.pdf>
147. Madon, S., 2004. Evaluating the developmental impact of e-governance initiatives: An

- exploratory framework. *The Electronic Journal of Information Systems in Developing Countries*, 20(1), pp.1-13. 2017 <https://doi.org/10.1002/j.1681-4835.2004.tb00132.x>
148. Makumbe, J.M., 1996. *Participatory development: The case of Zimbabwe*. University of Zimbabwe.
 149. Malan, L.P., 2008. The impact of intergovernmental relations and co-operative government on good governance in South Africa. *African Journal of Public Affairs*. 2(1).
 150. Malawi Government, Local Government Amendment Act 17 of 2010 <https://www.localgovt.gov.mw/publications/other-documents/9-local-government-amendment-act-2010/file>
 151. Malawi Government, Local Government Act of 2010 <https://www.localgovt.gov.mw/publications/other-documents/8-local-government-act-1998/file>
 152. Malawi Government, 2013. Guidebook on The Local Government System in Malawi <https://www.resakss.org/sites/default/files/Malawi%20MLGRD%202013%20Guidebook%20on%20the%20Local%20Government%20System%20in%20Malawi.pdf>
 153. Malena, C., Forster, R. and Singh, J., 2004. *Social accountability: An introduction to the concept and emerging practice*, 31042, p. 1 Social development papers World Bank Group. Available at: <http://documents.worldbank.org/curated/en/327691468779445304/>
 154. Mansuri, G. and Vijayendra, R., 2014. Localizing development. Does participation work?. *Journal of Economics*. 112. pp.201-205. 10.1007/s00712-014-0394-4.
 155. Map Kibera, 2009. Available: <https://mapkibera.org>
 156. Mare, A., 2020. Internet Shutdowns in Africa| State-Ordered Internet Shutdowns and Digital Authoritarianism in Zimbabwe. *International Journal of Communication*, 14, p.20.
 157. McGee, R. and Gaventa, J., 2011. Shifting power? Assessing the impact of transparency and accountability initiatives. *IDS Working Papers, 2011*(383), pp.1-39. 10.1111/j.2040-0209.2011.00383 2.x.
 158. McGee, R. and Carlitz, R., 2013. Learning Study on 'The Users' in Technology for Transparency and Accountability Initiatives: Assumptions and Realities <https://opendocs.ids.ac.uk/opendocs/handle/20.500.12413/3179>
 159. McGee, R., Edwards, D., Anderson, C., Hudson, H. and Feruglio, F., 2018. Appropriating technology for accountability: *messages from making all the voices count*. <https://www.makingallvoicescount.org/publication/appropriating-technology-accountability-messages-making-voices-count-2>
 160. McNeil, M. and Male, C. eds., 2010. *Demanding good governance: lessons from social accountability initiatives in Africa*. The World Bank. 10.1596/978-0-8213-8380-3.
 161. Melville, N., Kraemer, K. and Gurbaxani, V., 2004. Information technology and organisational performance: An integrative model of IT business value. *MIS quarterly*, 28(2), pp.283-322. 10.2307/25148636.
 162. Meenakshisundaram, S.S., 1994. *Decentralisation in developing countries*. Concept Publishing Company.

163. Menocal, A.R., 2014. *What is political voice, why does it matter, and how can it bring about change? a development progress discussion paper*. Technical report, Overseas Development Institute, UK, Report. Available <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8950.pdf>
164. Mikkelsen, B., 2005. *Methods for development work and research: a new guide for practitioners*, 2nd ed. Sage. ISBN 0-7619 3327-1 Hb 2005.
165. Michels, A. and De Graaf, L., 2010. Examining Citizen Participation: Local Participatory Policy Making and Democracy. *Local Government Studies*, 36:4, 477- 491. DOI: [10.1080/03003930.2010.494101](https://doi.org/10.1080/03003930.2010.494101)
166. Michiels, S.I. and Van Crowder, L., 2001. Discovering the magic box: Local appropriation of information and communication technologies (ICTs).
167. Mishra, D., Akman, I., and Mishra, A., 2014. Theory of Reasoned Action Application for Green Information Technology Acceptance. *Computers in Human Behavior*, 36, pp 29-40.
168. Moehler, D.C., 2009. Critical citizens and submissive subjects: Election losers and winners in Africa. *British Journal of Political Science*, 39(2), pp.345-366.
169. Moghavvemi, S., Salleh, N., Zhao, W., and Mattila, M., 2012. The Entrepreneurs Perception on Information Technology Innovation Adoption: An Empirical Analysis of the Role of Precipitating Events on Usage Behavior. *Innovation-Management Policy & Practice*. 14.pp. 231-246. [10.5172/impp.2012.14.2.231](https://doi.org/10.5172/impp.2012.14.2.231).
170. Moghavvemi, S., 2014. Impact of Perceived Self-Efficacy and Capability to Use IT Innovation on Individual Use Behaviour. *SSRN [e-journal]* [10.2139/ssrn.2561739](https://ssrn.com/abstract=10.2139/ssrn.2561739).
171. Moghavvemi, S., 2015. Impact of Perceived Self-Efficacy and Capability to Use IT Innovation on Individual Use Behaviour. *Available at SSRN 2561739*. [10.2139/ssrn.2561739](https://ssrn.com/abstract=10.2139/ssrn.2561739).
172. Monette, D.R., Sullivan, T. J., & DeJong, C. R., 2005. *Applied Social Research: A Tool for the Human Services*. 6th ed. London: Brooks Publishing.
173. Monno, V. and Khakee, A., 2012. Tokenism or political activism? Some reflections on participatory planning. *International Planning Studies*, 17(1), pp.85-101.
174. Motoko, A. & Guodong, L., 2016. Effects of teacher professional learning activities on student achievement growth. *The Journal of Educational Research*, 109(1), pp. 99-110, DOI: [10.1080/00220671.2014.924470](https://doi.org/10.1080/00220671.2014.924470)
175. Moynihan, D.P., 2007. Citizen participation in budgeting: Prospects for developing countries. *Participatory budgeting*, pp.55-87.
176. Mpakati, G.E. and Mkandawire, T., 2015. Coping with water supply shortages in major cities of Malawi. *CSID Journal of Sustainable Infrastructure Development*, 1(1), pp.14-22.
177. Msewa, E.F., 2005. *Decentralisation and local governance in the Lilongwe district of Malawi*. Doctoral dissertation. University of the Western Cape.
178. Muriu, A.R., 2013. *Decentralization, citizen participation and local public service delivery: a study on the nature and influence of citizen participation on decentralized service delivery in Kenya*. Master's thesis, Potsdam: Universitätsverlag Potsdam.
179. Mutizwa–Manza and Conyers, D., 1996. Decentralization in Practice, with special reference to

Tanzania Zambia and Nigeria. *Regional Development Dialogue*, 17(2).

180. Nabatchi, T., 2012. *A manager's guide to evaluating citizen participation*. Washington, DC: IBM Center for the Business of Government.
181. Nabatchi, T., 2012. Putting the “public” back in public values research: Designing participation to identify and respond to values. *Public Administration Review*, 72(5), pp.699-708. <https://doi.org/10.1111/j.1540-6210.2012.02544.x>
182. Naranjo-Zolotov. M., Oliveira. T., and Casteleyn. S., 2018. Citizens' intention to use and recommend e-participation: Drawing upon UTAUT and citizen empowerment. *Information Technology & People*. 32(2). 10.1108/ITP-08-2017-0257.
183. National Democratic Institute, 2013. Citizen Participation and Technology. Available: <https://www.ndi.org/sites/default/files/Citizen-Participation-and-Technology-an-NDI-Study.pdf>
184. National Statistical Office., May 2019. Malawi Population and Housing Census http://www.nsomalawi.mw/images/stories/data_on_line/demography/census_2018/2018%20Malawi%20Population%20and%20Housing%20Census%20Main%20Report.pdf
185. Ndou, V., 2004. E–Government for developing countries: opportunities and challenges. *The electronic journal of information systems in developing countries*, 18(1), pp.1-24. 10.1002/j.1681-4835.2004.tb00117.x..
186. Neuman, L.W., 2007. *Social research methods*, 6th ed. Pearson Education India. 10.2307/3211488.
187. Newman, P., 1998. Discussion of" performance measure manipulation". *Contemporary accounting research*, 15(3), pp.287-290. <https://doi.org/10.1111/j.1911-3846.1998.tb00561.x>
188. Norris, P., 2003. Preaching to the converted? Pluralism, participation and party websites. *Party politics*, 9(1), pp.21-45.
189. Noveck, B.S., 2009. *Wiki government: How technology can make government better, democracy stronger, and citizens more powerful*. Brookings Institution Press.
190. Nunnally, J. C. 1967. *Psychometric Theory*. New York: McGraw-Hill.
191. Nzimakwe, T., 2011. Citizen Participation and Engagement in Local Governance : a South African Perspective., *Journal of Public Administration*. 46(1), p.2011.
192. Ober, H., 2012. Guidance for designing, monitoring and evaluation peace building projects: Using theories of change. *London: European Union*
193. Okolloh, O., 2009. *Ushahidi, or 'testimony': Web 2.0 tools for crowdsourcing crisis information*. *Participatory Learning and Action*. 59.pp.65-70
194. Olorunnisola, A.A. and Martin, B.L., 2013. Influences of media on social movements: Problematizing hyperbolic inferences about impacts. *Telematics and Informatics*, 30(3), pp.275-288. 10.1016/j.tele.2012.02.005.
195. O'Meally, S.C., 2013. Mapping context for social accountability: *a resource paper*
196. O'Neill, T., Foresti, M. and Hudson, A., 2007. Evaluation of Citizens' Voice and Accountability: *Review of the Literature and Donor Approaches*. London: DFID.

197. O'Neil, T., Cammack, D., Kanyongolo, E., Mkandawire, M.W., Mwalyambwire, T., Welham, B. and Wild, L., 2014. Fragmented governance and local service delivery in Malawi. *London: Overseas Development Institute*.
198. Omenya, R., 2013. Uchaguzi Kenya 2013 Monitoring & Evaluation. Retrieved on 4 May, 2015 from http://www.ihub.co.ke/ihubresearch/jb_UchaguziMEFinalReportpdf2013-7-5-14-24-09.pdf
199. Organisation for Economic Co-operation and Development, 2003. *Promise and problems of e-democracy: challenges of online citizen engagement*. OECD Publishing. <http://www.oecd.org/governance/35176328.pdf>
200. Östlund, U., Kidd, L., Wengström, Y. and Rowa-Dewar, N., 2011. Combining qualitative and quantitative research within mixed method research designs: a methodological review. *International journal of nursing studies*, 48(3), pp.369-383.
201. Participedia, 2017. Participatory Budgeting in Berlin-Lichtenberg. Available: <https://participedia.net/case/12>
202. Peixoto, T., 2009. Beyond theory: E-participatory budgeting and its promises for eParticipation. *European Journal of ePractice*, 7(5), pp.1-9.
203. Peixoto, T. and Fox, J., 2016. When does ICT-enabled citizen voice lead to government responsiveness?. *IDS Bulletin*. 41.pp.23-39. 10.19088/1968-2016.104.
204. Peixoto, T., Fall, M. and Sjoberg, F., 2016. Evaluating digital citizen engagement: A practical guide. *The World Bank, Washington, DC*.
205. Peixoto, T. and Sifry, M.L., 2017. *Civic Tech in the Global South: Assessing Technology for the Public Good*. Washington, DC: World Bank. License: Creative Commons Attribution CC BY 3.0 IGO.
206. Peña-López, I., 2003. Promise and Problems of E-Democracy. Challenges of Online Citizen Engagement. Available: https://www.oecd-ilibrary.org/governance/promise-and-problems-of-e-democracy/using-information-and-communication-technologies-to-enhance-citizen-engagement-in-the-policy-process_9789264019492-3-en
207. Peña-López, I., 2017. *decidim. barcelona, Spain. Voice or chatter*. Tech. rep. Case studies. Bengaluru: IT for change. open university of Catalonia. https://opendocs.ids.ac.uk/opendocs/bitstream/handle/20.500.12413/13284/Voice_or_Chatter_Case_Study_Spain_August2017.pdf
208. Pikkarainen, T., Pikkarainen, K. and Pahlila, S., 2004. Consumer acceptance of online banking: An extension of the Technology Acceptance Model. *Internet Research*, 14, pp. 224-235. 10.1108/10662240410542652.
209. Pimenidis, E., Sideridis, A., and Antonopoulou, E., 2009. Mobile devices and services: Bridging the digital divide in rural areas. *International Journal of Electronic Security and Digital Forensics*. 2. 10.1504/IJESDF.2009.027673.
210. Pitkin, H.F., 1967. *The concept of representation* (75). Univ of California Press.
211. Pretty, J., 1995. Participatory Learning for Sustainable Agriculture. *World Development*. 23. 1247-1263. 10.1016/0305-750X(95)00046-F
212. Protik, A.E., Nichols-Barrer, I., Berman, J. and Sloan, M., 2018. Bridging the information gap

- between citizens and local governments: Evidence from a civic participation strengthening program in Rwanda. *World Development*, 108, pp.145-156.
213. Porto Alegre, 2018. World Resources Report. Available: <https://www.wri.org/wri-citiesforall/publication/porto-alegre-participatory-budgeting-and-challenge-sustaining>
 214. Powell, M.C. and Colin, M., 2008. Meaningful citizen engagement in science and technology: What would it really take? *Science Communication*, 30(1), pp.126-136
 215. R., 2020. A Language and Environment for Statistical Computing. <https://www.R-project.org/>
 216. Rafael, B. et al., 2002. Voter Turnout Rates from a Comparative Perspective. *Voter Turnout Since 1945: A Global Report*, pp.75–116.
 217. Ravensbergen, F. and VanderPlaat, M., 2010. Barriers to citizen participation: the missing voices of people living with low income. *Community Development Journal*, 45(4), pp.389-403.
 218. Reddy, P.S. and Govender, J., 2013. Democratic decentralisation, citizen engagement and service delivery in South Africa: A critique of legislative and policy considerations. *Africanus*, 43(1), pp.78-95
 219. Reynell, E., Thinyane, H. and Siebörger, I., 2014. Mobile Social Accountability Monitoring in a Connected Society. In *Proceedings of 4th International Conference on M4D Mobile Communication for Development*, 26, pp. 196-207.
 220. Rifai, A., Asterina, N. and Hidayani, R., 2016. Improving the transparency, inclusivity and impact of participatory budgeting in Indonesian cities. Yayasan: Kota Kita
 221. Reisman, J., Gienapp, A., and Stachowiak, S., 2007. *A guide to measuring advocacy and policy*, Annie E. Casey Foundation. Retrieved from: <http://www.aecf.org/resources/a-guide-to-measuring-advocacy-and-policy/>
 222. Rencher, A.C. and Schaalje, G.B., 2008. *Linear models in statistics*. John Wiley & Sons.
 223. Roberts, T. and Hernandez, K., 2017. The Techno-centric Gaze: incorporating citizen participation technologies into participatory governance processes in the Philippines, *Making All Voices Count Research Report*, Brighton: IDS
 224. Roberts, T. and Hernandez, K., 2019. Digital access is not binary: The 5'A's of technology access in the Philippines. *The Electronic Journal of Information Systems in Developing Countries*, 85(4), <https://doi.org/10.1002/isd2.12084>
 225. Röcke, A., 2014. *Framing citizen participation: participatory budgeting in France, Germany and the United Kingdom*. Springer.
 226. Rogers, E., 1995. *Diffusion of Innovations*. New York. Free Press.
 227. Rogers, E., 2003. *Diffusion of Innovations*. 5th ed. New York. Free Press,
 228. Rosseel, Y., 2012. lavaan: An R Package for Structural Equation Modeling. *Journal of Statistical Software*, 48(2), pp. 1–36.
 229. Royed, T.J., 1996. Testing the mandate model in Britain and the United States: Evidence from the Reagan and Thatcher eras. *British Journal of Political Science*, pp.45-80.
 230. Ryvkin, D., Serra, D. and Tremewan, J., 2017. I paid a bribe: An experiment on information sharing and extortionary corruption. *European Economic Review*, 94 pp.1-22.

231. Sano, H.O., 2015. Social Accountability in the World Bank. *Closing the Rights Gap: From Human Rights to Social Transformation*, p.219
232. Santos, J.R.A., 1999. Cronbach's alpha: A tool for assessing the reliability of scales. *Journal of extension*, 37(2), pp.1-5.
233. Sarfaraz, J., 2017. Unified theory of acceptance and use of technology (Utaut) model-mobile banking. *Journal of Internet Banking and Commerce*, 22(3), pp.1-20.
234. Saunders, M., Lewis, P. and Thornhill, A., 2007. *Research Methods for Business Students*. 4th ed. Harlow: Pearson Education Limited
235. Selwyn, N., 2003. Apart from technology: understanding people's non-use of information and communication technologies in everyday life. *Technology in society*, 25(1), pp.99-116. 10.1016/S0160-791X(02)00062-3
236. Sen, A., 1999. *Development as freedom*. Oxford: Oxford University Press
237. Sintomer, Y., Herzberg, C. and Röcke, A., 2008. Participatory budgeting in Europe: potentials and challenges. *International Journal of Urban and Regional Research*, 32(1), pp.164-178.
238. Sintomer, Y.; Röcke, A.; Herzberg, C., 2014., Participatory Democracy and Public Service Modernization, Farnham, Ashgate
239. Shafi, A.S. and Weerakkody, V., 2009. Understanding citizens' behavioural intention in the adoption of e-government services in the state of Qatar. *Proceedings 17th European Conference on Information Systems*. pp.1618-1629.
240. Shah, A. ed., 2007. *Participatory budgeting*. The World Bank.
241. Sheppard. B. H., Hartwick. J., and Warshaw. P. R., 1988. The Theory of Reasoned Action: A Meta-Analysis of Past Research with Recommendations for Modifications and Future Research, *Journal of Consumer Research*, 15(3). pp 325–343. <https://doi.org/10.1086/209170>
242. Sherry R. A., 1969. A Ladder Of Citizen Participation, *Journal of the American Institute of Planners*, 35(4) pp.216-224, DOI: [10.1080/01944366908977225](https://doi.org/10.1080/01944366908977225).
243. Shkabatur, J., 2012. *Check my school: A Case Study on Citizens' Monitoring of the Education Sector in the Philippines*. Washington, DC: World Bank. <https://gsdrc.org/document-library/check-my-school-a-case-study-on-citizens-monitoring-of-the-education-sector-in-the-philippines/>
244. Shirazi, F., Ngwenyama, O. and Morawczynski, O., 2010. ICT expansion and the digital divide democracy. *Telematics and Informatics*, 27(1), pp.21-31
245. Sjoberg, F.M., Mellon, J. and Peixoto, T., 2015. The effect of government responsiveness on future political participation. *Digital Engagement Working Paper Series*; World Bank, Washington Available at SSRN 2570898
246. Sjoberg, F.M., Mellon, J. and Peixoto, T., 2017. The effect of bureaucratic responsiveness on citizen participation. *Public Administration Review*, 77(3), pp.340-351
247. Smith, B.L., 2003. Public policy and public participation engaging citizens and community in the development of public policy. *Population and Public Health Workbook*. Canada.
248. Smoke, P., 2003, Decentralisation in Africa: Goals, Dimensions, Myths and Challenges. *Public Administration and Development*, 23,7-16.

249. Stein, D. and Valters, C., 2012. Understanding Theory of Change in International Development. *The Justice and Security Research Programme*.
250. Stepanova, E., 2011. The role of information communication technologies in the “Arab Spring”. *Ponars Eurasia*, 15(1), pp.1-6.
251. Straub, D., Boudreau, M. C. and Gefen, D., 2004. Validation guidelines for IS positivist research. *Communications of the Association for Information Systems*, 13, pp.380-427. <https://doi.org/10.17705/1CAIS.01324>
252. Spada, P., Mellon, J., Peixoto, T. and Sjoberg, F.M., 2015. *Effects of the internet on participation: Study of a public policy referendum in Brazil*. The World Bank. (February 26, 2015, Available at SSRN: <https://ssrn.com/abstract=2571083>
253. Straub, E. T., 2009. Understanding technology adoption: Theory and future directions for informal learning. *Review of Educational Research*, 79(2), pp. 625–649.
254. Suarez-Balcazar, Y., Balcazar, F.E. and Taylor-Ritzler, T., 2009. Using the Internet to conduct research with culturally diverse populations: Challenges and opportunities. *Cultural Diversity and Ethnic Minority Psychology*, 15(1), p.96.
255. Suh, B. and Han, I., 2003. The impact of customer trust and perception of security control on the acceptance of electronic commerce. *International Journal of Electronic Commerce*, 7(3), pp.135 – 161.
256. Sun, H. and Zhang, P., 2006. The role of moderating factors in user technology acceptance. *International journal of human-computer studies*, 64(2), pp.53-78.
257. Taber, K.S., 2018. The Use of Cronbach’s Alpha When Developing and Reporting Research Instruments in Science Education. *Res Sci Educ* 48, 1273–1296 <https://doi.org/10.1007/s11165-016- 9602-2>
258. Tambulasi, R.I. ed., 2010. *Reforming the Malawian public sector: Retrospectives and prospectives*. African Books Collective.
259. Taylor, S., and Todd, P., 1995. Understanding Information Technology Usage: A Test of Competing Models. *Information Systems Research*, 6(2), pp.144-176.
260. Tembo, F., 2013. Rethinking social accountability in Africa: Lessons from the Mwananchi Programme. *London: Overseas Development Institute*
261. The National Decentralisation Policy of Malawi., 1998. Retrieved on 14 August, 2015 from <http://www.300in6.org/wp-content/uploads/2014/07/1.-National-Decentralisation-Policy-by-GoM-1998.pdf>
262. Thinyane, H. and Coulson, D., 2012. *MobiSAM: Mobile Social Accountability Monitoring in South Africa*, Retrieved on 9 May 2015 from <http://mobileeducationkit.net/doc/Mek7-FULLTEXT01.pdf#page=187>.
263. Thinyane, H., 2013, December. Stumbling at the start line: an analysis of factors affecting participation with local government in South Africa. In *Proceedings of SIG GlobDev 6th Annual Workshop*
264. Thinyane, H., Reynell, E. and Sieborger, I., 2015. The potential of mobile phones for increasing public participation in local government in South Africa. *TD: The Journal for Transdisciplinary Research in Southern Africa*, 11(3), pp.241-259

265. Tilitonse Fund, 2013. Report for a Political Economy. Analysis of Local Governance in Malawi. Retrieved on 14 August, 2015 from <http://tilitonsefund.org/wp-content/uploads/2013/05/Final-Local-Governance-Report.pdf>
266. Tordoff, W., 1994. Decentralisation: Comparative Experience in Commonwealth Africa. *The Journal of Modern African Studies* 32(4)pp.555-80. <http://www.jstor.org/stable/161564>
267. Toyama, K., 2011. Technology as an Amplifier in International Development. In *Proceedings of the 2011 iConference*, pp. 75–82.
268. Triandis, H.C., 1977. Interpersonal Behavior. Brooks. Cole, Monterey
269. Tsai, L.L., McMurry, N. and Rajeswaran, S., 2018. The effect of civic leadership training on citizen engagement and government responsiveness: experimental evidence from the Philippines, *Making All Voices Count Research Report*, Brighton: IDS
270. Tsoka, M., and Chinisnga, B., 2008. Malawi Round 4 Afrobarometer Survey , 2008. Retrieved on 22 July, 2015 from http://afrobarometer.org/sites/default/files/publications/Summary%20of%20results/mlw_r4_sor.pdf
271. Tsoka, M., and Chunga, J., 2012 . Malawi Round 5 Afrobarometer Survey , 2012. Retrieved on 22 July, 2015 from http://afrobarometer.org/sites/default/files/publications/Summary%20of%20results/mlw_r5_sor.
272. Uyanık, G.K. and Güler, N., 2013. A study on multiple linear regression analysis. *Procedia-Social and Behavioral Sciences*, 106, pp.234-240.
273. Vehkalahti, K., 2000. Reliability of measurement scales. Tarkkonen's general method supersedes Cronbach's alpha. *Stat. Res. Rep*, 17.
274. Venkatesh, V. Thong, J., and Xu, X., 2012. Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology. *MIS Quarterly*, 36 (1) pp. 157-178.
275. Venkatesh, V., and Davis, F. D., 1996. A Model of the Antecedents of Perceived Ease of Use: Development and Test. *Decision Sciences*, 27(3), pp.451–481
276. Venkatesh, V. and Davis, F. D., 2000. A theoretical extension to the technology acceptance model: Four longitudinal field studies. *Management Science*, 46(2), pp.186-204.
277. Venkatesh, V. and Morris, M. G., 2000. Why don 't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior. *MIS Quarterly*, 24(1), pp.115–139.
278. Venkatesh, V., Morris, M. G. and Ackerman, P. L., 2000. A longitudinal field investigation of gender differences in individual technology adoption decision-making process. *Organisational behaviour and Human Decision Processes*, 83 (1), pp.33-60.
279. Venkatesh, V., Morris, M., Davis, G. and Davis, F., 2003. User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, 27, pp.425-478.
280. Venkatesh, V., Morris, M. G., Sykes, T. A. and Ackerman, P. L., 2004. Individual Reactions to New Technologies in the Workplace: The Role of Gender as a Psychological Construct, *Journal of Applied Social Psychology*, 34, pp.445-467.

281. Venkatesh, V. and Zhang, X., 2010. Unified Theory of Acceptance and Use of Technology: U.S. Vs. China. *Journal of Global Information Technology Management*, 13(5).
282. Venkatesh, V., Sykes, T.A. and Zhang, X., 2011. 'Just what the doctor ordered': a revised UTAUT for EMR system adoption and use by doctors. In *2011 44th Hawaii International Conference on System Sciences*. pp. 1-10. IEEE.
283. Waddington, H., Sonnenfeld, A., Finetti, J., Gaarder, M., John, D. and Stevenson, J., 2019. Citizen engagement in public services in low-and middle-income countries: A mixed-methods systematic review of participation, inclusion, transparency and accountability (PITA) initiatives. *Campbell Systematic Reviews*, 15(1-2), pp.1025.
284. Wampler, B., 2000. *A guide to participatory budgeting* (pp. 1-30). International Budget Partnership.
285. Wang, X., White, L., Chen, X., Gao, Y., Li, H. and Luo, Y., 2015. An empirical study of wearable technology acceptance in healthcare. *Industrial Management & Data Systems*. 115. 1704-1723. 10.1108/IMDS-03-2015-0087.
286. Wasserman, H., 2011. Mobile Phones, Popular Media, and Everyday African Democracy: Transmissions and Transgressions. *Popular Communication*, 9(2), pp.146–158
287. Weare, C., 2002. The Internet and Democracy: The Causal Links between Technology and Politics. *International Journal of Public Administration*. 25.pp. 659-691. 10.1081/PAD-120003294.
288. Weghorst, K.R. and Lindberg, S.I., 2013. What drives the swing voter in Africa? *American Journal of Political Science*, 57(3), pp.717-734.
289. Weiss, C.H., 1995. "Nothing as Practical as Good Theory: Exploring Theory-based Evaluation for Comprehensive Community Initiatives for Children and Families." In, J. Connell et al ed. *New approaches to evaluating community initiatives: Concepts, methods and contexts*. Washington DC: Aspen Institute.pp.64-92.
290. White, S., 1996. Depoliticising Development: The Uses and Abuses of Participation. *Development in Practice*. 6. Pp.6-15. 10.1080/0961452961000157564131 voices, 2012. Available: <https://latinno.wzb.eu/en/case/17140/>
291. Wilhem, A., 2000. *Democracy in the Digital Age: Challenges to Political Life in Cyberspace*. New York and London, Routledge
292. Williams, J., 2015. How do ICTs improve access to water services? Available
293. <https://www.makingallvoicescount.org/blog/who-what-where-wateraid-discuss-their-new-research-on-how-icts-improve-access-to-water/>
294. Wilson, M.I. and Corey, K.E., 2012. The role of ICT in Arab spring movements. *Netcom. Réseaux, communication et territoires*, (26-3/4), pp.343-356
295. Wittemyer, R., Bailur, S., Anand, N., Park, K.R. and Gigler, B.S., 2014. New routes to Governance: A review of cases in participation, transparency, and accountability.
296. World Bank Staff, 1995. *Workers in an integrating world*, 18. Washington, DC: World Bank. <https://openknowledge.worldbank.org/handle/10986/5978> License: CC BY 3.0 IGO.
297. World Bank, 2003. Making Services Work for Poor People. *World Development Report 2004*

© World Bank. <https://openknowledge.worldbank.org/handle/10986/5986> License: CC BY 3.0 IGO.”

298. Zhan, Y., Wang, P. and Xia, S., 2011. Exploring the drivers for ICT adoption in government organisation in China. In *2011 Fourth International Conference on Business Intelligence and Financial Engineering*. pp. 220-223. 10.1109/BIFE.2011.63.
299. Collier A. *Critical Realism: An Introduction to Roy Bhaskar's Philosophy* London, UK Verso 1994.