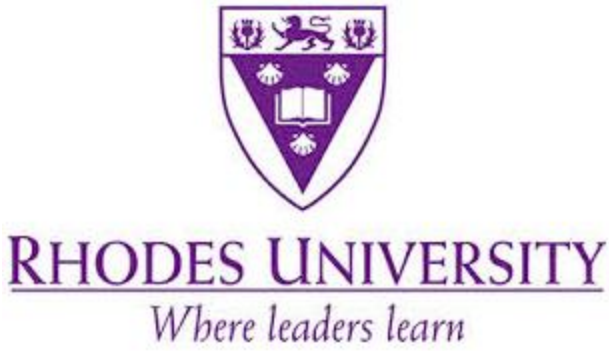

Aligning Local Government Service Delivery Communication with Digital Citizen Engagement: A Case Study of Makana Municipality.

A thesis submitted in fulfilment of the requirements for the degree of

MASTER OF COMMERCE

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By

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Abstract

The effective management of local municipalities in South Africa determines the quality of service delivery to citizens. Policies and other legislation have been implemented in an attempt to improve service delivery backlogs in South Africa since post-apartheid. However, these have not been effective in meeting community needs, hence leading to poor service delivery and increased community protests of frustration. These problems are partly linked to the lack of communication between government and citizens, and within internal government. Government needs to be held accountable for the services it provides, and improve on these services through practicing transparency, providing information to citizens, and allowing citizens to provide feedback on the various challenges experienced. Information access and communication is vital to the citizen engagement process, as this supports evidence-based engagement between citizens and government. Over the most recent years, innovative ICTs have emerged as a critical strategic tool in facilitating communication between the government and its citizens, commonly referred to as digital citizen engagement. The effective implementation of such initiatives at the local government level, especially in resource-constrained contexts, is not straightforward. This research aims to develop a guiding framework for aligning municipal communication processes with innovative ICTs to support ongoing social accountability and transparency through citizen engagement in local municipalities. The formulation of this framework is built on the Adaptive Structuration Theory, which is based on studying organisational change that occurs due to implementation and adoption of technology. Using a pragmatist approach and case study of Makana Municipality, the research study investigates a digital citizen engagement initiative called MobiSAM (Mobile Social Accountability Monitoring). The key findings from the qualitative empirical investigation indicates that there are significant social and political factors to consider when aligning Digital Citizen Engagement initiatives in a resource-constrained environment. The findings illustrated that the change and alignment process of DCE in local municipalities rely on a diverse set of inputs from different stakeholders, and a dynamic change process, which result in key citizen engagement outcomes of empowerment, accountability, transparency, and increased engagement depending – all depending on the success of the process. The extent of the outcomes will vary with the effectiveness of change management, idea generation, and participation, which

are impacted by perceived usefulness, attitude towards the system, and the intentions of the user. The proposed framework provides a guideline for the implementation and introduction of innovations ICTs for citizen engagement at local government level.

Declaration

I declare that this Thesis titled, *Aligning Local Government Service Delivery Communication with Digital Citizen Engagement: A Case Study of Makana Municipality*, for the degree, Masters of Commerce at Rhodes University, is my own work. I also declare that this thesis has not been previously 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.

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Mwazvita Chipo Machiri

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Table of contents

List of Tables

List of Figures

Appendices

(Refer to CD)

Appendix A: Both Makana Municipality and citizens & civil society

Appendix B: Baseline Questionnaire

Appendix C: Process Assessment Questionnaire

Appendix D: Basis for interview question

Appendix E: Monitoring and Evaluation Plan

Appendix F: Organogram

Appendix G: Communication Flow charts

Glossary of Abbreviations

IDP Integrated Development Plan

ICT Information and Communication Technology

DCE Digital Citizen Engagement

BPR Business Process Re-engineering

GRA Grahamstown Resident Association

UPM Unemployed Peoples Movement

GIS Group Internal Systems

DEIS Department of Engineering and Infrastructural Services

MEC Member of the Executive Committee

AIT Advanced Information Technology

CAS Complex Adaptive System

GDS Group Decision System

AST Adaptive Structuration Theory

DPSA Department of Public Service and Administration

MEL Monitoring and Evaluation

CoP Community of Practice

Chapter 1: Research Introduction

Chapter 1 introduces the research study. The chapter discusses the research context to provide background information and put the study into perspective. The research goals and research questions are presented, as well as, the research methodology employed. Finally, the chapter outlines a summary of the key findings of the research.

1.1 Introduction

The provision of basic needs has been a major challenge in resource-constrained environments. Service delivery protests have increased as citizens become wary of the conditions in the community and inability of local government to provide adequate services. There are various reasons for such failure, mainly emanating from the lack of efficient communication between citizens and government, as well as, internally between government departments or units. The use of ICTs presents a platform whereby the citizens can engage with the local government and assist in communicating their issues. The introduction of e-government and other ICT-led initiatives, has provided a tool through which greater citizen engagement and transparency within the government can be achieved. Despite the high expectations of Digital citizen engagement initiatives alongside any use of ICTs in local government, there still have been a lot of failures and inabilities to improve service delivery. This Chapter provides an introduction to the research study. It introduces the background of the study, goals of the research, and a summary of the research methodology. The Chapter concludes by providing a summary of the key findings of the thesis and an overview of the research chapters.

1.2 Research Context

Basic needs are crucial to human existence, as well as basic hygiene within households (Asmal, 1994; Department of Water Affairs and Forestry, 1994). As they are vital to human survival they can be used as a measure to reflect the prevalent standards of living of a community (Encyclopædia Britannica, 2017). Basic needs include access to safe drinking water and sanitation, electricity, a right to education, and healthcare. The efficient management of these services is highly essential (USEPA, 2013). Falkenmark (1994) and Ashton (2002) indicate that scarcity of basic needs such as water in less developed countries is closely linked to the occurrence of poverty, starvation and diseases. South Africa is one of such developing countries. The local government is responsible for providing basic services to the community in order to fulfil their basic needs (Sithole and Mathonsi, 2015). Service delivery is the supply of basic essentials and services to the community, including water and sanitation, as well as, electricity (Bertot, Jaeger and Hansen, 2012). Policies and other legislations have been implemented to try to improve service delivery in South Africa. However, this has not been fruitful as they are still not meeting the citizen's needs, leading to increases in service delivery protests (Sithole and Mathonsi, 2015). On the surface, the protests

have been about service delivery and against uncaring, self-serving, and corrupt leaders of municipalities (Nnadozie, 2013; Alexandra, 2010; Sithole and Mathonsi, 2015).

Since the end of the Apartheid era, the government has been tasked with addressing various service inequalities (Schellack, Meyer and Gous, 2011). Over the years, this has included addressing service backlogs of approximately 14 million people in the country who lacked water supply services (Nnadozie, 2013). Following the end of Apartheid, no specific department was responsible for providing water and sanitation services (Department of Water Affairs and Forestry, 2003; Nnadozie, 2013; Tissington *et al*., 2008). In order to solve this, the South African National Government established municipalities to represent the local government level (Municipal structure act 117 of 1998). As local government units, the municipality is obligated to create strategies and manage their administration, to give priority to the basic needs and services of its local citizens (Municipal Act, 2000; Act 32 of 2000). Municipalities are expected to guarantee access to services to all citizens with particular attention to those that were previously deprived (Sithole and Mathonsi, 2015).

Effective communication helps in improving public participation and information flow, both internally and externally (Criado, Sandoval-Almazan, and Gil-Garcia, 2013). Engaging with citizens regarding service delivery may bring about various benefits, including problems being realised and resolved quicker and obtaining feedback that may lead to quality service provision (Gaventa and Gregory Barrett, 2012; Pandeya, 2015). Citizen engagement in local government is an essential tool in facilitating and achieving two primary objectives; accountability and empowerment of citizens (Pandeya, 2015). Social accountability has also been seen as an enabler of service delivery improvement (Murt, Agarwal and Shah, 2007; Carothers and Brechenmacher, 2014; Grandvoinnet, Aslam and Raha, 2015). Social accountability allows capable citizens to make the state accountable for responding to their service delivery needs. The South African government has recognised the need for sustainable solutions that will increase public value to their citizens through information and communication, coupled with government responsiveness. Therefore, it is possible for them to take advantage of emerging tools for Digital Citizen Engagement in the economy, such as information and communication technologies (ICTs). According to Peixoto and Fox (2016:16), Digital Citizen Engagement (DCE) refers to:

> "*The use of new media/digital information and communication technologies to create or enhance the communication channels which facilitate the interaction between citizens and governments or the private sector."*

Digital Citizen Engagement relates to e-government but has a more focused view based on its purpose. Like e-government, DCE supports the improvement of service delivery and information sharing, as citizens are able to participate in making decisions through ICT use (United States' e-government Strategy, 2003; Telecommunication Union, 2008; Noveck, 2009). However, with a large amount of investment that has been spent in the implementation of e-government, the efforts have not yielded the expected benefits to all stakeholders involved (Backus, 2001; Pina and Accerete, 2005: Dada, 2006; Heeks, 2006; Nkohkwo and Islam 2013).

The underwhelming results of these initiatives have been due to a lack of strategy and vision, and lack of continuous evaluation to assess and guide its effectiveness (Backus, 2001; Aldrich *et al*., 2002; Dada, 2006; World Bank Group, 2016). The lack of an appropriate strategy and vision in aligning processes with ICTs has led to the government investing in unsuitable technology and irregularities in implementation and use, which prevents sustainable development (Heeks, 2006: Backus, 2001; Aldrich *et al*., 2002). These challenges are mainly due to the absence of a unified view and understanding, by varying stakeholders, on the advantages of broadly adopting and integrating ICTs to support their service delivery sectors (Matavire et al., 2010; Saha *et al.*, 2010). The absence of this unity stems from government functional areas being decentralised, which leads to the existence of silos in their interest and business processes (Saha *et al*., 2010; Arendse *et al*., 2012).

1.3 Goals of the Research

This research aims to develop a guiding framework that supports the alignment of the communication strategy of a local municipality with innovative ICTs for citizen engagement in South Africa. The following research questions guide the study:

- What are the information and communication-related challenges associated with service delivery in resource-constrained local municipalities?
- What role does citizen engagement play in supporting service delivery in resource-constrained local municipalities'?

- How can innovative ICTs be used to support citizen engagement to improve communication in resource-constrained local municipalities?
- How can communication processes of a resource-constrained local municipality be aligned with innovative ICTs to support citizen engagement?

1.4 Methodology

This research adopts a pragmatist philosophical approach. The pragmatist philosophy assists the researcher to focus his/her attention on the research problem through the use of mixed methods to get information about the issue (Goldkuhl, 2012; Siemens, 2014). Data is gathered primarily through observation and explaining the actions and interactions of the actors with technology. The approach provides a platform to actively participate in local government and DCE issues, therefore assisting the researcher in observing, understanding, reflecting and providing guidelines to mediate within a social context (Goldkuhl, 2008; Christopher, 2016). The research will use the Adaptive Structuration Theory to guide the empirical investigation of alignment factors. This is a base theory used to study organisational change, which often occurs as a result of the implementation of technology. A detailed research methodology of the research study is provided in Chapter 5.

1.4.1 Research Strategy

The research strategy that will be used is a case study of Makana Municipality in the Eastern Cape. The case study approach is suitable for this study as it assists in understanding the contextual complexity and establishing the development of theories, hence making it ideal for the introductory nature of this research (Benbasa, Goldstein and Mead, 1987). It will assist in developing the Alignment *framework* which is a middle-range theory and the research contribution in this research study in the field of Digital Citizen Engagement (DCE) (Warren, 2016). This approach will also assist in getting a deeper understanding of 'how' the communication processes of the Municipality can be aligned with the Digital Citizen Engagement initiative called Mobile Social Accountability Monitoring (MobiSAM), and 'why' it is suitable to align it in that way (Andrade, 2009; Corcoran, Walker and Wals, 2004).

MobiSAM has been initiated in the municipalities, with the aim of supporting social accountability, transparency, and government responsiveness. The MobiSAM project aims to

support service delivery by providing real-time access to information, hence providing two-way communication between citizens and government (Thinyane, 2013). MobiSAM was first implemented in the Makana Municipality in 2011; however, challenges emerged that emanated from a lack of buy-in and government responsiveness in the municipality. This resulted in the implementation of phase 2.0 in 2016, under the support of the Making All Voice Count initiative. This research investigation is based on a longitudinal study of the implementation of phase 2.0 from the years 2016 to 2017.

1.4.2 Data collection

The data collection techniques used are interviews, participant observation, questionnaires and document analysis. The researcher was a participant observer, at all municipal public meetings, forums, and strategy formulation workshops related to MobiSAM. The data gathered was diverse in order to holistically understand the contextual problem, towards developing theory. The interviews were conducted with people that engaged mostly with the development and use of MobiSAM, which included the local municipality water technicians, the media and communications manager, the media and communications assistant, ICT manager, municipal manager, civil society representatives, ward councillors and citizens. Questionnaires were used as a data collection technique to investigate challenges and identify alignment factors at local government level. Interviews and focus groups were used to follow up the questionnaires observations and document analysis.

1.4.3 Data Analysis

Thematic Analysis is used to analyse the data collected using a tool called Atlas.ti (Friese, 2014). It is a method for determining, analysing and reporting similarities within qualitative data (Attride-Stirling, 2001; Braun and Clarke, 2006). Common themes are identified, such as the influence that critical actors will have on alignment, suitable processes to follow, and critical areas of focus. These themes are used to develop a framework to guide the alignment of communication processes with Digital Citizen Engagement initiatives in local government (Daly, Kellehear and Gliksman, 1997).

1.5 Research scope

Two primary stakeholders are associated with digital citizen engagement, that is, citizens and local government. The research study mainly focuses on understanding the circumstances of local government. Most researchers in the field of digital citizen engagement have traditionally focused on citizen participation, rather than government responsiveness – a key factor for success. Though the research focuses mainly on the local government (which has been a neglected side), it also utilizes the opinions of citizens.

1.6 Summary of Research Study

The results of the research study are outlined as follows:

- **Problem Demarcation**

Emanating from the ineffective management of municipal departments, some of the problems faced by the community include unscheduled power cuts, water outages, dilapidated structures, and failure to compensate workers for their given tasks (Farelo and Morris, 2006). The existence of these problems have been partly linked to the lack of communication between the government and its citizens, as well as, within the internal departments of the local government (Ngubane 2005; Nnadozie, 2013; Carothers and Brechenmacher, 2014; South African Government, 2015). Although local municipalities were introduced to and encouraged to be in direct contact with the community to provide better services, the communication gap has led to inconsistencies which has a negative impact on transparent governance (Carothers and Brechenmacher, 2014).

Communication is a large part of a complex system of problems that are interrelated in the context of local governance and plays an important role in citizen engagement (Sharma. and Patterson, 1999; Joseph, 2016). Effective communication improves organisational culture as it assists in resolving issues and building internal work relations (Sharma. and Patterson, 1999). In order to provide services to the community the local government needs to be able to apply effective communication skills (Joseph, 2016). Communication can reveal corruption as it enables the gathering of evidence-based data for undisputable treasury requests and participation in IDP developments and local budgets (Sharma. and Patterson, 1999). There is therefore a need for the government to be accountable for the services it provides and to improve these services through practising transparency (which includes providing clear and

complete information to citizens) (Murty, Agarwal and Shah, 2007). This allows citizens to give feedback on the various challenges and how they can be improved (Carothers and Brechenmacher, 2014).

The complex nature of service delivery challenges in municipal departments demands a suitable and well-articulated communication strategy that outlines the objectives, core functions, challenges that have been faced, and key communicators and channels that are to be used in communicating. The channels of communication include formal and informal tools, such as newsletters and social media. Though critical, it is evident that such a strategy is lacking in many service provision parts of the South African context, especially at the local municipal level (Naidoo, 2007; Krasner and Risse, 2014). Primarily, the absence of a strategy is noticed within the internal and cross-departmental processes of the government (Farelo and Morris, 2006). However, having a communication strategy will not guarantee the practical adoption of communication platforms that innovative ICTs can provide. Consequently, there is also a need for a guiding framework that supports the alignment of a municipal communication processes with innovative ICTs to support ongoing social accountability and transparency through citizen engagement in local municipalities that are often resource constrained.

- **Theoretical development**

The field of Digital Citizen Engagement is a fairly new field in the discipline. Due to the lack of a model and framework in the context, it is essential that theory is used as a guiding lens towards the production of a framework. It studies the interaction and relationship between the structures, as well as, the social actions, to understand organizational change. The theory assists in understanding how technology is adopted in organisations and examines changes by looking at the ICT structure and the interaction of the technology with various stakeholders.

- **Empirical Investigation**

The formulated framework was derived from factors that were identified from literature, observations and empirical data from the case study. The case study used is Makana Municipality in the Eastern Cape Province. The study will investigate the alignment of MobiSAM, a digital citizen engagement initiative in the municipality to identify the factors that impact the alignment process in resource-constrained contexts.

- **Research outcome**

Based on the factors that were identified, the Digital Citizen Engagement Framework is formulated. The framework consists of what and how factors that impact the alignment process. The framework will be structured in a way that acknowledges that alignment factors can either negatively or positively impact the alignment process. The main components of the framework are the inputs, Appropriate Process and Outputs.

1.7 Thesis Organisation

Table 1.1: Thesis Organisation

Chapter	Description
Chapter 1 Introduction	Chapter 1 introduces the research problem and provides a general overview of its context. The research methodology is identified whilst a summary of the findings of the research are provided.
Chapter 2 Service delivery in resource-constrained environments at local government level	This Chapter then looks at the issues being faced by municipalities that are affecting their ability to provide services to the citizens. An investigation of service delivery issues post-apartheid is conducted in order to understand the causes and effects discussed.
Chapter 3 Supporting Local Government Service Delivery through Citizen Engagement	The chapter then explores the benefits and limitations of citizen engagement. This will assist in describing the need for supportive tools through the introduction of innovative ICTs.
Chapter 4 Digital citizen engagement and the need for Alignment of processes in resource-constrained contexts	The Chapter outlines the benefits and limitation of DCE initiatives, as well as, highlight the challenges being faced by resource constrained local governments leading to the need for alignment.
Chapter 5 Methodology	This Chapter discusses the theory guiding the formulation of the framework. The philosophical approach, research strategy and the case study design are discussed.

Chapter 6 Case Study Exploration	This chapter provides a case study description of Makana Municipality and the implementation of MobiSAM as a Digital Citizen Engagement initiative. The factors that arise from the case study exploration will then be used to formulate the DCE framework with the guidance of the Adaptive Structuration Theory.
Chapter 7 The Proposed Digital Citizen Engagement Framework	Chapter 7 outlines the proposed Digital Citizen Engagement framework, which has incorporated the factors from the case study exploration.
Chapter 8 Conclusion and Future Research	Chapter 8 rounds up by concluding the research by outlining the aspects presented in the research and identifies future areas of study.

Chapter 2: Service Delivery in Resource-Constrained environments at Local Government Level

This chapter describes in-depth service delivery in South Africa and the level of government responsible for providing these services. The challenges faced in relation to resource-constrained environments are outlined. This chapter brings to attention the emerging issue of lack of communication as a root cause of most of the local government challenges.

2.1 Introduction

Local governments in South Africa aims to provide citizens with basic services. Service delivery strategies and policies have been set to assist with basic service provision. Basic needs are those that are fundamental to human existence. These basic needs include water, sanitation, electricity and housing. The local government under Section 152 of the Constitution aims to improve five developmental outcomes. These outcomes include striving to be a more accountable government for the community, providing more sustainable service delivery, promoting economic and social development, promote safe and healthy environments and encourage citizen engagement in local government affairs. To fulfil the local government mandate cluster, there is need to identify and plan the delivery of its mandates.

This chapter will start by investigating service delivery at local government level. The chapter then addresses what basic services are and who is responsible for providing them. Subsequently, the three types of local government municipalities are stipulated by the Municipal Act and other further classifications of the municipalities that are found in literature are discussed. This chapter then looks at the problems being faced by municipalities that impact their ability to provide services to citizens. The focus is then narrowed to identify communication challenges that are present at local government level. One of the approaches that can be adopted to eliminate these communication issues is by improving communication between government and citizens.

2.2 Local Government Service Delivery in South Africa

Transformation of service delivery started from 1995 when The White Paper was established to transform public service. The White Paper aimed to improve service delivery through developing a framework that guides implementation of new policies and service delivery (Visser and Twinomurinzi, 2009). Service delivery is the provision of basic services to the community. These services include water, electricity, sanitation and housing, use of sewage and sanitation, storm water systems, refuse removal, firefighting services, municipal health services, roads, public transport, parks and recreational areas, libraries and other facilities, and local tourism (The Municipal Act (No.117 of 1998)).

Among these basic services the government singled out particular needs that were important for day to day survival and called them basic needs. Basic needs were established as human rights

that are fundamental for citizens to receive namely water and sanitation, electricity, roads and housing (Khumalo, 2016; Bertot, Jaeger and Hansen, 2012). During the Apartheid era, public services were a privilege only to those who could afford (Pretorius and Schurink, 2007). The right to basic services only became part of the Constitution after the Apartheid Era enabling all citizens to have access to basic needs (Constitution of the Republic of South Africa, 1996 (Act 108 of 1996). However, the provision of basic services to resource-constrained communities took substantially longer than envisioned (do Vale and Cameron, 2017). Consequently, service delivery needs were not accessible to the community at large.

The Department of Public Service and Administration (DPSA) published a report that outlines principles to jumpstart the change of service delivery called the Batho Pele (People First) principles (DPSA, 1997). With the aim to guide the introduction of new policies for development and implementation, an institutional framework was established, called the White Paper on the Transformation of Public Service (Visser and Twinomurinzi. 2008). This framework encouraged efficient public service delivery that was previously dysfunctional in the Apartheid system (Visser and Twinomurinzi. 2008). The Batho Pele principles include sharing information, openness and transparency of government, consultation of government, courtesy access of citizens, reimbursement, value for money and service standard of government illustrated in Figure 2.1 (Sithole and Mathonsi, 2015). Thorough and competent service administration and governance are crucial and needed, to monitor the service delivery (Pretorius and Schurink, 2007). One of the most interpretive signs of analysing government transformation is perception and experiences of citizens (Pretorius and Schurink, 2007). The effect of this is to empower government to transform based on feedback provided by citizens and put into practice the required changes to prioritise the needs of residents.

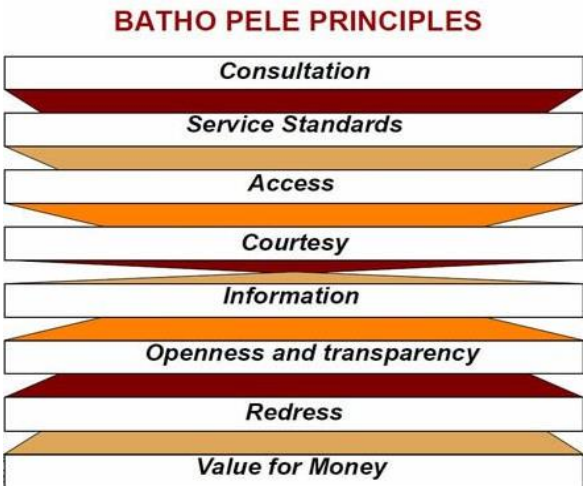

Figure 2.1: Batho Pele Principle (South African Government, 2016).

The focus was built on the right to access information as information is needed for citizens to engage.

- *Principle 1 (Consultation)*. Consultation between the government and the citizens is essential as this ensures that the agenda is clear and is well understood by the citizens (Dodoo, 1997). This is done through meetings in offices, workshops and forums.
- *Principle 2 (Service standards)*: Service standards should be set at the planning stages of any management system. Performance measures established during the planning stage will help to monitor improvement in service delivery (Statistics SA, 2001c). Employees should be involved in the setting of service standards to ensure the efficient adoption of the standards and sense of ownership from them (Crous, 2004). Setting standards will assist citizens in holding government accountable and measuring department services will assist in measuring the satisfaction of citizen on services delivered (Visser and Twinomurinzi. 2008).
- *Principle 3 (Access)*: Service providers should increase access to services for the current, new and previously disadvantaged groups in the community (Constitution of the Republic of South Africa, 1996 (Act 108 of 1996) (section 195(1) (d)). Making sure that citizens have access to the services will also empower the community (Visser and Twinomurinzi. 2008). The barriers that prevent access to basic services have been identified as physical, distance, or cultural (Crous, 2004). Most of the citizens in South Africa have no direct access to the services that are supplied by the local government. (Visser and Twinomurinzi.

2008). This is mainly evident in marginalised areas.

- *Principle 4 (Courteous)*: Government should be courteous in the way they relate to the community as this helps to avoid conflict. The employees should uphold a balance between the obligation to the community and compliance with administration rules (Dror 1997; Kaul, 1996).
- *Principle 5 (Information):* One of the most critical tenets stated is information. There is a need to ensure that the information available is accurate and unbiased, as this strengthens the rate of openness and public accountability (Constitution of the Republic of South Africa, 1996 (Act 108 of 1996) (Section 195(1)). The focus should be to improve the availability of information to the citizens in rural or remote areas that cannot access the services being provided (Visser and Twinomurinzi. 2008).
- *Principle 6 (Openness and transparency)*: This entails informing citizens on how the institution aims to achieve its service delivery standards. It is also important to be open about how they will redress issues that would have failed (Crous, 2004).
- *Principle 7 (Redress):* Redressing includes realising that a mistake has been made, taking responsibility for the mistake, as well as, trying to rectify it. Citizens trust will increase as it ensures that they care about the services they deliver (Hessler 1991).
- *Principle 8 (Value for money):* Government institutions need to make sure that they improve the quality of services delivered and standards while not increasing costs (Crous, 2004). Money should be saved and use to improve the standards in the institution. Service delivery enhancement should aim to be done with the same resources or less (Visser and Twinomurinzi. 2008).

2.2.1 Classifications of Municipalities

The primary concern of Municipalities is expanding local economies and social growth, as well as provision of infrastructure to meet basic needs (Local Government: Municipal Structures Act, 1998 (Act 117 of 1998)). The Constitution Act No.117 of 1998 states that there are three categories of municipalities. The categories are classified as category A, B and C and are described as follows (Monkam, 2014);

- Category A is called the metropolitan municipality with more than 500000 voters which have mainly urbanized areas.

- Category B municipalities are called local municipalities which fall outside the metropolitan areas. There are 226 local municipalities in South Africa, and they are further broken down into wards.
- Category C municipalities are called District councils. They are responsible for capacity building and planning within that district.

South African policy debates have begun to suggest the advantages of various policies to take into consideration the different opportunities and challenges of different municipalities and their different capacities (World Bank, 2009; Gnade, Blaauw and Greyling, 2017). However, most policy-makers and observers would agree that there is a need for differentiation when it comes to understanding the variety of settlement types (World Bank, 2017). The Department of Cooperative Governance and Traditional Affairs (CoGTA) also classified municipalities further based on three factors, which are functionality, socio-economic profile, and the backlog of basic services (CoGTA, 2009; Gnade, Blaauw and Greyling, 2017). The evaluation in 2009 focused on the 231 local municipalities in Category B and ranked them resulting in four classes, Class 1: Most vulnerable, Class 2: Second most vulnerable, Class 3: Second highest performing, and Class 4: Highest performing (Gnade, Blaauw and Greyling, 2017).

Another classificatory framework, published in the same year with CoGTA, was developed as part of the Municipal Infrastructure Investment Framework (World Bank, 2009). The participating stakeholders were World Bank, the Development Bank of Southern Africa, and several government departments stated that different strategies were required for different municipality categories when devising the Municipal Infrastructure Investment Framework (MIIF) (CoGTA, 2009). The World Bank further classified the South African municipalities into three groups based on the following characteristics: socio-economic and geographical illustrated in Table 2.1 (World Bank, 2009; Clifford, 2015). This classification has no status but assists in understanding how policies work at local government level (Clifford, 2015). The one-fits-all approach would not work with category classifications as they have different infrastructures and capacities. The municipalities were divided into seven categories after the World Bank classification, ranging from Category A, Category B1 to B4, and C1 and C2. The World Bank (2009) classification sets out the characteristics that are found in all groups.

Table 2.1: Municipalities according to description and socio-economic and geographic characteristics (World Bank, 2009).

Group	Category	Description	Characteristics	No of municipalities
GROUP 1: 27 municipalities	A	Largest cities	Metropolitan municipalities	6
	B1	Secondary cities	Local municipalities with a city in their midst, and with the largest budgets, after the metros	21
GROUP 2: 140 municipalities	B2	Large towns	Local municipalities with a large town as the core urban settlement	29
	B3	Small towns	Local municipalities with relatively small population, a significant proportion of which is urban, but no large town as a core urban settlement. Typically one or more small towns and rural areas are characterised by commercial farms.	111
GROUP 3: 70 municipalities	B4	Mostly rural	Local municipalities which are mainly rural with, at most, one or two small towns. The rural areas are characterised by communal land tenure and villages or scattered groups of dwellings.	70
Included with relevant local municipalities	C1	District municipalities which are not water services providers.	District municipalities with few service delivery obligations and which tend to be aligned with relatively strong local municipalities.	
Included with relevant local municipalities	C2	District municipalities which are water services providers.	District municipalities with more service delivery responsibility and which tend to be aligned with weaker and more rural local municipalities.	

2.3 The Responsibility of Local Government

The three spheres of government are national, provincial and local government. The Local

government is responsible for providing services to citizens. The mechanisms the local government uses to manage service provision has an impact on the quality of services received by citizens (Constitution of the Republic of South Africa Act (No.151 of 1996). The proximity of local government to those who elected them is designed to provide increased motivation for participation. The Constitution of the Republic of South Africa Act (No.151 of 1996), under the section of local government, states that local government is tasked to be responsible for service providers because they are closer to the citizens. Therefore, they are in a better space to establish what citizens need. The Municipal Act (No.117 of 1998), The Municipal System Act (No.32 of 2000), and Municipal Demarcation Act (No. 27 of 1998) are the three policies and frameworks that guide the provision of services to the community. They aim to assist in municipalities creating strategies and prioritise basic needs to citizens (Crozier and Thoenig, 1976; Municipal System Act (No.32 of 2000); Sithole and Manthonsi, 2015). The South African Constitution requires local government to (Constitution of the Republic of South Africa Act (No.151 of 1996: 74)):

> *"provides a democratic and accountable government for local communities to ensure the provision of services to communities sustainably; to promote social and economic development; to promote a safe and healthy environment; and to encourage the involvement of communities and community organisations in the matters of local government."*

Thus, local government structures are both designed to enable participation to reach the democratic vision and facilitate service delivery (Thinyane, 2013).

2.3.1 The Structure of Local Municipalities

The Municipal Act (No. 117 of 1998) contains the decision structure in local government. The Legislation allows for two types of councillors (The Municipal Act (No.117 of 1998); Crozier and Thoenig, 1976)). Each municipality will have a council that is nominated by residents and political party representatives every five years (The Municipal Act (No.117 of 1998)). The politically appointed councillors are selected by running in elections while ward councillors represent geographical regions of the municipality (The Municipal Act (No.117 of 1998)). The number of councillors depends on the number of voters in a citizen population. For district or local municipality councillors should not be less than three or go beyond 90, and for a metropolitan

municipality councillors may not be more than 270 (The Municipal Act (No.117 of 1998)). The municipal council among other tasks is responsible for selecting committees with the aim to increase the communication platforms with the citizens (The Municipal Act (No.117 of 1998); Crozier and Thoenig, 1976)).

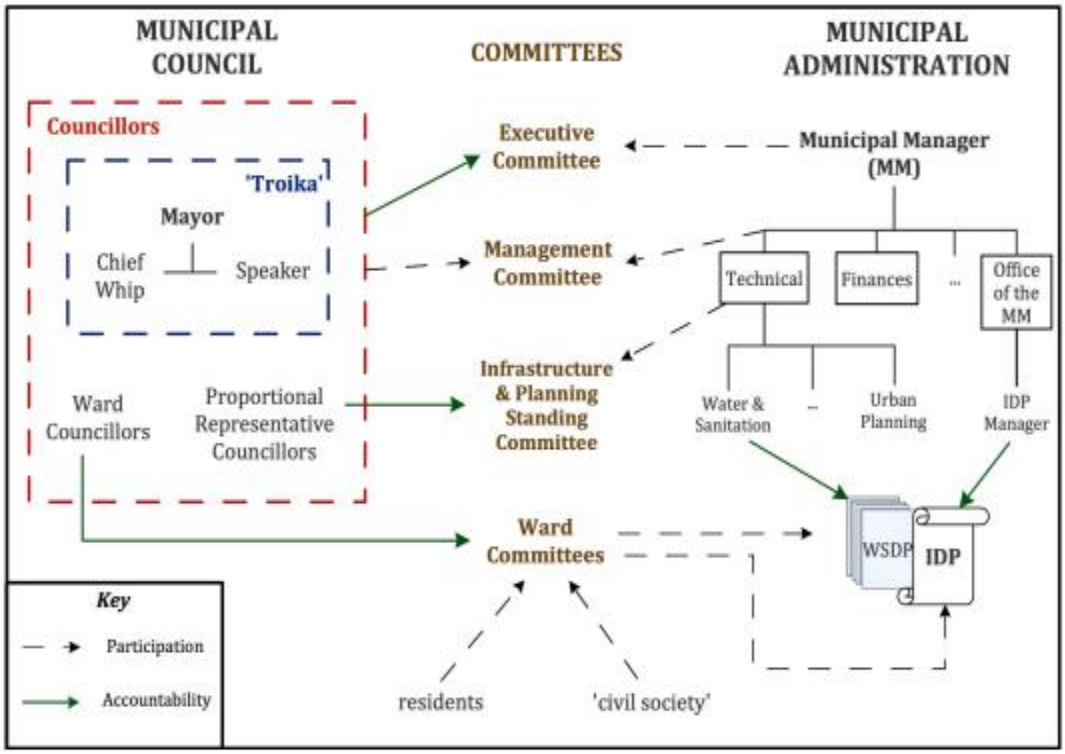

Figure 2.2: The relationships between the different actors that are involved in local municipalities and decision-making bodies (Clifford, 2015).

Figure 2.2 illustrates the relationship between the municipal council, committees and municipal administration that are involved in local municipalities. The Technical Directorate is not responsible for providing basic services but for assuring quality engineering services (The Municipal System Act (No.32 of 2000); Klijn and Koppenjan, 2000). Other directorates include Directorate of Budget and Treasury, and Local Economic Development and Planning, which focus on organising all resources for the development of the economy. The Directorate of Corporate and Shared Services, which is responsible for supporting services and lastly the Public Safety and Community Services Directorate is responsible for providing affordable and sustainable services (Clifford, 2015).

The ward committees as shown in Figure 2.2 are accountable to ward councillors and enable interaction of residents and civil society groups, and forward their concerns to gain the attention of the municipality. The primary function of ward committees is to drive citizen engagement in all the planning that happens in the municipality (The Municipal System Act (No.32 of 2000); Klijn and Koppenjan, 2000). This is mainly in regards to the Integrated Development Plan (IDP), Water Services Development plan (WSDP), and the Spatial Development Framework (The Municipal System Act (No.32 of 2000)). The IDP is a public planning tool that aims to respond to citizen priorities and needs by facilitating interaction of citizens and the municipality (Clifford, 2015; Klijn and Koppenjan, 2000). The existence of IDPs in all municipalities is required by the Municipal Systems Act, and they must be revised per year.

2.4 Emerging Challenges in Service delivery of Local Municipalities Post-Apartheid

After coming into power in 1994, the newly elected democratic government inherited overwhelming municipal service backlogs that were found mostly in rural, impoverished regions in South Africa (Manase *et al*., 2009; Powell *et al*., 2009; Kanyane, 2014). Municipalities in marginalised areas were deprived of the means to meet the needs of citizens (Sithole and Mathonsi, 2015). The challenges that are being faced include, lack of capacity, lack of implementation policies, inability to clear backlogs, and lack of communication.

2.4.1 Lack of Capacity

COGTA (2014) states that some of the challenges that led to inequalities in service delivery include a lack of critical municipal infrastructures that led to services not being provided or providing inadequate unacceptable levels of service provision (Crocker *et al*, 2016). Marginalised local authorities were unable to cope with increasing service demands, and citizens were dissatisfied by the occurrence of corruption (Watson, 1994; Smith, 2004; Kanyane, 2014; Sithole and Mathonsi, 2015). In 2005, the Minister of Provincial and local government reiterated that one of the challenges South Africa faces is a lack of essential capacity (Pretorius and Schurink, 2007; Crocker *et al*, 2016). Clifford (2015) states that at local government level the main issues are a lack of institutional and administrative capacity, which has led municipalities to be incapable of providing basic services. Municipalities in resource-constrained communities can barely raise enough funding from rates payments due the number of indigents in marginilised communities. This has

led local municipalities to depend on government funding and not be self-sufficient (Mahabir and Mabena, 2015). It has been stated that the financial model for municipal funding has shown to be disadvantaging resource-constrained municipalities and the reality of financial shortfall (de Visser, 2009; Mahabir and Mabena, 2015). Therefore, there is a need to assist the local government in increasing its financial capacity, maintain services, as well as, to create more ways of improving service delivery (Water Supply and Sanitation in South Africa, 2015; Crocker *et al*, 2016). According to Kanyane (2014), the consequence of Apartheid on the current issues being experienced in South Africa is undeniable and widely transparent. Weak leadership, vacancies in critical posts, poor financial management, lack of transparency and accountability, and communication with communities have been seen as the standard factors affecting service provision (The Presidency 2014; GGLN, 2016). COGTA (2014) indicates that social distance* by municipalities, in particular public representatives such as Speaker of the Council, Ward Councillors and Ward Committees, is a primary concern and this brings out issues of insufficient participation with the public.

2.4.3 Lack of implementation policies

Policies have been put in place to assist in the clearing of the challenges being faced at local government level. Although interventions have been proposed to improve these challenges, the lack of appropriate strategies have led to the ineffectiveness of local municipalities (COGTA, 2009; Pretorius and Schurink, 2007; Owais, Khanna and Mani, 2017). Significant funds have been donated, including those of the supported donor community, and allocated to support the provision of basic services, including water supply and sanitation, and housing provision to rural communities throughout the country (Powell *et al*., 2009). These have gone to waste as there are no policies in place to manage the implementation policies. South Africa acknowledges that *the implementation of its policies* are challenging and service delivery is nowhere close to being exceptional (Twinomurinzi and Ojo, 2010; Lewis, 2017).

2.4.4 Inability to Clear Backlogs

Service delivery backlogs can be defined by a variety of factors; however, it is mainly described as (Gildenhuys, 2009:5):

> *"households without a service to which they are legally entitled"*.

*Social distance is the extent to which people feel a degree of distance between themselves and other groups of people

Service backlogs are said to be an indication of the lowest levels of standard service. They also are a function of the number of households that do not have resources to attain services for themselves. These are called indigents. The number of households living in poverty has increased radically over time, and this is due to many people still not receiving basic needs (Buccus and Mathekga, 2007; World Bank, 2009). Figure 2.3 shows the backlog for basic services for 2011.

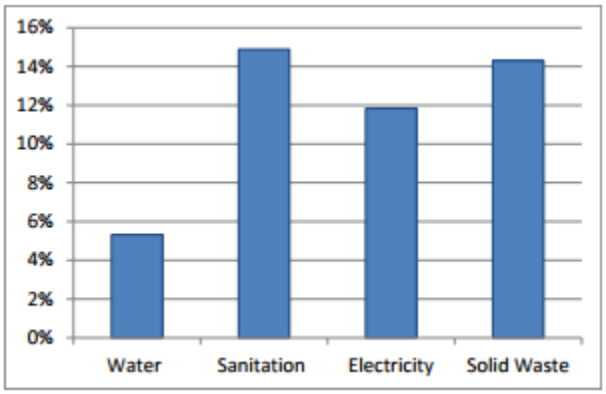

Figure 2.3: Service backlogs in urban areas (Palmer et al., 2011).

There are still issues of funding arising from misspending and ineffective service delivery. However, a significant amount of work has been conducted around the area of water and sanitation infrastructure, with the goal of improving how the service is delivered. (Bannister, 2009). Refusal backlogs are still reasonably high while electricity backlogs have decreased over time. Due to a lack of resources, issues of corruption and lack of legitimacy of the administration, there are huge backlog figures on basic services such as water, electricity, health, and education facilities in homelands (Sithole and Mathonsi, 2015).

2.4.5 Increase in Service Protests

South Africa is still struggling with inequalities in relation to service provision (do Vale and Cameron, 2017). Due to this increase in demand, municipalities have appeared in media outlets due to the increase in protests for improved service delivery (Mchunu, 2012; Grant, 2014; de Villiers, 2017). This is due to lack of access to information, and adequate communication mediums in marginalised areas – this negatively affects the effectiveness of communication and message transmission (Mchunu, 2012; Communication strategy, 2016).

Though there has been a drop in the total amount of protests, some areas seem to still have the same concerns. The concerns and demands that have not been resolved are water and sanitation, electricity and housing (Petterson, 2016). Due to lack of adequate water supply, recurring problems and diseases increased which raised the need of maintenance and reinvestment in the current facilities (Hutton, and Chase, 2017; Edokpayi, Odiyo and Durowoju, 2017). A study on linking service delivery and protests in South Africa established that in one year, there were over 900 service delivery protests in South Africa (Booysen, 2007; Mchunu, 2012). 71 demonstrations in 2012 alone attributed to dissatisfaction with services, in particular water (Mchunu, 2012; DWA, 2013).

2.4.5 Lack of Communication

Two decades after Apartheid, the government is still facing challenges to meet the expectations of citizens (Sithole and Mathonsi, 2015; Owais, Khanna and Mani, 2017). Buccus and Mathekga (2007) also states that local government in particular continues to fail to meet the constitutional command. He claims it is due to government's top-down approach that underlines that local government is a vehicle for service delivery only, rather than simultaneously emphasising that it is a vehicle for participation (Mchunu, 2012; do Vale and Cameron, 2017*).* The country is facing a significant task in ensuring that local government provides ideal and specialised services to their citizens (Pretorius and Schurink, 2007). One of the leading reasons why citizens do not have faith in the government is that they do not inquire what the community needs. The lack of public participation platforms is a critical factor in the loss of public trust in local government (Manase *et al*., 2009; Mchunu, 2012). This has led to municipalities failing to manage resources efficiently, sustain basic services and collect revenue (Nleya, 2011; GGLN, 2016).

Community task teams which are referred to as ward committees have been established to work with community representatives on matters of service delivery as a means of engaging the community in public affairs (Sekgala, 2016). They need to be considered as they are a key element in communicating with citizens. They were created to encourage public participation by facilitating communication between the community and the municipality. (Municipal Structures Act (117 of 1998); Sekgala, 2016). Ensuring functionality of such task teams is some of the challenges that are beyond the control of the public sector. The problems include (Sekgala, 2016):

- *Lack of skills*: It is essential for the committee members to acquire certain skills to perform

their duties. It has been researched that most members lack any matric education leading to lack of clarity in what they are ought to be accomplishing.

- *No impact on decision making*: The ward committees have raised concern over their voices not being heard in the municipality.
- *Representation in Ward Committees*: The election of ward committees has been a significant challenge as there are allegations that councillors are selecting committee members according to their political affiliation, and not according to skill and contribution. (Kabane, 2014).
- *Access to Information*: The committee members have been blaming lack of communication for their lack of performance, and as a reason for the lack of engagement (Naidu, 2011: 4).
- *Resource Constraint*: Most local municipalities are resource constrained and are not able to provide adequate service delivery to the community. Therefore, it will be impossible for ward committees to function effectively without resources.

2.5 The Communication Dilemma in Local Municipalities

Local government is well known for lack of citizen engagement, increasing corruption, and poor communication and service delivery (SALGA, 2006; Ndaba, 2014). The current communication problems that are being faced by municipalities are due to lack of sustainability of a positive mood internally and externally. Internally, among others there is lack of consistency in holding regular departmental meetings to steer services delivery (Communication strategy, 2016; CoGTA, 2014). Externally the local government is unable to efficiently and timeously communicate with various stakeholders, therefore affecting the impact of the message and intended consequences regarding service delivery issues, progress, successes and failures (CoGTA, 2014).

Many developing countries recognise that communication is a critical component in developing and maintaining dynamic and efficient information and communication strategy (Communications, 2000). South Africa's lack of policy shows how it is behind in this area. A stable government communication and information service can coexist with a culture that embraces freedom of expression and information (Communications, 2000; Morsing and Schultz, 2006). The definition of communications and the function of the communication department in local government are not precise. The communication function in local government is carried out in various ways depending on each municipality, department, or the officials who perform this

service as part of a range of other duties (Communications, 2000). Most of the municipalities spend less than 0.2% of their funding on the communication department (Department of Government Communication and Information, 2016).

This is not an adequate amount of money to be spent on such a crucial department. Primarily, the strategy absence is noticed within the internal and cross-departmental processes of government (Farelo and Morris, 2006). Municipalities should assess their services through feedback from citizens (Ndaba, 2014). It can be established that communication is not taken seriously even at a higher level. This can be shown by how vacancies in the communication department have been filled in by people who have other skills such as accounting or with inadequate skills (Communications, 2000; Department of Government Communication and Information, 2016). Therefore, the government is impoverished by its own inability to take this crucial aspect of governance seriously. There is no co-ordination of messages between departments. One of the main problems in the government are not taking media communication seriously and not using it to their advantage, as well as, change certain structures for better service delivery (Morsing and Schultz, 2006; Department of Government Communication and Information, 2016). There seems to be a problem with media as they cannot separate their views on the government with their views on political party role players while lack of adequate strategy and policy is affecting communication in municipalities.

2.6 Conclusion

This chapter discussed service delivery, and the importance of efficiently managing it for increased standards of living. The four basic services essential to human existence include water, electricity, sanitation, and housing. Other services that local municipalities provide include health services, firefighting, and refuse removal. The local government among the three levels of government is responsible for providing these services. Local municipalities are divided into three categories according to the Municipal Structures Act which are Metropolitan, Local and District Municipalities. These were further categorised by the World Bank and CoGTA to factor in characteristics such as socio-economic profile, functionality, backlog of basic services and its geographical factors.

A council is elected by the citizens to deal with issues of service delivery which is further divided

into specific committees. The key players in the municipality that are responsible for service delivery are the Municipal manager, Mayor and Speaker of the Council which are nominated by the council. The council should abide by the Code of Conduct which states their roles and functions. The chapter also addresses the current issues surrounding service delivery that include increases in protests around basic services raising the issue of lack of communication between the government and its citizens. Communication is an essential resource for any institution and should be efficiently managed. Resolving issues around lack of communication within the department and with the citizens will go a long way in solving service delivery issues. The effectiveness of local government should be measured by the impact it has made to the community.

Chapter 3: Supporting Local Government Service Delivery through Citizen Engagement

Chapter 3 goes on to elaborate the importance of citizen engagement and the role it plays in service delivery. It elaborates on the stakeholders of citizen engagement at the local level, and the benefits and limitation faced.

3.1 Introduction

The challenges experienced in service delivery relate to a lack of communication between government and its citizens at local government level. This has been evident in lack of transparency and accountability leading to issues such as lack of trust and an increase in protests. Bridging this gap of communication requires ensuring that citizen engagement exists, increase in government capacity, and ability to listen and provide feedback (Salome, 2016). Citizen engagement is a crucial factor at local government level, as its primary purpose is to be closer to the community. The aim of this chapter is to discuss and explore citizen engagement practices, processes, and frameworks to bring social change for effectively managing resources for individuals and society.

The chapter begins with exploring the definition of citizen engagement, what it entails, user feedback and civic action, and how this will assist in improving service delivery. Subsequently, the role of citizen engagement in policy making as well as increasing accountability of the government is discussed. The role of citizen engagement in a community will be articulated and explained, as well as, outlining the stakeholders that are key in engaging with local government. The chapter then explores the benefits and limitations of citizen engagement, which will assist in realising the need for a supportive tool for communication.

3.2 Citizen Engagement

The primary purpose of citizen engagement and citizen participation is to improve developmental outcomes in decision making (Gaventa and Barret, 2010). The growing interest of citizens in socio-economic development is reflected in their increased need to participate in decision making (Powell and Colin, 2008). However, a significant gap exists between what people perceive when promoting citizen engagement, and the impact of citizen engagement on achieving objectives. Citizen engagement is understood as the relationship between civic action and citizen feedback (Figure 3.1) (Peixoto and Fox, 2016). Civic action is more of collective action and is therefore public, compared to citizen reporting/feedback, which is individual and undisclosed.

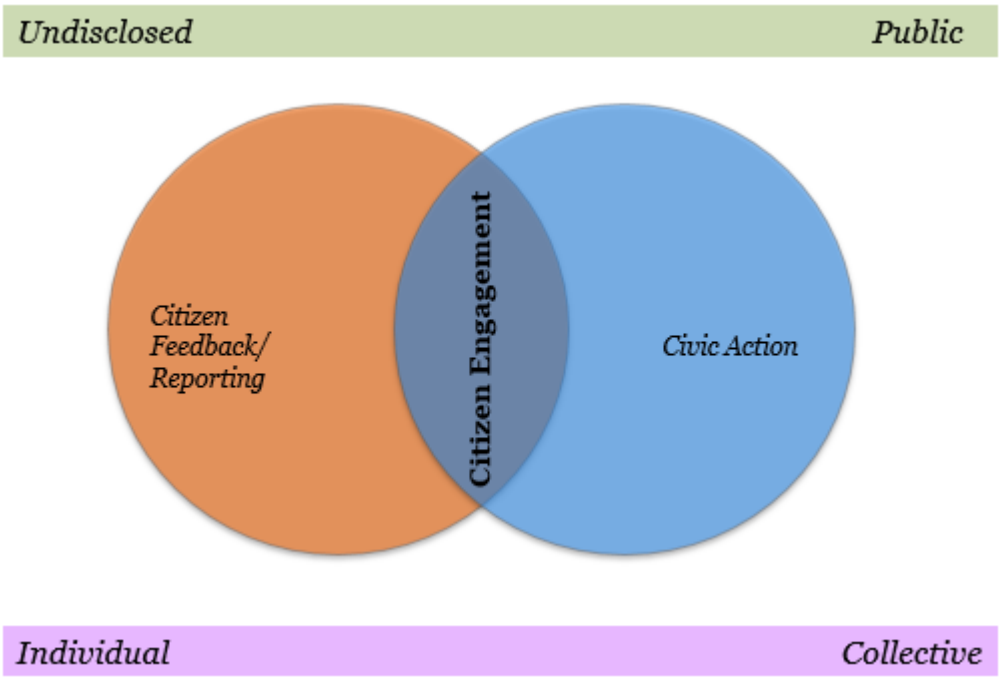

Figure 3.1: Unpacking user feedback and civic engagement: Citizen Engagement overlap (Peixoto and Fox, 2016).

Citizen engagement is defined differently by different authors. According to, Grandvoinnet, Aslam, and Raha (2016) it is the degree and ability of citizens to hold the state accountable and responsible for fulfilling their needs. This definition emphasises the ability of citizens to take accountability actions that will enhance service delivery beyond elections (World Bank, 2012). The process encourages and provides opportunities for the public to express their views, and for governments to learn about the opinions of the people, discovering opportunities to build a bridge between the two stakeholder groups (Van Belle and Cupido, 2013).

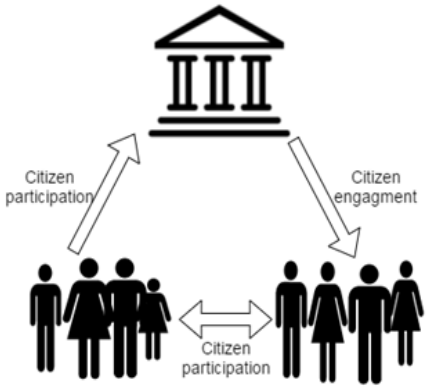

Figure 3.2: Relationship between citizen engagement and participation (Van Belle and Cupido, 2013).

Public participation or citizen participation are used interchangeably with citizen engagement as they have the same focus – improving service delivery (Grandvoinnet, Aslam, and Raha, 2016; Garrigues, 2017). Figure 3.2 illustrates the difference and relationship between citizen engagement and participation. Public participation involves the participation of members of the public who are interested in solving issues in question. It considers the total number of all citizens and communities that are aiming for the same goal (Van Belle and Cupido, 2013). Citizen participation is defined as the relationship that citizens have with the government where they can engage in decision-making processes (Kakumba, 2010). This definition recognises that citizens have a role in the decision-making process, which involves proposing options and being involved in the discussions around policy-making.

Fox and Meyer (1995) also agree that citizen participation can be defined as various activities that relate to the implementation of policymaking. This encompasses the creation of budgets, determination of service levels, and the viability of government programs (Fox & Meyer 1995). The participation of citizens in creating plans is the foundation for good planning, monitoring and evaluation, and decision-making, that is based on two-way communication and interaction (Meyer and Theron, 2000; Creighton, 2005; Aulich, 2009; Seltzer and Mahmoudi, 2013; Breakfast, Mekoa, Maphazi, 2015). It is not merely consulting the public as stakeholders, but presence of willingness to engage with them. Citizen participation in government has usually been positioned around trying to facilitate better access to information, and improve the rights of citizens who are to be involved in matters that directly affect them (Aulich, 2009; Breakfast, Mekoa, Maphazi,

2015).

Citizen engagement gives stakeholders the opportunity to engage in policy-making directly, leading to the ability to negotiate and involve all stakeholders in both policy formulation and implementation (Stewart 2003; Aulich, 2009). Citizen participation is based on interaction at the community level between citizens, where demands and requests originating from individuals and groups. The main difference between citizen participation and citizen engagement relates to *who* initiates the action illustrated in Figure 3.3. Citizen engagement is a top-down approach that is implemented by government institutions. The government encourages citizens to voice out their concerns by discussing, assessing policy and being involved in projects (Kakumba, 2010; Garrigues, 2017). On the other hand, the main actors for initiating citizen participation are the citizens, making it a bottom-up approach.

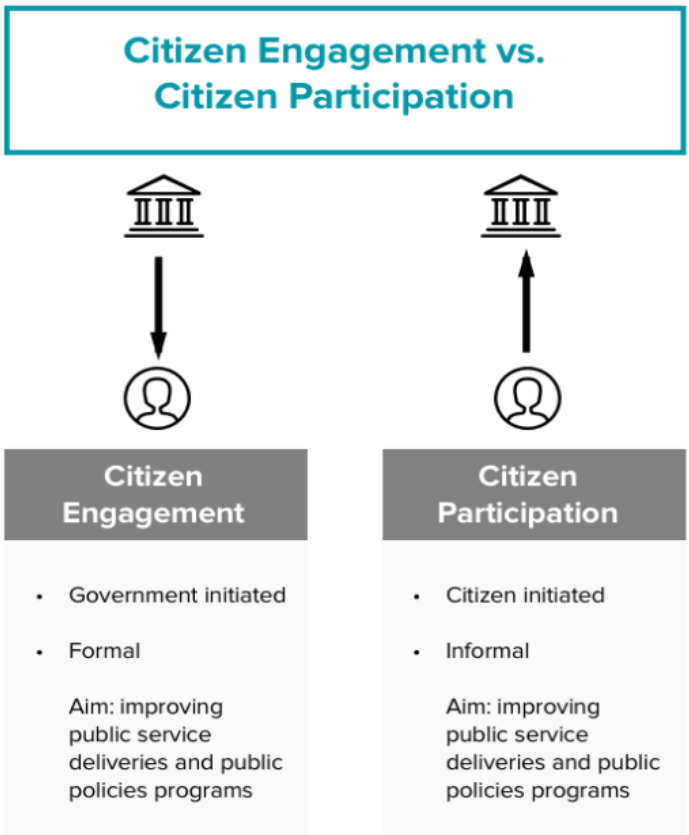

Figure 3.3: The difference between Citizen Engagement and participation? (Garrigues, 2017).

Local government institutions should include citizens in the decision-making process policies

when it comes to citizen engagement (Kakumba, 2010). This is done by providing them with ways to consult and access information, hence providing a discussion platform with elected representatives, to also monitor the implementation of the projects (Holmes, 2011; Garrigues, 2017). Since citizen engagement is a top-down approach, it has more formal procedures impacted by rules established by the government (Putnam, 2001). On the contrary, citizen participation has no formalities as it is initiated by the citizens to be a principal instrument for their voices to be heard (Garrigues, 2017).

3.2.1 Stakeholders of Citizen Engagement

The key stakeholders for citizen engagement can be classified as government based, citizens based, and a combination of both (Figueiredo, Cuccillato, Schade and Guimarães, 2016). Both comprise of stakeholders that take the role of intermediaries, such as, civil society organisations and committees that are occupied by citizens and government officials.

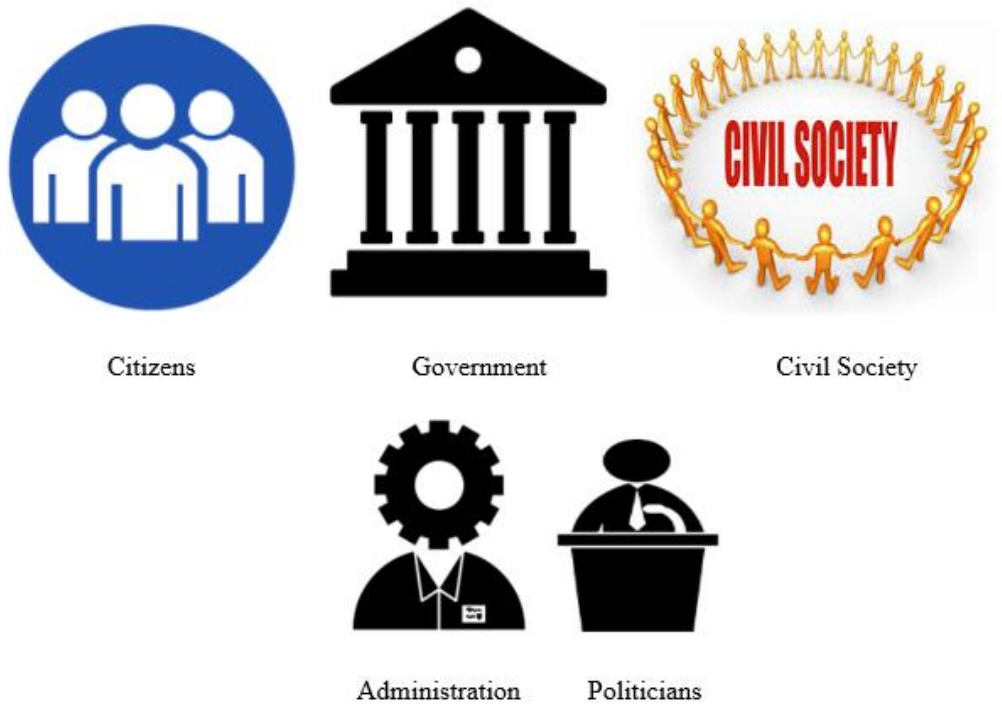

Figure 3.4: Stakeholders of citizen engagement

Stakeholders of citizen engagement need to be equipped in order to play their role in holding the government accountable in service delivery issues (Brown, 2006). Stakeholders refer to people or groups of people that have interest in a subject (Kahane *et al*., 2013). Citizen engagement

stakeholders are illustrated in Figure 3.4 which include citizens, the local government (Administration and politicians) and civil society. These stakeholders can provide an efficient and more efficient way of engaging and may represent an interest (Kahane *et al*., 2013).

There is a need for stakeholder empowerment to capacitate all stakeholders on their roles and how vital they are. Empowerment entails engagement and accountability at the local government level and decision making through the inclusion of the citizens (Dom, 2012). Citizens who are confident in their ability to make a difference and participate in policy will feel empowered to tackle changes at local government level. An empowered citizen will assist in the management of the basic services provided as they will increase engagement in the processes. For instance, water supply management through the formation of a local water user committee can enhance a citizen's status more generally in the community.

The role of civil society has been observed as a quest for creating a liberal and informed citizenry (Paffenholz and Spurk, 2006). This is with the aim to have more impact in their engagement with government (Tsuitsui and Wotipk, 2004). Civil society organisations (CSOs) have developed working relations among themselves, leading to a form of partnerships. Merging and aligning their operations enables the different civic groups to find common ground on which to engage the local government institutions (Tsuitsui and Wotipk, 2004; Paffenholz and Spurk, 2006). Most African countries seek some form of democracy, which civil society and associated organisations can use to create this alternative participatory form of democracy (Kukah, 2002).

3.2.2 Exercising Engagement in South Africa: The Batho Pele principles

Citizens have the right to education, equality, political rights, housing, citizenship, access to information. These rights are related to service provision, including rights to housing, education, voting, privacy equality, freedom and security, and access to information, health care, food water, and social security (Devenish, 1999; Crush, 2001; Kaisara and Pather, 2011). The Municipal Structures Act states that citizens have a right to the decision-making process of the municipality, to be informed of decisions of the council and disclosure of state affairs of the municipality (Municipal Structures Act (No.117 of 1998)). In alignment with the Constitution Bill of Rights, the Batho Pele principles were created to put people first. Through communicating, the government should ensure that they are not working in silos for the same goals but rather the

general safety of the broader community encouraging the public to participate in policy-making (Constitution of the Republic of South Africa, 1996 (Act 108 of 1996) (section 195(1)(e)) (Guan 1997). Government officials follow the "Batho Pele" principles which require public servants to be polite, open and transparent and to deliver good service to the public. This was with the aim of bringing out the importance of each principle. The Batho Pele principles include consultation, service standards, access, courtesy, information, openness and transparency, redress and value for money.

3.3 Citizen Engagement and Social Accountability

Citizen Engagement is an essential tool that assists in facilitating and achieving two main objectives (Pandeya, 2015):

i) accountability of government
ii) empowerment of citizens

Citizen engagement tends to empower citizens by enabling them to have a platform to voice out their opinions. However, emancipation is more than just giving citizens an opinion; it extends to encouraging citizens needs to be put into practice (Sharma, 2008; Fox, 2015). Service delivery is an area where these tools have raised specific attention and have been applied the longest (Gaventa and McGee, 2013). Social accountability has been seen as an enabler of service delivery improvement (Murt, Agarwal and Shah, 2007; Carothers and Brechenmacher, 2014; Grandvoinnet, Aslam and Raha, 2015). Its instruments aim to contribute to improving control, increasing growth and, effectiveness, and encouraging empowerment (Narayan-Parker, 2002). Social accountability enables capable citizens to make the state accountable for the responsiveness to their needs.

Lack of accountability in government institutions is one of the most significant factors of service delivery failure (UNDP, 2016; Hrynick and Waldman, 2017). Collective efforts should be applied to support peoples to access information and transform this knowledge into action. The aim of providing access to information is to make service delivery institutions more accountable and responsive to the community needs, preferences and demands (Batonon, 2015; Hrynick and Waldman, 2017). These efforts can range from activation of people's ability to voice out their opinion and encourage their participation in decision-making, to initiatives aimed at promoting

collective action and public supervision. Social accountability can be viewed as the interaction of five elements to achieve its objectives (Grandvoinnet, Aslam and Raha, 2015). These factors include state action, citizen action, information, citizen-state interface, and civic mobilisation. The relationship between these elements is illustrated in Figure 3.6.

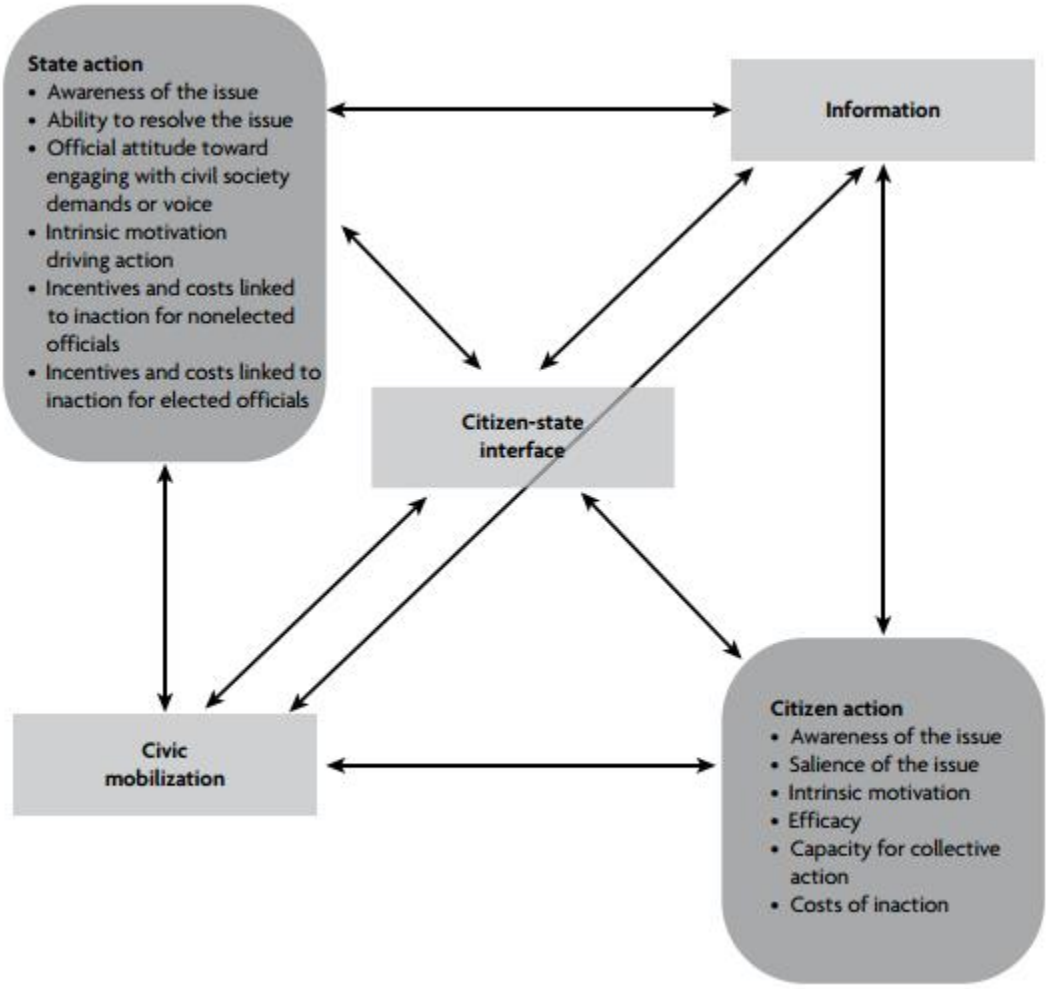

Figure 3.5: Social accountability as the interplay of 5 elements (Grandvoinnet, Aslam and Raha, 2015).

State action encompasses approaches that support accountability and government responsiveness to citizens' requests and demands. The state should be able to determine the effectiveness of citizen engagement, through access to information, and a supporting platform for citizens to communicate. There is a need for *two-way communication* (demonstrated by the bi-directional arrows), as citizens can either supply information or provide feedback to the state and vice versa (Rapporteurs'

Report, 2009; Wang and Lim, 2011; Gigler and Bailur, 2014; Grandvoinnet, Aslam and Raha, 2015).

The primary purpose of *public mobilisations* is to facilitate intermediaries, such as civil society organisations to encourage *citizens into action*, as well as, the state into responding to the action

(Grandvoinnet, Aslam and Raha, 2015). However, involving citizens cannot transform the nature of governments, but only acts as an enabler in the whole process (Gaventa and Gregory Barrett, 2012). There are two forms of accountability:

1. ***Secondary Accountability*** is between citizens and service providers through elected politicians and public officials as the intermediaries. Citizens should use their voices to influence politicians and policymakers who in turn impact organisation managers and service providers through their promise to deliver services. In a local municipality, this can happen when citizens voice out their concerns to their ward councillors and committees to report to the people responsible in the municipality.
2. ***Direct Accountability*** is the most direct route between citizens and service providers through citizens voicing out their concerns as individuals or collectives, directly to service providers (Rusconi, 2006). Therefore, they have direct influence and can participate and supervise service delivery by the service providers (Batonon, 2015). Citizens can complain directly to a department in the municipality about issues they have been facing.

The daily business of government is constructed from *information*, as a resource that helps to ensure the presence of accountability, and the active management of operations. Sources of the data are meetings, documents, acts and most importantly the people that government aims to serve. The information to be collected is centered on ways in which the local government can provide services efficiently and effectively. This requires engagement with various stakeholders that are involved. With information being a vital part of efficient service delivery, it is essential that it is conveyed at a low cost and scaled (Peixeto and Fox, 2016).

Another driver of social accountability is the increase in improvements in decentralisation as it enables the platform for greater civic engagement aimed at managing public affairs (Batonon, 2015). Decentralisation seeks to allow an optimal environment that allows for citizen engagement.

The issue of a lack of accountability is associated with service delivery institutions being centralised, having limited access that has led most developing countries to venture into a more decentralised bureaucracy which includes greater access to the citizens, community participation, and outsourcing other tasks (Bardhan and Mookherjee, 2006). For instance, the irrigation delivery systems in India and Korea were overcentralized which led to problems in corruption (Wade, 1997). Social accountability is evidently valuable, and embedded in the objectives of citizen engagement; however, it is also often faced with challenges. According to Commins (2007), social accountability failures usually occur when:

- citizens are unable to influence public action,
- the connection between policy makers and service providers is not respected, and
- there are difficulties in implementing services, such as poorly trained or absent teachers (Gaventa and Barrett, 2010).

3.4 Benefits of Citizen Engagement

The inclusion of citizens in public affairs brings out various benefits for government. Engagement will increase governance as citizens act as an information input assisting in facilitating new policies and reforms that will support the effectiveness of government (Holmes, 2011). Effective governance focuses on providing adequate services to citizens, and therefore there will be a more efficient allocation of resources (Peixeto, 2013). Citizen engagement increases information flow. Therefore, citizens are educated on the way the government functions and are empowered (Breakfast, Mekoa, Maphazi, 2015). Improved governance will assist the citizen to the government more as they will be more transparent and accountable.

3.4.1 Increasing Good Governance

Citizens are a vital external source of ideas and information to the government as they directly bear the effects of new policies and services. A government cannot effectively address issues and concerns that they are not aware of or do not fully understand (Holmes, 2011). Engaging citizens provide a platform for government to receive valuable information concerning the needs and desires of citizens to public authorities, which assists in initiating and implementing informed decisions (White Paper on Local Government, 1998; Breakfast, Mekoa, Maphazi, 2015). Citizen engagement enhances good governance, as it helps government realise emerging issues earlier,

therefore placing them in a better position to deal with issues in a proactive way (Head, 2011). OECD (2001) states that a healthy relationship with citizens is an investment in better policy making and an essential component of good governance. This will, in turn, improve the quality of policy creation, making it more practical and relevant (Holmes, 2011).

Citizen engagement also enables access to new sources of ideas and information related to policy, in changing the way many government institutions develop new products and services (Head, 2011). Service-oriented organisations can benefit from taking advantage of the participation of citizens (Sharp and Salomon, 2011). In this case, citizens have much more significant input into the creation and distribution of the products and services they receive and consume (Holmes, 2011). Good governance is embedded in trust, resource allocation and citizen empowerment, which are elements that relate to citizen engagement. Citizen engagement will result in more direct and evidence-based distribution of resources (Peixeto, 2013). In this regard, participatory budgeting leads to significant shifts in priorities and policies, towards the government's expenditures that directly benefit the poor in the community (Avritzer 1999, Navarro 2001, Blore, Devas and Staler, 2004).

3.4.2 Education and Empowerment

The mere delivery of information to citizens and civil society cannot be viewed as what participation entails (Breakfast, Mekoa, Maphazi, 2015). The provision of information should be coupled with the education and empowerment of citizens through participation mechanisms (Bekker, 1996). Citizens are often empowered through citizen engagement activities that provide a platform for them to voice their issues and needs (Davies and Simon, 2013). There are two critical forms of empowerment (Obasi and Lekorwe, 2014):

a) Subjective Empowerment – citizens may have the ability to influence decisions
b) Objective Empowerment – citizens feel they will influence decisions

Through the process of engaging, citizens can attain skills, such as problem-solving and creative thinking which can be put to good use in their personal lives and for their community (Houtzager, Lavalle and Acharya, 2003). Education and empowerment are essential benefits that arise from citizen engagement, as an educated community will provide better input that is more valuable.

3.4.3 Building Trust

It has been prominently realised that citizen engagement leads to increased levels of trust in institutions (Brehm and Rahn 1997, Keele 2007, Tampubolon, 2010). Davies and Simon (2013) stated that citizen participation increases fairness and strengthens civic capacity. Altschuller and Corrales (2009) agree with Keele (2007) as they conclude that one of the most substantial effects of participatory processes is precisely that of increased trust in institutions. It has been researched that citizens are willing to pay taxes when their preferences are correctly being considered by the government (Torgler and Schneider, 2009). Research also suggests that there is a relationship between citizen participation processes and levels of tax compliance (Frey *et al.*, 2004). This effect is particularly reliable when it comes to direct citizen participation in decision making (Frey and Feld, 2002; Frey *et al.*, 2004; Torgler 2005; Obasi and Lekorwe, 2014).

3.4.4 Social Capital and Cohesion

The act of citizens coming together and participating in engagement activities bring citizens closer together, strengthens and increases their social networks, encourages shared values and therefore enables more collective or community action (Davies and Simon, 2013). One of the ideologies from public participation is that it contributes to social cohesion, which is a core attribute of a well-functioning community, essential for building trust and respect, reducing crime and creating a sense of belonging (Putnam, 2001).

There tends to be a misunderstanding or narrow understanding towards what social cohesion entails (OECD 2011). It is a broad concept that covers several components, such as, sense of belonging, social exclusion, citizen engagement and trust among the society which unifies it (Janmaat 2011; Cloete, 2014). It could be deduced that social cohesion unites a community. Social capital encompasses trust, norms and reciprocity that exists between individuals and groups. The social capital formation is a very fragile process as it could easily be destroyed, but could take years to build (Cloete, 2014). The difference between social capital and social cohesion as pointed out by the OECD (2011), is that social capital refers to a group of individuals, while social cohesion includes the entire society. This concurs with the definitions that have been stated. It can be concluded that social cohesion is only possible where social capital is present from the distinctions that have been made above (Cloete, 2014). Social cohesion could be viewed as the positive

outcome of social capital formation for a community that in return could lead to more social capital formation.

It has been seen that both social cohesion and social capital lead to active citizenship, as they aim to empower and unify the community. Active citizenship needs to be understood as a vital component of citizen engagement (Einfeld and Collins, 2008). It involves citizens engaging with government and citizens engaging with themselves (Matola, 2015). Hence it encompasses both citizen engagement and citizen participation. Active citizenship has, therefore, received support from people of very diverse backgrounds, each group having a different understanding of the idea based on various criteria. It has become the vision of what a good society should be as it encompasses values, such as, empowering citizens to be able to make decisions and contribute to the community (Blunket and Taylor, 2007). This extends to citizens being able to shape policies at local government level. However, it is not the simple act of participation itself that will lead to social cohesion but the way these activities are practised. Lin, 2008, Sha and Gil de Zuniga (2008) discuss social capital as enabling participants to collaborate more effectively, as well as, practicing the shared goals that they have in their communities (Gil de Zuniga, Jung and Valenzuela, 2012).

3.5 Limitations and Challenges of Citizen Engagement

When it comes to addressing complex social or technical questions, the value of citizen engagement is questioned (Houtzager, Gurza Lavalle and Acharya, 2003). One of the limitations of citizen engagement is that it may take over the sensitive policy process or result in expectations that are not reasonable. Citizen engagement might also lead to a loss of decision making control for the government as they may dispute some of the ideas or may also result in bad decisions that are impossible to ignore (Haruta and Radu, 2010). The most common reason why there is a level of reluctance to involve citizens is that it is time-consuming. The government has tight timelines on budgets that might not be met if they engage with citizens in reaching decisions takes longer

(Irvin and Stansbury, 2004). Citizen engagement will increase the level of public scrutiny, bad publicity in the media, and distrust in the government when something goes wrong. (Callahan, 2002).

Another challenge associated with citizen engagement is lack of awareness by citizens in knowing

their rights and of the government in acknowledging its stakeholders. This is important as it leads to difficulty in accessing information, and a lack of urgency and power to effect change by the public (Rau, Lonsdale, Ali and Ciftcioglu, 2012). There is a need for an in-depth analysis of the existing environment to be able to realise the root of current issues and be able to plan accordingly. The local government also does not seem to recognise its stakeholders and the role they play (Rau, Lonsdale, Ali and Ciftcioglu, 2012). Following the challenges/limitations mentioned above, some institutions would question if citizens engagement will do more good than harm. This depends on the context, in this case, the citizens and government. Citizens should be willing to engage in policy-making rightfully, and the government should be prepared to react and respond to the community's suggestions. The government should also have the capacity to provide citizens with more significant information on public issues and enhance their ability for listening and engaging (Callahan, 2002). Therefore, this brings up the core part of citizen engagement which is two-way communication. The citizens should be willing to hold their leaders accountable and demand a higher degree of responsiveness from them. (Hummel, 1994; Alkadry, 2003).

3.6 Stages of Citizen Engagement and Participation

A large variety of tools and models have been used to guide citizen engagement as it has evolved over the years (OECD, 2001; OECD, 2002; Mackinnon, 2004). The most prominent model of citizen engagement is the ladder of participation that is divided into three stages as shown in Figure 3.7 (OECD, 2001; Curtain, 2003).

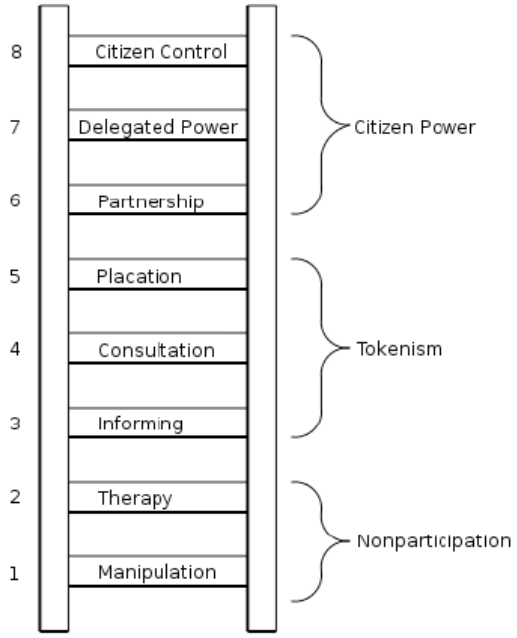

Figure 3.6: Stages of Citizen Engagement ladder (Arnstein, 1969).

The first model was derived by Sherry Arnstein (1969), which is described as a 'ladder of participation', with eight levels of citizen participation. The first level of the three-stage model of citizen engagement consists of simply informing. This is a *non-participatory* stage, which involves an attempt to educate participants (Showell, 2011). The author states that it is a one-way relationship in which government produces and delivers information for use by citizens (Obasi, and Lekorwe, 2014). The main objective of this is to simply educate citizens of their concerns through forums and workshops (Weeks, 2000). This shows the importance of having educated citizens. Information provision should be a priority of the government and should be regarded as part of the principles of accountability (Vision 2016, 1997)

The second stage of the model is called *Tokenism*, and this encompasses informing and consultation (Arnstein, 1969; Showell, 2011). According to the OECD (2001), who shares a similar view of what the second stage involves, consultation helps establish a two-way relationship in which citizens provide feedback on issues defined by the government. While the goal is for these power holders to inform citizens, and get their input on policies and issues, these actions will ultimately not affect the outcome of the government's decision-making or planning process (Showell, 2011; Obasi, and Lekorwe, 2014). Under this stage, the citizens communicate via

traditional means and these include public meetings, question and answer sessions, consulting documents, and forums (Obasi and Lekorwe, 2014).

The third and higher-level stage is *Citizen Power*, which involves establishing a relationship in which citizens actively suggest policy options and shape the policy communication (Weeks, 2000). However, the government retains the responsibility for policy development and making final decisions. Emerging from these stages are four broad categories or forms of citizen participation (Weeks, 2000; Curtain, 2003). These first two phases show increasing levels of citizen power; this is about citizens having more influence over the policy-making process (Weeks, 2000). Under the first category are the more traditional forms of consultation such as public meeting, consultation documents, and question and answer session. This is where citizen feedback is crucial and stakeholder consultative forums become a regular part of the policy process, especially among the public enterprises preparing for full commercialisation (Power, 2010).

Abelson *et al*. (2003) identified a need for approaches that strengthen two-way interaction between government and citizens, and noted that democracy involves a collective problem-solving discussion. Arnstein's idea of citizen participation has been criticised as being simple (Weeks, 2000). Despite these concerns, Arnstein's ladder remains a useful tool with which to measure the impact of citizen involvement in matters of public policy (Showell, 2011). With the emergence of Innovative Participative Methods that create platforms to interact, the use of Internet facilities is multiplying due to government's substantial investment in (ICT).

Figure 3.8 shows the five levels of community engagement and what the promise to the public is. The public participation spectrum supports and helps explain the role of the community in development and decision-making (IAP2, 2006). The spectrum outlines five stages of public participation, namely inform, consult, involve, collaborate and empower. It helps to make clear the role that the community has in the decision-making process. It also assists and shows how much effect the citizens have in development.

INCREASING LEVEL OF PUBLIC IMPACT				
INFORM	**CONSULT**	**INVOLVE**	**COLLABORATE**	**EMPOWER**
Public Participation Goal:	**Public Participation Goal:**	**Public Participation Goal:**	**Public Participation Goal:**	**Public Participation Goal:**
To provide the public with balanced and objective information to assist them in understanding the problems, alternatives and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision, including the development of alternatives and the identification of the preferred solution.	To place final decision-making in the hands of the public.
Promise to the Public:	**Promise to the Public:**	**Promise to the Public:**	**Promise to the Public:**	**Promise to the Public:**
We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for direct advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.

Figure 3.7: Public Participation Spectrum (IAP2, 2006).

3.7 Innovation as a Game Changer in Citizen Engagement

The demand for open government is increasing and has led to the need for more critical ways to facilitate communication between citizens and government with the focus being tackling the issues using methods and tools that will result in improved citizen engagement (Lee, Seiderer and Bteddini, 2014). Innovation is a word that is now primarily used as technology keeps evolving and moving at a fast pace. Innovation assists in the transformation of government practices in providing information and services that in turn impacts policy decision making based on citizen inputs (Loukis, Charalabidis and Androutsopoulou, 2014). They can lead to the formation of new models in citizen engagement that facilitate the sharing of information (Chun and Luna Reyes, 2012). It is important not to just look at innovation at local government level, but rather responsible innovation. Responsible Research Innovation (RRI) is described as (Stilgoe, Owen and Macnaghten, 2013:1570):

"*A transparent interactive process by which societal actors and innovators become*

> *mutually responsive to each other to the (ethical) acceptability, sustainability and societal desirability of the innovation process and its marketable products (to allow a proper embedding of scientific and technological advances in our society".*

Responsible innovation focusses on making the future a better place through using innovation in the present (Bartlett, Milne, and Croucher, 2018). Responsible innovation approaches extend to focus on governance and consists of four dimensions of responsible innovation: these are reflexivity, inclusion, responsiveness and anticipation (Stilgoe *et al.*, 2013). These four factors are important to ensure effective citizen engagement in local municipalities. Anticipation prompts the stakeholders to ask 'What If' questions so that they can be better prepared for any changes that may occur (Stirling, 2006; Stilgoe, Owen and Macnaghten, 2013). Reflexivity focuses on local government acknowledging their limits which assist in knowing its limitations and in finding mechanisms to improve them (Stilgoe, Owen and Macnaghten, 2013). Inclusion focuses on not just the stakeholders of engagement, but rather the public at large by including Civil society and other groups in the community (Wilsdon and Willis, 2004; Stirling, 2006). Responsiveness is a key dimension that applies to resource-constrained local government as it is a prominent challenge getting feedback from the government. It focuses on the capacity to change and providing feedback to emerging knowledge, views, and norms (Stilgoe, Owen and Macnaghten, 2013; Boenink, Van Lente. and Moors, 2016).

3.8 Conclusion

The empowerment of rights and education is vital to citizens. The Batho Pele Principles were established for any government service provider to follow, as a guide to put the people first. Citizen engagement is an important initiative that enables better policy making, increased accountability and transparency. The distinction between citizen engagement and citizen participation is discussed, of which the research study will focuses on citizen engagement. Citizen engagement is initiated by government while citizen participation is initiated by the citizens. The benefits of citizen engagement include building trust, empowering citizens, efficient and timeous response to request. Among the limitations the most prevalent challenges were that it is viewed by the government as an initiative that creates more work. To eradicate this challenge citizen engagement is supported by information and communication technologies that enhance and facilitate

communication between government and its citizens. There is also need for alignment and change management techniques to guide the implementation of such tools in the local government context. The chapter that follows discusses the role technology can play in improving citizen engagement and the need for alignment of citizen engagement initiatives and communication processes.

Chapter 4: Alignment of Digital Citizen Engagement in Resource-Constrained Contexts

This chapter elaborates on how ICTs may be used to enhance citizen engagement to facilitate communication between government and citizens. The chapter discusses the benefits and challenges that may be encountered by employing ICTs in citizen engagement. The chapter concludes by identifying the need for alignment and the importance of a framework to guide the alignment process.

4.1 Introduction

The previous chapter established that innovation presents opportunities to transform citizen engagement and service delivery. Innovation in government relates to finding new ways to impact citizen lives and empowering them to guarantee a better future (OECD, 2017). It involves incapacitating old structures and processes to adopting new technologies and mechanisms (OECD, 2017). There is pressure for local government to be more transparent and accountable for the services they provide. Therefore, there is a build-up on e-government to create more focused ways of enhancing communication between the government and the citizens. Most DCE initiatives do not take into account the contextual factors during implementation. To realise the full potential of citizen engagement initiatives, there is a need for alignment between existing processes within the municipality and the strategy of initiatives for citizen engagement. Contextualised theory and policy on change management play a fundamental role in guiding the successful implementation and adoption of these initiatives.

This chapter will focus on defining Digital Citizen Engagement (DCE) as a platform to enhance communication between government and its citizens for effective service delivery. The Chapter will outline benefits brought about by initiatives including citizen empowerment, transparency and accountability of the government, as well as, real-time access to information. However, the implementation of technology initiatives might fail due to limitations from the government. These limitations include lack of financial and infrastructural capacity or from the citizens. The conclusion summarises the findings and concludes that there is need to align organisation processes with innovative ICTs for them to be sustainable, and the change should be managed efficiently.

4.2 Innovative ICTS in Citizen Engagement

Drent and Meelissen (2008) defined innovative ICT as an essential tool that is used to support and reach objectives that are vital to the development of knowledge in a society. The term is mainly referenced in the education sector as they focus on using ICTs to support learning practices. Underwood (2006) provides further evidence that teachers use innovative ICT to support existing pedagogies: "New technologies that provide a good fit with existing practices." However, according to Drent and Meelissen, (2008) the use of ICTs can be classified as innovative if it meets

the following criteria:

1. The ICT tool results in knowledge and,
2. There is variation in its use in the context. The tool can be used to achieve multiple tasks.

Following the above criteria, innovative ICTs can be applied in citizen engagement as they provide knowledge to the citizens and the government and provide ways in which people can communicate, store information, promote accountability and increase the quality of policy decisions. Hence innovative ICTs in this research is not targeted at specific ICTs, but rather the way that they are used in citizen engagement (Drent and Meelissen, 2008). As discussed extensively in literature the uses and benefits of innovative ICTs such as social media, support and help enhance essential government functions by creating opportunities such as (Loukis, Charalabidis and Androutsopoulou, 2014):

- increasing citizen engagement,
- platforms for voices to be heard in policy decision making,
- promoting transparency and accountability
- assisting in eradicating corruption and
- encouraging an open government.

ICTs are stated to be enablers of change development as they improve and emphasise their role as game changers of innovation (Kroes, 2010; Schaffers *et al*., 2011). Innovative ICTs have led to the creation of new ideas to eradicate challenges that have arisen from e-government implementation (Ohja, 2017). These innovative ICTs have helped local government in improving efficiency and transparency. In turn, this helps in reducing the costs of public service and improving the quality they provide (Ohja, 2017). At a local level, the use of mobile technology has been used to increase citizen engagement (Zamboni, 2007).

4.3 Digital Citizen Engagement a Game Changer for Development

As Information Communication Technologies (ICTs) have rapidly developed, the public sector has sought to integrate these technologies in various areas of their work. In addition to digital

service delivery, ICTs have afforded citizens more direct means of participating in decision-making processes (Holzer, 2004). Governments are continuously developing more explicit ways to transform their practices to provide citizens with access to efficient and effective services (Aldrich *et al*., 2002; Pilay 2012; Munyoka and Manzira, 2013). ICT usage has been a critical area of focus in improving public service delivery at local government level (Mensah, 2017). This has led to the development of e-government initiatives with the aim of enhancing service delivery and increasing engagement (Mensah, 2016). The integration of these technologies can help achieve the following: better delivery of government services to citizens, improved communications with business and industry, citizen empowerment through access to information, and more efficient government management (Ruhodei, Owei and Maumbe, 2008; Elbahnasawy, 2014).

In particular, South Africa has emphasised the importance of using ICTs to transform the ways they work through the Center of Public Service Innovation (CPSI). This is due to the lack of access to physical information by the majority of South African citizens; in particular, those that are in marginalised areas (Twinomurinzi & Phahlamohlaka, 2005; Grut, Mji, Braathen, and Ingstad, 2012; Hearn *et al*., 2014). The Government Technical Advisory Centre (GTAC) has also emphasised the importance of adopting ICTs through the National Treasury by embarking on open data projects, like the new municipal money portal (Municipal money, 2016). There is a need for more sustainable solutions that increase public value to citizens through communication, coupled with government responsiveness at local level. Therefore, it is possible and imperative for local government to take advantage of emerging tools for Digital Citizen Engagement in the economy, such as information and communication technologies (ICTs). According to Peixoto and Fox (2016: 16) Digital Citizen Engagement (DCE) refers to;

> "*The use of new media/digital information and communication technologies to create or enhance the communication channels which facilitate the interaction between citizens and governments or the private sector."*

Digital Citizen Engagement relates to e-government and civic technology, which are technologies that aim to improve transparency and accountability at local government level (Kelbert *et al*., 2013) However DCE has a more focused view based on its purpose (McGee and Carlitz, 2013). It focuses on non-technical scopes of citizen participation and assumes a critical view of technology and

delivery (Peixoto and Fox, 2016). Like e-government, DCE supports the improvement of service delivery and information sharing, as citizens participate in making decisions through ICT use (United States' e-government Strategy, 2003; Telecommunication Union, 2008).

In the interests of transparency and accountability, governments also need to develop ICT tools for the analysis of public input, and provision of *feedback* to citizens (Gigler and Bailur, 2014). Feedback is the response one gets after sending a message. The feedback loop often remains broken, as most governments do not provide feedback to citizens, especially in resource-constrained contexts (Gigler and Bailur, 2014). The process of feedback entails sharing of information, taking action, and communicating back which are significant components of effective communication (Betters-Reed, Nitkin and Sampson, 2008; Custer and zum Felde 2012). From this view, citizen feedback is not the end goal; instead it is instrumental in improving the results of development interventions (Gigler *et al.*, 2014).

Technology enables stakeholders to provide feedback, as well as, to view, monitor, analyse and *act on the feedback* and inputs provided (Betters-Reed, Nitkin and Sampson, 2008). Streamlining the implementation of (ICTs) tools should also improve the collection and results of feedback, and facilitate reporting project implementation (Gigler and Bailur, 2014). Unfortunately, with the large amount of investment that have been spent in the implementation of e-government, the efforts have not yielded the expected benefits to all stakeholders involved (Backus, 2001; Heeks, 2006; Nkohkwo and Islam 2013; Peixoto and Fox, 2016). The underwhelming results of these initiatives have been due to a lack of strategy, and continuous evaluation and alignment (Backus, 2001; Aldrich *et al*., 2002; Heeks, 2006; Trkman, 2010; McGee and Carlitz, 2013 and Peixoto and Fox, 2016).

4.3.1 Opportunities of Digital Citizen Engagement

Increased use of technology brings both opportunities and challenges to the citizen engagement process, including opportunities for collecting, analysing and evaluating data about these methods (Pixeto and Fox, 2016). ICTs create a more transparent, collaborative and participatory government. These are with the aim to enhance decision making and increased the quality of public services to mention a few (Gigler *et al*., 2014; Rivoir and Landinelli, 2017). The relationship between these components is illustrated in Figure 4.1.

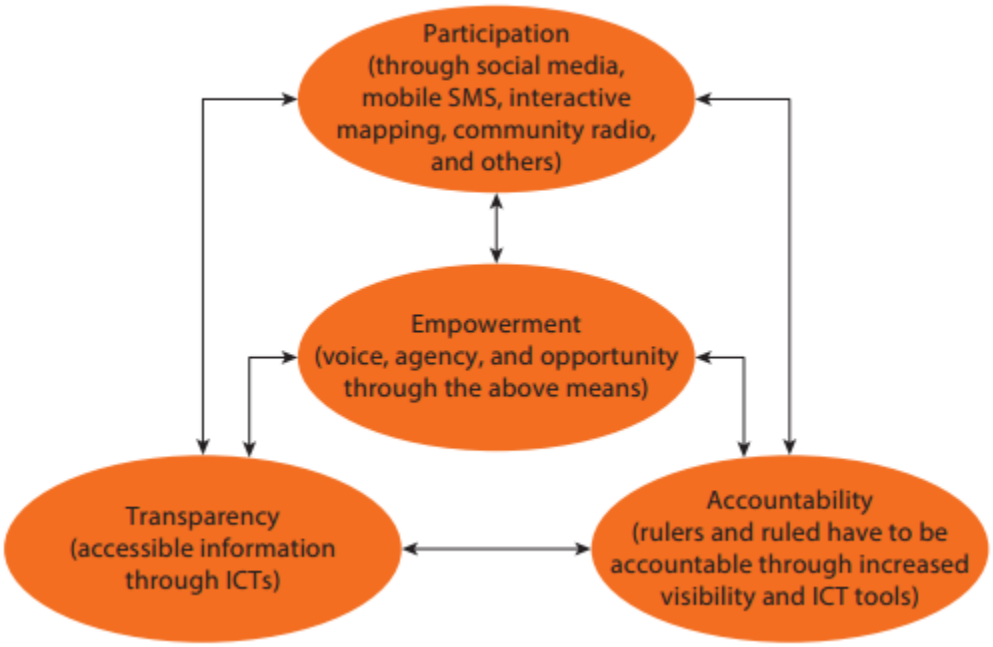

Figure 4.1: Impact of ICTs on Empowerment, Participation, transparency and Accountability (Gigler, Bailur, and Anand, 2014).

Such initiatives create direct communication links between stakeholders by providing a platform that removes intermediaries, such as, ward councillors or government officials. Therefore, Digital Citizen Engagement initiatives will have a higher reach for marginalised citizens as it makes use of tools that can remove the distance factor. ICTs can also increase the *speed of information* transfer internally and externally, thereby assisting in eradicating the current problems being faced by most governments, which is effective timeous communication with citizens (Nielsen and Randall, 2012).

Combining the model in *Figure 4.1* with the Public Participation Spectrum (IAP2), Gigler *et al*., (2014) developed a new lens facilitated by ICTs along four dimensions. Figure 4.2 illustrates the four aspects namely information, participation, collaboration, and empowerment (Gramberger 2001; Reuben, 2004; Gigler *et al*., 2014).

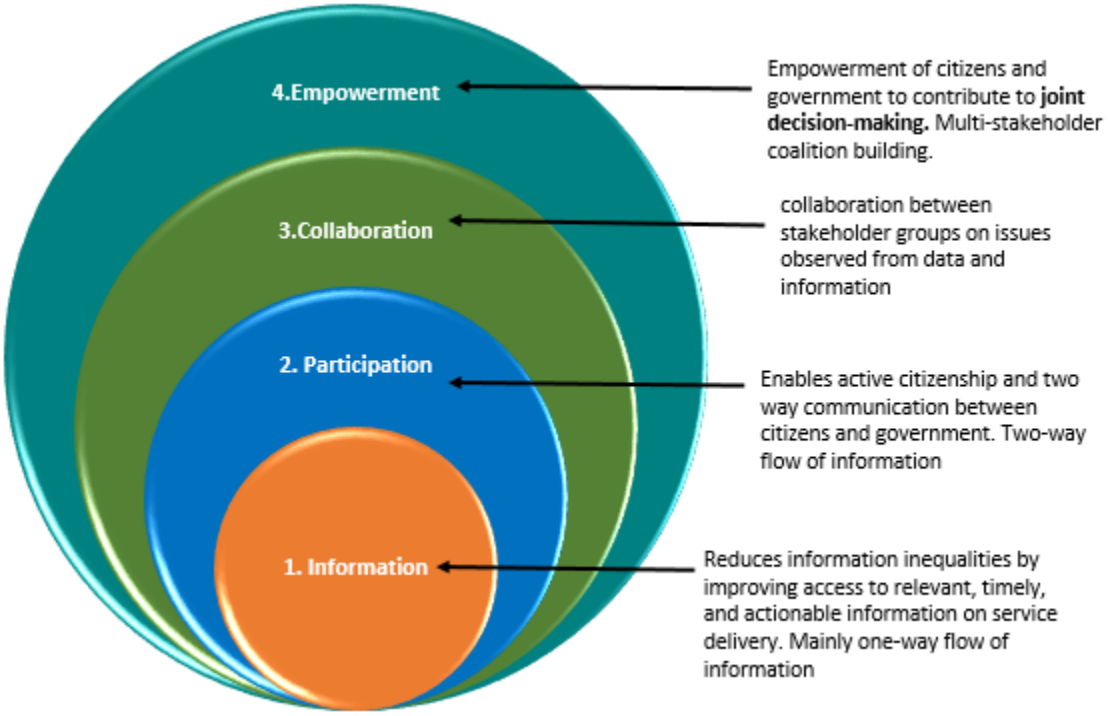

Figure 4.2: Dimensions of citizen engagement; embedded ICTS (Gigler, Bailur, and Anand, 2014).

a) Information Access

The active involvement of citizens by government rests on their recognition of *access to information* as a necessary precondition for engagement (Bertot, Jaeger and Grimes, 2010). ICTs can enhance citizen engagement by ensuring greater accessibility of information (Peixoto and Fox, 2016). Technology creates a platform that allows policymakers and programme managers to identify and address service delivery problems (Peixoto and Fox, 2016). Information access is however, usually limited to one-way communication from government to citizens. Many local governments are experimenting with ICT platforms, with the aim of encouraging citizens to voice out their opinions, and to improve public service delivery (Peixoto and Fox, 2016).

b) Participation

ICTs can increase the scope of government communication within its policy decision-making (Wittemyer *et al*., 2014). The presence of active citizenship and two-way communication enables creates a platform for participation which allows citizens to *participate* by reporting on service

delivery issues and provides local government the ability to provide feedback. These tools encourage participation by motivating citizens to communicate and the local government in responding publicly (Cobo, 2012).

c) Empowerment

The government can benefit from citizen engagement initiatives to improve accountability by using ICT tools to integrate citizen's data in government-led portals (Digital Initiatives, 2017). These assumptions stem from the following conditions that (Heeks, 2002):

- ➢ the information being provided can be assessed and understood by the target audience,
- ➢ the information can be used to transform and be acted upon,
- ➢ information is available and transparent to the citizens,
- ➢ the information can be used to facilitate interactions between the government and its citizens, as well as, between citizens themselves.

These conditions need to be met for ICTs to enable *empowerment* of any kind. This empowerment can assist in facilitating willingness to engage and is supported by transparency and accountability (Gigler, Bailur, and Anand, 2014). ICTs will encourage openness from government, and it will assist in lowering communication costs as it removes the distance factor (Gigler and Bailur, 2014; Spada, Mellon, Peixoto and Sjoberg, 2015). ICT enabled citizen engagement initiatives to assist in bringing about empowerment to the community (Gigler, Bailur, and Anand, 2014). They will also assist in gathering real-time information, *empower government* decision making before problems are outdated, for example, the use of Facebook to facilitate direct messages which support in collecting real-time information (Spada, Mellon, Peixoto and Sjoberg 2015).

Since communication technology *speeds the transfer* of information, employees in an organization can quickly consult each other and analyse information in the shortest period. The rapid growth of ICTs increases the chance of controlling the increased connectivity to boost citizen voices in the development process and enhance ownership and accountability (Chambers, 2010; Gigler, 2004; Gigler and Bailur, 2014; Ramon, 2013).

d) Collaboration

In order to realise the outcomes of social accountability and government responsiveness. Stronger

dimensions of collaborations need to be reinforced. There is a need for DCE projects to build the capacities of citizens by collaborating with civil society organisations to practice active citizenship and support platforms where stakeholders can progressively discuss service delivery issues. DCE encourages collaboration as it makes available *data for local government budgeting and planning* to all the stakeholders. This encourages entails joint-decision making and multi-stakeholder engagement on service delivery issues. Data can be used to set local priorities, create better chances to access scarce resources, as well as, facilitate the movement of data between local and national government (Rivoir and Landinelli, 2017; Digital Initiatives, 2017).

4.3.2 Challenges of Digital Citizen Engagement

Technology does not bring about change in itself it is only an enabler. The use of ICTs poses a challenge to the implementer, as they need to take note of the various stakeholders and barriers that are present. One of the limitations faced by local government in implementing such initiatives is inadequate involvement of citizens in requirements specification (Domadoran and Olphert, 2007). There are no existing links between the feedback mechanisms from citizens and government (Digital initiatives, 2017). Therefore, this defeats the whole purpose when both parties do not use the tools available to close the gap in providing feedback. In this case, if a local government institution does not provide feedback when they have been supplied with ways, the system will be redundant.

a) Capacity

Toyama (2011) states three mechanisms that focus on technology as an amplifier; namely differential access, differential capacity and differential motivation. Introduction of technology can lead to creating more inequalities between groups in local government, depending on who has access, the capability to use it for its intended purpose efficiently, and the motivation for use (Toyama, 2011). Extensive efforts are needed to increase awareness and *capacity* of government (Misuraca, Alfano and Viscusi, 2011). Commonly, when the capacity to build these mechanisms internally is insufficient, governments are outsourcing civic technology from communities to provide the necessary tools and expertise (Simon, Bass and Boelman, 2017). In Uganda, it has been noted that formal citizen participation mechanisms, such as in the planning process, are limited in practice by capacity and may be ritualised, rather than providing for adequate uptake of

citizen views (Digital initiatives, 2017).

b) Lack of Scalability

Lack of scalability of DCE initiatives has led to lack of sustainability of the projects. Initiatives are failing to sustain themselves and capacitate, due to lack of funding which requires scalability plans (Lofstedt, 2012). Most sponsors need project scalability plans before the project takes off, which might lead to the project increasing scope beyond what the initiative can handle to receive more funding. Most funding opportunities do not provide funding for the needed duration of a project, resulting in the need for constant applications and uncertainties. This is most prevalent in marginalised areas in developing countries as they do not have funding internally to support them (Lofstedt, 2012).

South Africa, like most developing countries, allocates little funding towards ICTs in e-government projects (Ochara-Muganda and Van Belle, 2010). The most important aspect of digital citizen engagement is its aim to facilitate communication between government and its citizens for better service delivery (Fang, 2002). E-government has made significant progress in enhancing service delivery, but most developing countries still face several challenges (Visser and Twinomurinzi, 2009). Each country and each context has its issues, however, there are similarities in cultural, political, and social aspects.

c) Organisational Culture

Some barriers are more closely related to cultural resistance in policy-making and constitutional factors shaping the traditional policy process. It has been argued that culture and past experiences of government institutions have an impact on the implementation of e-government (Alsaeed, Adams and Boakes, 2014). There is lack of responsiveness in local government institution which has a negative impact on implementation as there is still need for human interaction. The culture of an organisation can impact the ability to change and improve processes (Alsaeed, Adams and Boakes, 2014). If the culture does not accommodate any changes, then any change process will also fail. Other challenges that impact government include leadership, vision, commitment and transparency. Unwillingness to be transparent and accountable in operations has led to the failure of technology initiatives as they focus on enhancing those aspects.

It is difficult for government to take a comprehensive view of the policy-making life cycle and include digital citizen engagement. This is due to a lack of consistency of the initiatives in different contexts (Misuraca, Alfano and Viscusi, 2011). There is an increasing need to establish whether such electronic engagement meets all its stakeholders' objectives (Olphert and Damodaran, 2007; Misuraca, Alfano, and Viscusi, 2011). For instance, in Karnataka, a study showed that it was the establishment of village health committees that led to an improvement in primary health care accountability, rather than digital technologies (Madon and Krishna, 2017). The relationship between transparency and accountability is far from clear (Fox, 2007; Gaventa and McGee, 2013; Peixoto, 2013). Decision-makers' lack of information about problems is not the only cause of low-quality service provision. The relationship between ICT-enabled voice platforms and the transparency/accountability question is complicated by the fact that, in practice, a significant subset of those platforms does not publicly disclose the user feedback (Misuraca, 2012).

d) Lack of Commitment

Lack of commitment is another challenge faced by government due to resistance from staff (Olphert and Damodaran, 2007). This might be due to the government being unaware and uneducated on the use of the ICTs and their benefits (Misuraca, 2012). They may also perceive that it will require them to work more to migrate and adopt the ICTs as it requires additional resource requirements, increased level of public scrutiny, negative media coverage, and increased level of apathy or distrust of government (Callahan, 2002). Therefore, technology is only an enabler of citizen engagement; contextual constraints need to be analysed as they result in limited access to ICTs. While new ICTs offer significant opportunities for greater citizen engagement in policy-making, they also raise a host of further questions for government (OECD, 2003). For example, in South Africa, participants from more affluent parts of town asked pertinent questions relating to issues that inform the Integrated Development Plan (IDP), while people from disadvantaged communities focused on matters of social responsibility, such as health, housing, roads, infrastructural development and electricity (Mac Kay, 2004).

e) Lack of Access

The majority of South Africa does not have physical access to services, this is mainly prevalent in mainly rural areas where people have to travel a day or two's journey to access a particular service

(Twinomurinzi and Phahlamohlaka, 2005). Toyama references this as differential access which speaks directly to the digital divide where the poor cannot afford to acquire, maintain or upgrade technology (Toyama, 2011). Citizens, in this case, are the most vulnerable and have the most significant need, however, in general, the all areas are lacking adequate resources in marginalising areas. The high perceived cost associated with adoption and implementation from the local government is a barrier. Toyama (2011) discusses another aspect, differential motivation, which focuses on what encourages people to use the technology. In marginalised areas, it was established that citizens learn more to use ICTs for entertainment than to improve their education (Toyama, 2011).

f) Lack of Implementation Strategies

One of the challenges in implementing technology initiatives are faced from the implementers side as they focus on the technology aspect and do not sufficiently take into consideration the context (Dean *et al*., 1997; Ojo and Twinomurinzi, 2010). It is important to note the current processes and culture of an organisation in order to implement an appropriate system. Most local governments are situated in marginalised communities and do not have the capacity to provide the relevant services (Alsaeed, Adams and Boakes, 2014). This can be eliminated by executing assessments prior to the implementation to try and avoid what is called the design-reality gap (Misuraca, 2009). Also, local government officials are skeptical about what it means to introduce technology in their work processes, therefore making the adoption process difficult.

g) Lack of Adequate Infrastructure

Infrastructure challenges encompass having an internet connection, ICT infrastructure, availability of computers, power supply for the local government offices, and reliable data storage and privacy policies (Alsmadi, 2011). This is one of the common challenges as most local government institutions in resource-constrained environments do not have the resources to facilitate the provision of services (Alsaeed, Adams and Boakes, 2014). This affects the sharing of information by government and the ability to create new channels of communications. Lack of internet connectivity will affect the implementation and adoption of e-government, as it constraints the communication reach of information, and the ability to communicate.

h) Inadequate Human Capacity

The ability to employ staff that can efficiently facilitate and engage in the service delivery processes is a critical component of project success. Most researchers have concluded that most employees in local government have low ICT literacy rates and do not have the skills to accommodate the implementation effectively (Khan *et al*., 2010). In this study, Khan *et al*. (2010) suggest that the citizen should be aware of the lack of capacity within the government, to accept initiatives and to help overcome this barrier (Alsaeed, Adams and Boakes, 2014). Citizen engagement is a vital part of every stage of implementation. Citizens and employees need to be capacitated for government implementation to be effective. Table 4.2 illustrates a summary of Contextual Constraints on ICTs.

Table 4.1: Contextual Constraints on ICTs (Gigler, Bailur, and Anand, 2014).

Type of constraint	*Indicator*
Socioeconomic and political	
Willingness	Does the government have the political will to implement reform?
Fairness	Do citizens have the opportunity to participate in government decision-making processes in a fair and representative manner (participatory budgeting)?
Trustworthiness	What is the level of trust between citizens and government?
Inventiveness	What are the incentives for citizens to engage?
Fitness	Do citizens have a minimal level of digital literacy and informational capabilities to participate in decision-making processes in a meaningful way?
Legislativeness	Does an enabling legal framework exist at the country level (access to information law)?
Technical	
Readiness	Does a certain level of e-readiness exist at the country level (diffusion and use of ICTs)?
Appropriateness	Are the technologies appropriate for the local socioeconomic context (use of traditional media)?
Steadiness	Are the ICT programs financially and socially sustainable in the long term (community ownership)?

These constraints, as well as, previous literature look mainly at the citizens' side and less of the government. For such an initiative to be successful, there is a need to consider both stakeholders as they all play an important role in the planning stage (Showell, 2011). A key point to note is involvement of all stakeholders in every level of the process as shown by Arnstein stages of citizen engagement in Figure 3.7 (Obasi, and Lekorwe, 2014). The lack of official recognition for data that has been collected from citizens is a challenge that has been noted by various studies and is

associated with stakeholder concerns over collected data (Digital initiatives, 2017). With the challenges that have been stated in this, the governments have been trying to find innovative ways to reduce the barriers internally and externally in the implementation of ICT enabled initiatives that are focused on improving citizen engagement (Misuraca, 2009). In particular, challenges that are associated with the adoption and implementation of the digital citizen engagement, as well as, government responsiveness. Part of the solution that has been brought about relates to the alignment of ICTs with processes that are important for enabling effective change and adoption of such initiatives (Misuraca, 2009).

4.4 The Need for Alignment

Different businesses have different reasons to change (Tôrres, Grangeiro, and Fragoso, 2015). The main reason for local government to change is in its focus, to improve the way they provide a service to citizens. The use of innovative ICTs by local government has brought changes in the traditional processes of governments and transformed the way in which they operate (Mensah, 2017). The key to a successful adoption and implementation of these innovative ICTs comes with the alignment of processes, departments and employees, with the strategic business plan. This is referred to as organisational adhesion, which implies sticking all the parts of the organization like glue (Mensah, 2016). The previous literature states that success of ICT projects and alignment are dependent upon each other. Business competitiveness relies mainly on how its strategy is aligned to ICTs goals (Porter, 1987, Galliers, 1991 and Ciborra, 1997). Alignment refers to;

> *"the degree of congruence or consistency within an agency's culture: how well the various systems, structures, messages (both spoken and unspoken) and styles support and reinforce each other on an everyday basis."*

Alignment provides a platform for businesses to benefit from the opportunities that arise. This can be enjoyed if government institutions in South Africa abide by the people's first Batho Pele principle (consultation) as they will be supported by the underlying business processes. (Visser and Twinomurinzi, 2009). An organization will efficiently distribute its resources if the methods and projects are aligned with its objectives and goals. It assists in maintaining strategic goals, which in turn leads to better decision making (Gagnon *et al*., 2008). Engagement is often linked

with alignment as it is a term that encompasses various concepts, including the link of goals and objectives (Hockey and Ley, 2010).

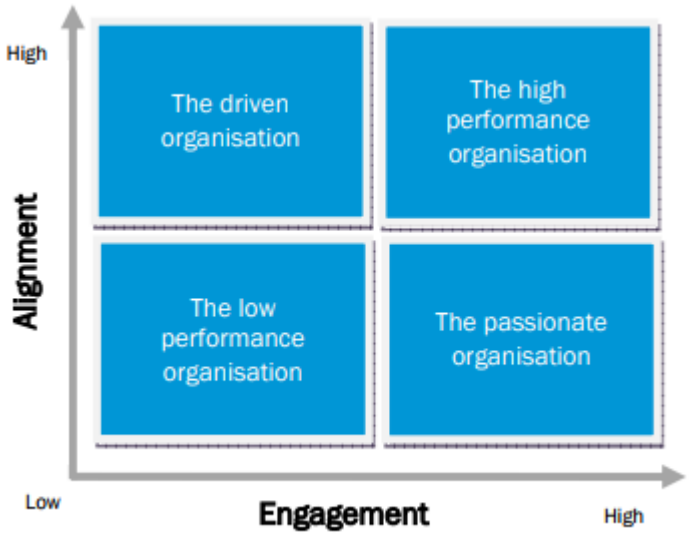

Figure 4.3: The relationship between alignment and engagement (White Paper, 2010).

Regarding the link between alignment and engagement, some researchers have stated that a combination of these components will produce better results. Figure 4.4 illustrates four dimensions to determine successful and unsuccessful incorporation of alignment and engagement in organisations (White Paper, 2010). In local government, there is a need for balance in the two aspects for improved results, and enhanced service delivery (White Paper, 2010). This brings out the importance of effective two-way communication (within government and between citizens and government) for effective engagement to occur. The ideal organization as illustrated in Figure 4.4 is the high-performance organization, which encompasses alignment of processes to objectives and high engagement with stakeholders. Therefore, for DCE initiatives alignment requires the key stakeholders to be engaged at every stage in local government contexts. Resource-constrained municipalities have been seen to exclude stakeholders, which is one of the reasons adoption has not been successful.

Alignment goes beyond implementing ICTs with local government it entails aligning innovative

ICTs with civil society and citizen practices of engagement. This balance leads to an in-depth understanding of the importance of citizen engagement, efficient internal processes, and a clear understanding of ones' roles (White Paper, 2010). Alignment requires change, either enhancing existing activities or introducing new processes. Hence, we can learn from the field of Business Process Re-engineering. In a strategic context, reengineering processes, like BPR are a way of aligning processes in a way that is facilitated by employee and customer interaction. This is with the aim to achieve long-term business goals (Bhaskar and Singh, 2014).

4.4.1 Business Process Re-engineering: Facet of Alignment

The world we live in is continuously changing, which raises the need for tools that facilitate change in organisations (Attaran, 2003). The adoption and implementation of innovative ICTs to facilitate communication between citizens and local government require a structured process that will ensure that the change happens swiftly. As discussed before, communication is a crucial concept in aligning DCE initiatives in organisations, as well as, in improvement and changing processes. There are various models that can be used as tools for change. Local government is trying to redress issues around the quality of service delivery, and this has been the issue for some years (Tôrres, Grangeiro and Fragoso, 2015). To achieve adequate change and achieve related benefits institutions need to actively align processes and ICTs (Murphy, 2005; Dhillon, Weerakkody and Dwivedi, 2008).

Fundamental business processes should be connected to capability based strategies. Capability-based strategies are defined as achievable strategies (Zairi and Sinclair, 1995). This will, in turn, provide more significant value to the citizens. Focus and emphasis should be put on how organisational structures are redesigned to maximise effective alignment (Daft, 2004; Hammer and Stanton, 1999; Hearn and Choi, 2013). Reengineering is the transformation of current processes. When reengineering local government processes, it is essential to focus on the citizens and other beneficiaries of the processes (Zygiaris, 2000). This will eliminate the chances of customer complaints and also reduces the amount of time taken in completing tasks and costs associated with operations (Hammer, 1990; Zygiaris, 2000). Most of the cases that have failed were engendered during the initial phases of implementation (Grant, 2003). It is important to analyse both the internal and external environment of an organisation and understand how they relate to

each other. Giving particular attention to people involved in implementation has often led to successful outcomes in change management (Kumar *et al*., 2008).

Business Process Reengineering (BPR) is suggested to be an essential part of literature in information systems implementation (Davenport and Short, 1990; Wang Chan, and Pauleen, 2010). It is one of the most prominent tools used in the changes of structures and processes (Hammer and Champy, 1993). It concentrates on business activities and aims for sustainable improvement in performance by redesigning organisational processes (Wang Chan, and Pauleen, 2010). This assists in reducing repetition of processes, which in turn improves the quality of services provided (Wang Chan, and Pauleen, 2010). One of the objectives for BPR is awareness of the citizens' needs to develop ways in which they can change to accommodate them (Zygiaris, 2000). This should all be done without compromising the quality of goods and services produced while still being innovative and providing change for the government organisation (Zygiaris, 2000).

When BPR is applied in a government context, it is referred to as Government Business Process Reengineering (Kasemsap, 2016). Most government officers prefer e-government models that are based on service delivery rather than organization change (Park, 2015). The challenges of service delivery have been discussed in Chapter 2 outlining the main problems as lack of communication externally and internally at the local government level. There is a rising need for innovative e-government, which is only possible after reengineering processes in the government organisation (Bhaskar and Singh, 2014).

Local government change is mainly due to a desire to improve how they function and communicate with their citizens (Fragoso, 2015). Change in government requires the ability to radically rethink operations using processes such as BPR (Hammer and Champy, 1993; Champy, 2002). For local government, various challenges can be faced in changing processes compared to private business, as they thrive to always adapt to the needs of their customers (MacIntosh, 2003; Fagan, 2006; Weerakkody, Janssen and Hjort-Madsen, 2007; Weerakkody *et al.*, 2011).

4.3.1.1 The Definition of Business Process Reengineering

There are three types of BPR approaches mentioned in literature: 1) Radical Change and 2) Clean

Slate (Hengst and Vreede, 2004). Radical change involves incremental improvement while the clean slate change ignores the existing processes (Wang Chan, and Pauleen, 2010). BPR can be defined according to two aspects, which are either organisational or operational. This research study will consider definitions that focus on functional issues as it focuses on a single core process.

Table 4.2: The definition of Business Process Reengineering (Zairi and Sinclair, 1995).

Author	Definition
Davenport and Short	The analysis and design of workflows and processes within and between organisations.
Hammer	Rethinking and design of business processes to achieve improvements in critical, areas, such as cost, quality, service and speed.
Morrow and Haze	The analysis of flow of activities and information that make up the key business processes in an organization with the aim to simplification, cost reduction or improvement in quality.
Davenport	One-time process innovation effort to achieve radical business improvement.
Talwar	The ability to rethink, restructure and streamline the business structures, process, methods of working management systems and external relationships through which we create and deliver value.

Similarly, to Hammer (1993), Talwars' (1993) definition focuses on rethinking, changing, and redesigning the structure of a business, the process and management systems (Bhaskar and Singh, 2014). All of the definitions in Table 4.2 encompass the same focus which is the radical redesign of essential processes to improve operations. The process focus is customer driven and looked at from a customer point of view (Zairi and Sinclair, 1995). It, however, requires a top-down approach to be able to ensure management support (Hammer and Champy, 1993; Weerakkody and Hinton, 1999). Weerakkobody *et al*., (2011) state that the BPR focuses on making future processes better, but not by understanding the current processes. To put this statement into perspective Weerakkobody *et al.*, (2011) does not focus on tasks but the outcome of the process change. They claim that focus on the overall goal than the activities are what makes a change program a success. It can be argued that there cannot be efficient improvements to any process without an investigation of the current state and issues that need to be addressed. Otherwise, the BPR change, in this case, will not be successful (Bhaskar and Singh, 2014).

A fundamental requirement for BPR should be that top management understands the existing

process before tackling any changes (Bhaskar and Singh, 2014). Success in projects is determined by how the issues are understood (Kettinger, Teng and Guha, 1997; O'Neill and Sohal, 1999; Wastell, White and Kawalek, 1994). The process looks at starting with the most vulnerable or redundant processes to change the primary indicators used to evaluate the performance of the primary business aims (Harland *et al*., 2003; Albizu *et al*., 2004). The utmost important goal of the Business Reengineering Process is to implement solutions from stakeholder engagement to improve the overall performance (Hengst and De Vreede, 2004). BPR improves business performance by looking at its processes, organization and people, and information technology needs simultaneously (Zairi and Sinclair, 1995; Morrison *et al*., 2011). The process requires efficient identification of gaps and opportunities to be addressed. Sufficient identification of deficits will lead to the identification of opportunities and points of interaction within the processes that help in identifying sustainable solutions (Morrison *et al*., 2011).

4.4.3 A Generic Model for Business Process Re-engineering

Authors have come up with various BPR approaches but most of the methods are similar, and there is a need to understand factors that make it successful (Tsalgatidou, 2003). One of the vital success factors in BPR is the alignment of the changes to the strategic goals of an organisation followed by ample resources and good leadership (Tsalgatidou, 2003). Vakola *et al*. (1998) came up with a generic model for reengineering shown in Figure 4.4 which follows eight steps. This model for re-engineering should focus incremental improvement of the processes being redesigned. This allows the realization of essential areas for process improvements.

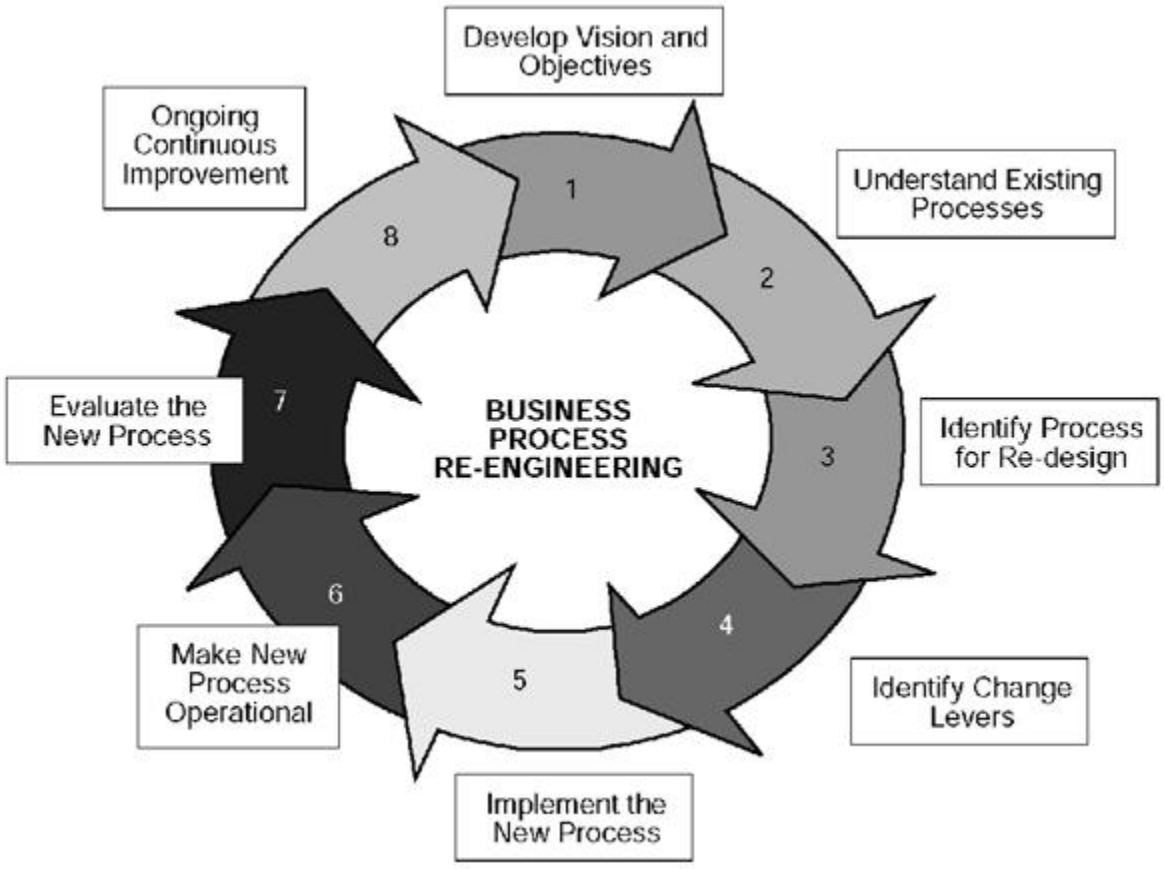

Figure 4.4: A Generic model for business process re-engineering (Vakola et al., 1998).

Step1: Develop vision and objectives

This will require explicit knowledge of the strengths, weaknesses, context and innovative opportunities available to the business (Kettinger, Teng and Guha 1997; Vakola and Rezgui, 2000). This can be found by conducting a SWOT analysis. The external and internal environment is essential as they influence the organisational structure and strategy (Vakola and Rezgui, 2000). It is crucial to analyse the strengths and weaknesses of the local government institution as it assists in developing a vision, scoping and giving direction (Tsalgatidou, 2003).

Step 2: Understand existing processes

This is a crucial stage as it helps find the problem in the business processes to ensure that no redundancies exist (Vakola and Rezgui, 2000). This will facilitate and encourage relationships

among the employees. By understanding the processes, the root causes for problems are identified (Kettinger, Teng and Guha, 1997). The aim is to collect information on the way the organisation operates and gaps in which technology can fill (Tsalgatidou, 2003). All this information will assist in positioning the organisation, and establishing how citizens will be more satisfied (Tsalgatidou, 2003).

Step 3: Identify Process for Redesign

After establishing a clear understanding of the current processes, it is now possible to identify the process that needs to be re-engineered (Vakola and Rezgui, 2000). It is essential to involve the employees that are responsible for communicating to the community as they have a more in-depth understanding of the communication process.

Step 4: Identify Change Levers

Step 4 is when change levers are identified. This depends on how the technology can support processes and get a clear understanding the organisation and its people (Vakola and Rezgui, 2000). In some instances, there is more than one process that needs to be redesigned. In this case, prioritisation is required to start with the most pressing issues or the root cause (Tsalgatidou, 2003). It is vital that the process pays attention to the people and the business rather than just the technology and how it is implemented. About half of organisations have reported the minimal use of the technology due to lack of attention to employees (Oram and Wellins, 1995; Vakola and Rezgui, 2000). The CONDOR reengineering team established that having individuals from diverse backgrounds (ICT, organisational psychology) will assist in identifying change levers and the implementation of the project in general (Vakola and Rezgui, 2000).

Step 5: Implement the new process

This stage aims at implementing the redesigned processes. Implementation can be either be in phases (partial) where it is done in steps or in full. Most DCE initiatives have failed as they have been implemented in full, however, the context requires learning from each stage of the process. This is an essential phase, as how the redesign is introduced to the users has an impact on whether it is adopted or not. Therefore, this is the stage where most initiatives fail. There is need to be wary of the individuals affected by the change of process, as emphasised throughout the research. Most

of the BPR failures have been due to lack of taking into account the human factor of organisations (Kettinger, Teng and Guha, 1997; Vakola and Rezgui, 2000).

Step 6: Make the new process operational

Testing the system and giving the users a chance to familiarise with the system. A set of field trials can be set up to test and validate the system supporting the re-designed processes. The implementers can either test or give the citizens and the staff members of the municipality to examine the re-engineered processes. Through this technique, the organisation has the opportunity to simulate ways in which the reengineered processes operate (Vakola and Rezgui, 2000).

Step 7: Evaluate the new process

The assessment of new process is a vital stage as it examines the successes and outcomes to the goals and plans set at the beginning of the project (Kettinger, Teng and Guha 1997; Vakola and Rezgui, 2000). There is a need for the evaluation to cover all aspects of the process change which includes technical, social and economic assessment. The evaluation process should also involve evaluation of the projects functionality, ease of use and technical aspects (Vakola and Rezgui, 2000; Tsalgatidou, 2003).

Step 8: Ongoing continuous improvement

It can be deduced that any projects including BPR that comprises of continuous improvement are compelling. It allows for analysis, monitoring and clarification of processes (Tsalgatidou, 2003). This stage should be regarded as an improvement strategy that assists in processes being aligned with the strategic plans of the organisation (Vakola and Rezgui, 2000). It is a critical stage in implementing DCE initiatives as each iteration if implemented partially is a learning process for the next. This can be accomplished by carrying out a process assessment as it provides a guide to review progress. There are three possible areas which process assessment focuses on which are the use of processes, management of the processes, and level of partner support (Osah, 2014). The ultimate goal is for process improvement to be regularly executed and be part of processes lifecycle (Vakola and Rezgui, 2000).

4.4.4 An Integrated Framework for a Government ICT

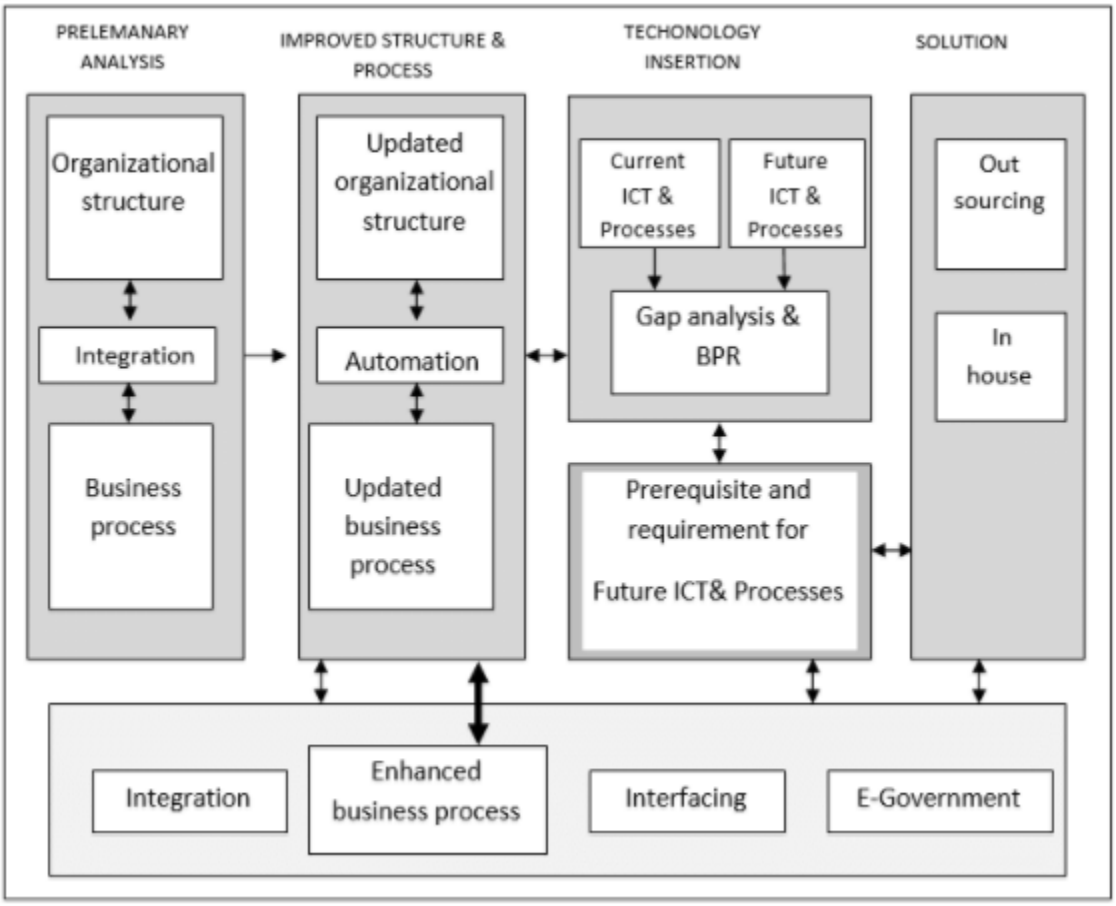

Figure 4.5: Integrated framework for a government ICT (Alamri, 2015).

Figure 4.5 illustrates a framework for the integration of ICT in government institutions from the preliminary phase to the solution. This is currently the only model that incorporated ICTs and provides a guideline for their integration in a government context. The preliminary analysis stage involves analysis of the current relationship between government structure and its processes (Hearn and Choi, 2013; Alamri, 2015). This is the most important step as it finds the gap between the current structure and the processes. The top managers should be hands-on at this stage as they are responsible for oversight in all departments (Weerakkody, Janssen and Hjort-Madsen, 2007). The organisational structures of governments institutions are barely flexible therefore cannot adapt to changes implemented (Lourenço, 2015). This requires detailed analysis of the organisational organogram to understand the structure of local government (Weerakkody, Janssen and Hjort-

Madsen, 2007; Hearn and Choi, 2013). Government structures are unfortunately difficult to change, but managers can create task teams that will assist with the smooth transition and change of business processes.

The second stage is *improved organisational structure and process*. This stage involves supporting the updated structures with communication, training and providing adequate information. New technology will assist in problems related to limited communication in the formation of the government (Weerakkody, Janssen and Hjort-Madsen, 2007; Lourenço, 2015). This stage levels the playing field for BPR by making sure the existing structures will accommodate the change. The next stage, *technology insertion*, is the preparation of the government to the introduction of the phases BPR (Hearn and Choi, 2013; Alamri, 2015). The underlying assumption is that the previous stage was complete and most of all successful. This stage looks at identifying how the planned change will be implemented and its purpose (Weerakkody, Janssen and Hjort-Madsen, 2007; Alamri, 2015). It also analyses the gap between the current state and goal providing a clear picture of what is meant to happen. BPR should be planned at this stage after they have identified the existing gap as it is assumed that the government is now ready for change (Hearn and Choi, 2013).

The last stage is called *solution*. It encompasses deciding on which requirements from the ones identified in the previous stage are suitable. It is essential to analyse the requirements needed for the change to be effective and decided whether to insource or outsource (Hearn and Choi, 2013; Alamri, 2015). This framework, however, does not comprise of any sustainable solutions or evaluation and ongoing assessment of the changes that have been implemented (Weerakkody, Janssen and Hjort-Madsen, 2007; Alamri, 2015). It does not account for training the people that will be affected by the changes.

4.4.5 Factors Relating to BPR Success and Failure in DCE

While most of the issues with implementation are related to non-technical problems, they still pose a threat to the confidence of managers and the credibility of their related department. *Lack of adoption* or inclusion of the people that are associated with the processes is one of the causes for failure (Bakari *et al*., 2007). DCE initiatives that are adopted in local government tend to focus more on the technology than the people that will be affected by the change. Two main challenges

associated with change management are technical and organisational risks (Carr and Johansson, 1995).

Technical issues

Technical changes are associated with the fear that the adoption of changes will not be accepted while organisational risks are those related to the culture of the business (Bhaskar and Singh, 2014). It is essential to examine the role that an organisation's culture will affect the change (Tichy, 1983; Alamri, 2015). These technical changes require equally skilled management and employees. With change comes responsibility and there arises a need for particular skills related to it. ICT pertaining change requires a level of expertise and knowledge in technology (Poon and Wagner, 2001). The necessary level of skill is vital for the competitive advantage of any business for sustainability. It directly links to the level of perception that the employees will have and staff morale related to the change (Teo and Ang, 1999; Alamri, 2015).

Organisational structure

Organisational culture is a broad term that encompasses values, traditions and beliefs. According to the survey done by (Carr and Johansson, 1995; Sturdy, 2010), the solution to organisational risk is involving the senior management and making sure that the change is communicated early in the process. BPR will change the culture of the organisation as it redesigns the management systems and the way people work (Guha, Kettinger and Teng, 1997). Local government culture and structures are usually large and complex to change. BPR executes new processes, and this affects the structure of the business. The change will be difficult to implement if the structure is inflexible. BPR eradicates redundant processes which will lead to a reshuffle in some of the human resources.

Management competencies

It is vital the managers of an organisation have the ability to drive change in an institution (Sturdy, 2010). A critical challenge is an inability to make right decisions that will support and improve the procedures and processes (Alamri, 2015). Dedication and leadership are essential outcomes of success of change (Sturdy, 2010). This includes having the relevant ICT skills and skills related to the change (Teo and Ang, 1999; Burn and Szeto, 2000; Nfuka and Rusu, 2010). It is important for management to have in-depth knowledge of their current processes and be able to provide a clear

vision for the intended change (Carr and Johansson, 1995). They must also be committed to driving the BPR process efficiently by communicating with other employees (Sturdy, 2010). There is need to be able to analyse information and establish the appropriate way to distribute people and resources (Alamri, 2015).

Alignment of ICT with strategic plans

One important factor that affects the success of projects is sustainability. Sustainability is directly linked to the alignment of the technology and the methods of the business (Trkman, 2010). Most of the changes related to BPR are not adopted internally due to the lack of alignment between the technology and plans (Bandara *et al*., 2007; Trkman, 2010). This relates to having a clear goal and a deep understanding of what the change encompasses and how technology can support it. The effective implementation does not guarantee adoption of the amendment in business; there is a need for alignment of ICTs and any new processes being implemented with the existing one (Nfuka and Rusu, 2010).

Change management techniques

Leaders and managers need to be trained in change management in order to oversee the whole process effectively (Sturdy, 2010). The implementation stage of BPR is complicated and the lack of attention to the human factor has arisen to be the main issue (Hornstein, 2014). The success of this stage mainly relies on the change management techniques used to ensure a successful transition to the new processes (Sturdy, 2010). Change management unpacked will take into account the human factor issues, such as resistance (Stensaker and Meyer, 2009; Sturdy, 2010; Hornstein, 2014). It aims to prepare and support the successful adoption of the change by people to drive the success of the implementation (Stensaker and Meyer, 2009; Voet, 2014). Other factors related to change management, as stated by Zairi and Sinclair (1995), are empowerment, participation, training and education.

4.5 Conclusion

There is a need for a sustainable solution that enhances citizen engagement. Citizen engagement is supported by information and communication technologies that improve and facilitate communication between the government and its citizens. In summary, ICT platforms can

strengthen accountability if they link citizen voice to policymaker capacity to see and respond to service delivery problems. ICTs can support citizen engagement, increasing access to communication and enhancing the benefits that they bring about by facilitating communication between government and citizens. Some of the benefits mentioned include real-time access to information, building trust, transparency and accountability.

The challenge is how to make sure there is government buy-in and how ICT platforms can boost accountability (Peixoto and Fox, 2016). With the problems that have been stated in this Chapter, governments have been trying to find innovative ways to reduce the barriers internally and externally in the implementation of ICT enabled initiatives, in particular, DCE (Misuraca, 2009). Part of the solution that has been brought about relates to the alignment of ICTs and business processes that are important for enabling the change (Misuraca, 2009). The BPR model was used to explain how business can be aligned. The model consists of eight stages that need to be followed to successfully re-engineer process within an organization. The eight stages include developing vision and objective, understanding existing processes, identifying processes for redesign and change levers, implementation, evaluation and ongoing continuous improvements. Factors relating to process re-engineering success and failures that could impact the re-engineering process include organisational culture and structure, technical issues, management commitments, and lack of alignment strategies. These factors are vital for development of the alignment process.

Chapter 5: Methodology

This chapter outlines how the research will be conducted to answer the research questions. The chapter describes the theory guiding the formulation of the framework and key aspects that the research will focus on. The philosophical approach, research strategy and the case study design are discussed. Lastly, the ethical considerations that should be taken into account in this research.

5.1 Introduction

There is an increasing need for aligning innovative ICTs with local government processes, especially in real-life resource-constrained contexts. Typical of many municipalities in South Africa are resource-constrained. It is essential to understand *how* and *why* certain factors impact the alignment process in digital citizen engagement, which is supported by a case study research strategy. Literature outlines elements that need to be taken into account when aligning technology and business processes. However, no clear framework is available in the digital citizen engagement context at local government level in South Africa. The study uses Adaptive Structuration Theory to guide the empirical investigation and propose a new framework to support alignment of innovative ICTs with communication processes. Adaptive structuration theory has been adapted to analyse the impact of the implementation of various technologies on organisation change. Information plays a vital role in the social and interactive aspects of an organisation. Therefore, it has become imperative for organisations to ensure that information sharing is facilitated by technologies (DeSanctis and Poole 1994). However, employees or beneficiaries can either adapt or resist using the technology implemented, leading to a negative impact on the outcome. Thus, technologies should be focused on how people can use them, rather than how they function themselves. This chapter begins with a background and motivation of the theory used to guide this study. Subsequently, the research paradigm and strategy are discussed. The data collection and analysis tools used in the study are then explained. Lastly, the chapter discusses the ethical considerations that were followed in the empirical investigation.

5.2 Theories that apply to Changing Environments

The field of digital citizen engagement is a reasonably recent research field that has grown in momentum over the past five years (Vromen, 2016). With the rising need for better communication within communities, there is an increasing need to implement emerging ICTs to assist in facilitating communication. It is essential to investigate the alignment factors that may support the implementation of such initiatives. With the implementation and adoption of technologies comes a change in tasks and processes. Therefore, there is a need to investigate the factors that impact alignment. Given the lack of a guiding model, it is essential that theory is used as a guiding lens (Gregor *et al*., 2010).

The study uses theory that originated from a combination of two related theories. The choice of the theories was in respect to technology and social factors that impact on the process. The Complex Adaptive System (CAS) is the first theory and focuses on interaction, independence, and adaptive organisations. It studies the social and cultural issues and behaviour, as well as, the response to the introduction of ICTs (Fleming and Sorenson, 2001; Choi, Dooley and Rungtusanatham, 2001; Sedera and Zakaria, 2008). It is applied in relation to changing environments and learning from experience to be able to understand adaptability of ICTs. The second theory is the Structuration theory which was initiated by Gidden, a sociologist, to analyse social problems related to the implementation of technologies. The *Structuration theory* emphasises the change of behaviours and the continuously changing social practices (Choi, Dooley and Rungtusanatham, 2001; Staber and Sydow, 2002; Sedera and Zakaria, 2008). Similar to, the CAS, the structuration theory did not focus on the effect of technology and other social processes in an organisation (Staber and Sydow, 2002; Jones and Karsten, 2008). Due to this limitation, the Adaptive Structuration Theory was established to align Giddens theory with the technology and the interplay between the two theories to provide a deeper understanding of the organisation (Sedera and Zakaria, 2008). Table 5.1 shows a comparison of the three theories (Jones and Karsten, 2008).

Table 5.1: Comparison of Complex adaptive system, Structuration theory, and Adaptive theory (Jones and Karsten, 2008).

	Complex Adaptive System (CAS)	Structuration Theory (ST)	Adaptive Structuration Theory (AST)
Main Focus	Dynamic behaviour and systems environment. Collective behaviour emerges from interaction of subsystems over time	Relationship between individuals and society. Proposed the concept of structuration from the duality of structure	Adapted Giddens's theory to study the interaction of groups with information technology. Uses two main concepts, which are structuration and appropriation
Limitation	Failed to explain the co-evolution of behaviour and technology	Do not consider the structure of work tasks and the organizational environment	Unknown

5.2.1 Adaptive Structuration Theory (AST)

The research proposes AST as its base theory to studying organisational change that occurs due to the implementation of technologies (Sinclare and vogus, 2011; Ajjan, Kumar and Subramaniam, 2016). This is relevant to the study as the research entails implementing innovative ICTs, which

results in changes to some of the organisation processes and structures. It is essential to recognise the interaction and relationship between the structures, as well as the social actions, in order to understand organisational change (Desanctis and Poole, 1994; Rose and Scheepers, 2001). AST aims to uncover technology structures and the social interactions in which they are used. In this study, changes in processes (requiring communication across municipal departments and between local government and citizens) are linked to problems ingrained in a social structure (Rose and Scheepers, 2001; Rains and Bonito, 2017). The Adaptive Structuration Theory assists in understanding how a user-defined, user-driven technology is adopted in organisations. This is important in alignment, as users are a determinant of successful adoption of a system. For this research, the focus will be on the critical users who are the municipality and the citizens. According to the AST, structuration is the act of bringing processes, resources, and other structures into appropriation and this is illustrated in Figure 5.1 (Desanctis and Poole, 1994; Cao *et al*., 2009; Liang *et al*., 2015). Appropriation is the alignment of the structures that impact digital citizen engagement with the processes, resources, and other structures (Avolio, Kahai and Dodge, 2001). The outcomes of appropriation are to elaborate the current structures or enable new structures.

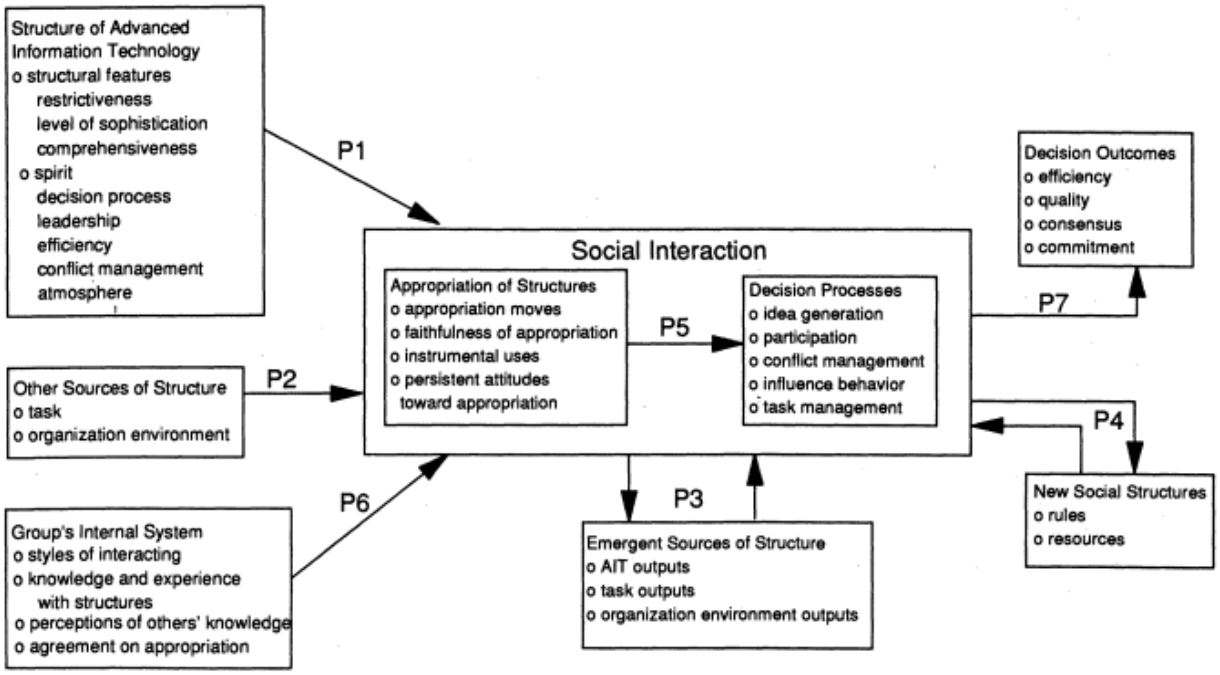

Figure 5.1: Adaptive Structuration Theory (Desanctis and Poole, 1994).

In order to thoroughly investigate organisation change brought about by technology, there is a need for all the aspects in the diagram to be examined (Desanctis and Poole, 1994; Rose and Scheepers, 2001; Pozzebon and Pinsonneault, 2005). This theory was made to support the social interaction of Group Decision System (GDS) systems. The approach they used is too complex and is modified to guide the development of the alignment framework within a Digital Citizen Engagement context. This is more so in a resource-constrained environment where the context is not taken into account. The original structure however, gives a guideline of the structures to focus on in a Digital Citizen Engagement context. Therefore, theory outlines factors as a point of reference, which can be considered in digital citizen engagement initiatives at the local government level (Desanctis and Poole, 1994; Avolio and Kahai, 2000; Rains and Bonito, 2017). These factors are listed and described as structures that guide the planning and alignment of the DCE initiatives at the local government level. These structures govern the way they interact with the Advanced Information Technology (AIT), which impacts the adoption and alignment of technology (Rains and Bonito, 2017). It is critical to look at the technology instead of just focusing on Group Internal Systems (GIS) as a vital component is a local government. Its perception, culture and structure impact the effective adaptation and alignment of such initiatives. Advanced information technology (AIT) is defined as (Avolio, Kahai and Dodge, 2000:616):

> *"tools, techniques, and knowledge that enable multiparty participation in organisational and inter-organisational activities through the sophisticated collection, processing, management, retrieval, transmission, and display of data and knowledge."*

The research looks at this as Innovative ICTs as it encompasses tools that not only assist in enabling participation but also facilitate in using technologies that have not been used in the local government context (Avolio and Kahai, 2000). The structures relate to the technology, the group internal system tasks and the organisation's environment. These are called inputs as they impact the way in which technology is aligned. Instead of focusing on Group Internal Systems (GIS) in the DCE context one would focus on the local government institution. This structure looks at the organisation structure, capacity, internal structures, and other factors that may arise from observations.

The structure of the technology can be explained by looking at the structural features and the spirit of the technology (Desanctis and Poole, 1994; Rains and Bonito, 2017). The structural features are the design and characteristics of the technology that consider the complexity, restrictiveness or comprehensiveness to the local government users (Avolio and Kahai, 2000). The spirit of the technology relates to why the technology was created or why it is being implemented. It also examines the values that are being supported; which are to promote public participation, and increase transparency and accountability within the local government (Rains and Bonito, 2017). As another factor, AST looks at the task as a source of structure.

The processes and constraints in a task have an impact on how the task is performed. For example, the lack of access to Facebook that is blocked in government offices limits the extent to which local government can communicate with citizens, especially in a tech-savvy era (Desanctis and Poole, 1994; Rains and Bonito, 2017). This research study examines IT support in the Municipality, and funding and capacity of the municipality. The organisation's environment is an important structure when examining alignment factors as it focuses on internal factors like the culture of the organisation and the standard procedures that guide their processes (Avolio and Kahai, 2000). It is essential to take note of the existing procedures of the local government in order to ensure efficient alignment (Rains and Bonito, 2017). Local government's existing processes have an impact on how the technology is be aligned with its processes. There is also a need to analyse the external environment, which encompasses regulations on the local government and possibilities that may arise in the future (Avolio and Kahai, 2000).

Humans are a major aspect in the alignment process that should be considered. The way in which the users interact with each other has an impact on the alignment of technology, as it makes the alignment more efficient when people relate with each other more than work in silos (Avolio and Kahai, 2000; Rains and Bonito, 2017). The knowledge and experience of the users on the technology being aligned are important as an educated user will prompt educated ways of using the system (Desanctis and Poole, 1994, Rains and Bonito, 2017). The perceptions of the user impact how they use the system (Avolio and Kahai, 2000; Rains and Bonito, 2017). If the structures are taken into account, they will guide the interaction of the users with the systems for improved alignment. However, there is a need to also look at social structures that create more

desirable group processes. These factors include; attitudes towards the system, knowledge about the system, faithfulness and high levels of buy-in (consensus) on adopting the system by the organisation (Sedera and Zakaria, 2008; Rains and Bonito, 2017). Attitude captures the user emotions that have been applied in interacting with the system. Faithfulness looks at intentions of the user (Sedera and Zakaria, 2008). Lack of faithfulness can be measured by referencing Toyama's (2011) differential motivations which look at what motivates the user (Sedera and Zakaria, 2008; Ajjan, Kumar and Subramaniam, 2016). Knowledge of the system aims to capture the extent to which the system is used. Consensus is the measure of the level the knowledge of the system accommodates the needs of all the employees impacted (Rains and Bonito, 2017). Therefore, this looks at the level of buy-in of the project by local government.

A complete research agenda should include all of these aspects, including a comparison of the new and the old processes, inter-departmental comparisons, and the different levels of support. This is called a Diachronic analysis. It is a 10-step process illustrated and explained in Table 5.2 (Desanctis and Poole, 1994; Pozzebon and Pinsonneault, 2005). This analysis is essential as it assists in understanding the adaptive process by which technology structures are merged into interaction. Appropriation is the extent to which the structures in the organisation are aligned to innovation (Desanctis and Poole, 1994; Rose and Scheepers, 2001). Therefore, appropriation brings about improved decision making due to coherency in the organisation.

Adaptive structuration theory focuses on communication using ICTs to highlight issues of adoption and structuration (Sedera and Zakaria, 2008; Rains and Bonito, 2017). It examines changes by looking at the ICT structure and the interaction of the technology with humans (Ajjan, Kumar and Subramaniam, 2016). The application of AST to enterprise systems used in citizen engagement assists in supporting business processes, as well as facilitating the flow of information (Rains and Bonito, 2017). Sedera and Zakaria (2008) argued that it follows the following assumptions DCE;

- This theory assists in defining the knowledge base of the system.
- It assists in encapsulating the interactions of the municipal employees with the system.
- The theory increases the knowledge of the system
- It accommodates the inclusion of various stakeholders of the system

- There are two users of this study which are the government and the citizens. However, this research focus is on government, which is often neglected.
- Lastly, it assists in assessing the relationship between the system structures and its success (Sedera and Zakaria, 2008).

The establishments and maintenance of the system knowledge base is a vital goal in engaging with external stakeholders and the organisation. The aim should go beyond implementation of the system by focusing on empowerment and education with regards to the implementation, processes, training, and maintenance (Sedera and Zakaria, 2008; Rains and Bonito, 2017).

5.3 Research Philosophy

The philosophical approach of this research is Pragmatism which is built on social views in pragmatic application. The pragmatist philosophy encourages the use of multiple approaches to derive information about a research problem (Creswell, 2014). Additionally, Saunder, Lewis and Thornhill, (2009) elaborate this philosophical view of the nature of reality (Ontology) as generally external and requiring various sources to support the research objectives. Creswell (2014) recommends that the philosophy assists the researcher to focus their attention on the research problem through the use of mixed methods to get information about the issue. What is acceptable to knowledge (Epistemology) is through observation and explaining the actions and interactions of the actors involved in the implementation of a digital citizen engagement initiative. High priority is placed on the values, as they are essential in interpreting the results by adopting an objective and subjective view (Saunders, Lewis and Thornhill, 2009). In light of the Information Systems field, pragmatism has three approaches, namely referential, methodological and functional (Goldkuhl, 2008). Referential pragmatism is applied when the researcher's intent is to describe and explain local practices, while functional pragmatism relates to providing solutions to contribute to general practice (Patton, 1988; Bertilsson, 2004). Lastly, methodological pragmatism provides a platform to participate in the context actively and discovering new ways of improvement (Patton, 1988; Bertilsson, 2004; Goldkuhl, 2008).

A combination of the three approaches provides three possibilities for pragmatic research if applied in Information Systems. In summary, pragmatism gives an Information Systems researcher the ability to observe, understand, reflect and provide guidelines to mediate within a social context

(Goldkuhl, 2008). Action theories give an understanding of the actions, in this case, change in their context with respect to the actors, environment and results. The theory applied depends on the knowledge that the research aims to gather. Adaptive structuration theory is therefore relevant for this research as it mainly focuses on the alignment of technology with local government processes and resources to bring about change in the institution.

The functionalist paradigm is located on the objectivist and regulatory dimensions of the four paradigms for the analysis of social theory (Saunders, Lewis and Thornhill, 2003; Bertilsson, 2004). It is regulatory in that the researcher is focused on explaining why a particular issue is occurring and developing a framework or set of solutions to solve that problem. According to Saunders, Lewis and Thornhill (2009), a typical example is a research project that aims to evaluate a communication strategy and recommend solutions to make it more efficient. Within the pragmatic paradigm, there is a need to assess the current municipal communication processes to establish the gaps, and how needed communication processes can be aligned to innovative ICTs to make it more effective (Patton, 1988; Saunders, Lewis and Thornhill, 2009). This study uses a functional paradigm as it aims to provide practical explanations to real issues being faced by local government institutions.

Within the pragmatic paradigm, there is a need to assess the current municipal communication processes to establish the gaps, and how communication processes can be aligned to innovative ICTs effectively (Patton, 1988; Saunders, Lewis and Thornhill, 2009). Although this philosophy has not been used significantly in literature, it is related to change and action and how knowledge relates to the action. This philosophy assists in disclosing the current practices and how these practices will generate observations that assist in finding the best approaches in intervening into the world and not merely observing the world (Goldkuhl, 2012). It assists in research that aims for organisational change, such as, the implementation and adoption of new processes using business process reengineering (Goldkuhl, 2012). Braa and Vidgen (1999), is a typical example of researchers who talk about action and change-oriented research without explicitly locating it within a pragmatist paradigm (Patton, 1988; Bertilsson, 2004; Goldkuhl, 2012).

It is important for the research to create knowledge and to consider other factors that facilitate information transfer and information use (Bertilsson, 2004; Goldkuhl, 2012). The research aims to

assist in making DCE initiatives more sustainable or resilient, while promoting accountability and transparency of local government service delivery (Goldkuhl, 2012; Marshall and Rossman, 2014). Pragmatism looks at assumptions as factors to be examined, not as a basis for argument (Patton, 1988; Bertilsson, 2004; Ramberg, 2004). This means that pragmatism does not only focus on what is but also on what might be. To implement changes, the action must be guided by goals, objectives, and knowledge.

5.3.1 Why not Interpretivism

There are three apparent orientations in epistemology: interpretive, pragmatism and positivism. Interpretivism is associated with understanding the context while pragmatism emphasises constructive knowledge that is useful for change and action (Goldkuhl, 2012; Marshall and Rossman, 2014)). Although interpretivism and pragmatism both aim to understand, interpretivism focuses on the understanding value of its own, while pragmatism is an instrument to change (Goldkuhl, 2012). These two epistemologies can be combined using one as a supportive paradigm to the other. The pragmatic philosophy is the most appropriate for this research as it is open to mixed methods research to provoke a practical solution in a complex research problem of digital citizen engagement in a resource-constrained context (Johnson and Onwuegbuzie, 2004).

Table 5.2: Pragmatism vs interpretivism: ideal-typical differentiation (Goldkuhl, 2012).

	Pragmatism	Interpretivism
Ontology	Symbolic realism	Constructive
Empirical focus	Actions and changes	Beliefs (socially constructed cognition)
Type of knowledge	Constructive knowledge	Understanding
Role of knowledge	Useful for action	Interesting
Type of investigation	Inquiry	Field study
Data generation	Data through assessment and intervention	Data through interpretation
Role of researcher	Engaged in change	Engaged in understanding

5.4 Research Approach

There are two approaches available, deductive and inductive. The pragmatism philosophy and in general any qualitative approach can associate with the deductive approach. It assists in the

understanding of social actions and responsibilities utilising empirical data (Yin *et al*., 2014; Marshall and Rossman, 2014). This approach provides observations required in formulating views that can be used to address the research questions (Yin, 2013). This is conducted through the use of data collection tools, such as participant observation as a primary source to assist in constructing an understanding of the observations to address the research questions. The deductive reasoning is be based on the findings from Adaptive Structuration Theory, the case and observations of empirical findings the researcher are used to assess theory. A single case study provides a platform to observe and analyse a situation that has not been intensely investigated (Saunders, Lewis and Thornhill, 2009). Therefore, by using the case study strategy, this research attempts to understand how alignment occurs at local government level and understand why the alignment is impacted the way it has (Andrade, 2009; Yin, 2009 Marshall and Rossman, 2014).

The inductive approach can also be used in the pragmatic paradigm as it focuses on the creation of new theory from data. This research could follow a deductive approach as it is based on impartiality in the evaluation of observations (Yin, 2013; Chidi. 2017). As an inductive approach, subjectivity in evaluating observations will occur to support the research. This research, however, is going to use an abductive approach which is a combination of inductive and deductive approaches. This approach allows for a back and forth between the two approaches. The researcher is going to be involved in the research as a participant observer in meetings in the context before introducing the other data collection tools; therefore, observations are converted into theories followed by an assessment of the theories through action (Morgan, 2014). This is illustrated in Figure 5.2 and occurs throughout the case study; therefore, both approaches are important for this research where no existing alignment framework is available for the local government and digital citizen engagement initiative. Thus, the abductive approach is relevant for this study as it aims to create new knowledge.

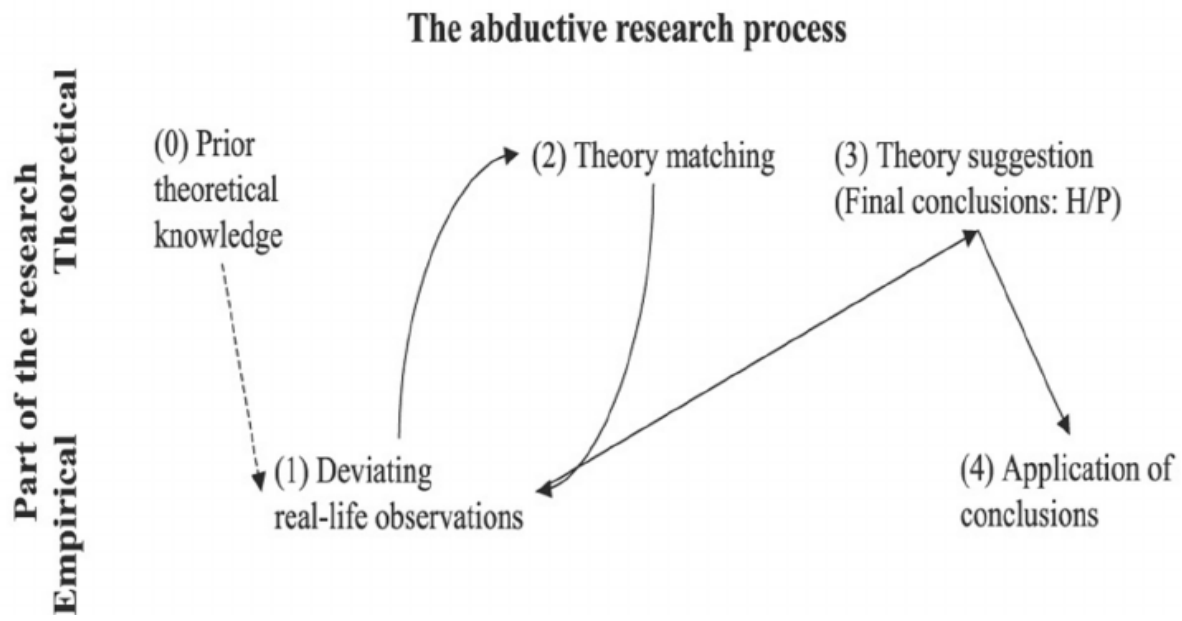

Figure 5.2: The Abductive Research Process (Kovacs & Spens 2005).

5.5 Research Strategy

A qualitative study allows the researcher to outline the meanings of the main themes in a given context (Marshall and Rossman, 2014). The research strategy for this study is a case study approach Robson (2002:178) states that the case study approach is

> *"a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real-life contextualising multiple sources of evidence*."

This research is geared towards a single contextual setting, Makana Municipality in the Eastern Cape. It is mostly used in explanatory (how and why questions) and exploratory research (what questions). The case study strategy supports gaining a rich understanding of the context, Makana Municipality and its implementation of the MobiSAM initiative (Blumberg, Cooper & Schindler, 2008). A case study approach is relevant to this study as it is an empirical investigation of digital citizen engagement initiatives in a resource-constrained local government organisation, due to lack of existing alignment models for such a context. This approach assists in revealing the key factors that support or hinder the alignment of innovative ICTs at local government level and aids in

explaining how the proposed framework works within the context (Hevner and Chatterjee, 2010).

The approach assists in understanding the contextual complexities of enhancing or developing theories (Benbasa, Goldstein and Mead, 1987). For this particular research study, during the early stages of the implementation of innovative technologies, the social interactions are difficult to capture using other strategies without an understanding of the context (Ajjan, Kumar and Subramaniam, 2016). A case study approach relies on the guidance of a theory to guide the data collection and analysis process; in this case the Adaptive Structuration Theory (Yin, 2014). The research relies on many data collection tools in a triangulation fashion, which is the use of various tools in order to obtain richer data and increase the validity of the data collected (Wilson, 2014; Yin, 2014). The data collection instruments are adopted include questionnaires, interviews and participant observations.

5.5.1 Motivation for the selected Case Study

Makana Municipality Case Study

Makana Municipality covers an area of 4 375.62 km^2, and the population figure is 80 390 (Statistics SA, 2011). The service delivery crisis within Makana Municipality has been well recognised over the years by media indicating financial, water, maintenance and infrastructure challenges (Chuene, 2012; Mdlongwa, 2014; Maclennan, 2017). The Municipality also suffers from lack of planning, appropriate technology, lack of transparency in processes and dilapidated infrastructure. It is evident that the municipality is resource constrained and significantly burdened particularly in providing the basic services. This is the case with most of the municipalities in South Africa as local government cannot supply adequate services (Mogale, 2005; Chuene, 2012; Madumo, 2015). The most prominent challenge is lack of citizen engagement which has stemmed from lack of communication strategy in the municipality. There has been various efforts and initiatives with the aim to improve service delivery, which most have failed due to various reasons including lack of alignment strategies.

Digital Community Engagement Initiative: MobiSAM

The *Mobile Social Accountability Monitoring,* (MobiSAM) project is a digital citizen engagement initiative that aims to facilitate two-way communication between the government and the citizens.

It accomplishes this by increasing communication, participation and accountability between Makana Municipality and its citizens. MobiSAM has been implemented in two phases. The first was implemented in Makana Municipality in 2011, with funding assisted by the Ford Foundation; however, challenges emerged that originated from a lack of government buy-in and responsiveness from the municipality. The second phase of the project built on the lessons learnt from the previous phase. Phase 2.0 started in April 2016 with a focus on developing government responsiveness and capacity, and expanding citizen reach and engagement.

5.6 Case study design

Each case study has a design that it follows in order to collect empirical data. A case study design is a guideline of how the research is going to be conducted (Yin, 2014). It guides the research by prompting the researcher to state what questions to consider, how to analyse the data collected and what information is relevant (Yin, 2014). Therefore, it links the data to the conclusions that are drawn from the research questions (Yin, 2003). The research design comprises of three components that are guiding the investigation of factors that impact alignment which are case study questions, propositions and unit of analysis.

5.6.1 Case study questions

A Case study approach as previously mentioned focuses on the *how* and *why* questions of a research study. The case study is guided by the following questions:

a) How can innovative ICTs (MobiSAM) be used to support citizen engagement with the aim of improving communication in Makana Municipality?
b) How can the Municipality's communication processes be aligned with innovative ICTs of the MobiSAM project to support citizen engagement?
c) Why did the alignment of the digital citizen initiatives unfold in a particular way?

5.6.2 Case study Propositions

Case study propositions are statements that affirm the purpose of the study. They are derived from the research questions (Zukker, 2009; Yin, 2013). Each proposition directs attention to factors that should be examined within the scope of the study (Zukker, 2009; Yin, 2013). Without propositions

to guide the scope a researcher tends to collect "everything". The following are the propositions of the study:

- MobiSAM (DCE) can be used to support citizen engagement
- Alignment of DCE initiatives using innovative ICTs with the Makana communication process will improve citizen engagement.
- The primary focus is on the government as it is a neglected beneficiary of most DCE initiatives.

5.6.3 Unit of analysis

The unit of analysis aims to state what is being studied therefore indicates what is being analysed. The unit of analysis is linked to the problem and case definition (Macome, 2004; Zukker, 2009). It highly depends on the research questions of the study (Macome, 2004; Yin, 2013). The unit of analysis for this research are the *processes and factors* that impact the alignment of innovative ICTs with the municipalities' communication processes.

5.6.4 Role of the researcher

A pragmatist researcher allows action to be a significant and fundamental part to study. The researcher needs to adopt an engaged approach in order to understand the context and be able to intervene (Goldkuhl, 2012). The researcher was immersed in the case study as a member of the initiative MobiSAM, therefore, benefited from information access and had more knowledge on complex processes of implementation and the municipality. The researcher was in a position to gain access to information about the participants as a project strategist and evaluator during the implementation of the system and aided the municipality in the adoption. The researcher also had a chance to see how the participants interacted with the system and their perceived interests in the system during training, as the initiative continuously supports the integration.

According to Oates (2006) participant observation involves the researcher participating in the study which provides a point of view of the others in that context. The researcher observes what the participants do and listens to their opinions on the communication challenges and suggestions to these issues (Gillham, 2000). Participant observation also assists in gaining the trust of participants so that they can act natural, while interacting with the systems and feel comfortable to

express their views (Oates, 2006). As a participant observer, the researcher is aware of the risk of asking basic questions with the assumption that they are obvious, therefore the questionnaires and interview questions are set by the researcher with the approval of the Supervisor (Saunders, Lewis, Thornhill, 2009). The researcher did not impose any of their limitations and assumptions on the data collected. Data was collected through observations, meetings and questionnaires (Oates, 2006). Therefore, the researcher recorded data as accurately as seen through the context. Reflections are a vital part of the researcher's data, and therefore notes were kept on their thoughts and feelings on meetings and observations to assist in guarding against bias and misinterpretation of data.

5.6.5 Criticism for Case studies

The main limitations noted in literature are that case study research requires a significant amount of labour and work as the responsibility falls on the researcher. The literature states that the most prominent stage that needs work is the observation stage of data collection (Schell, 1992). The researcher deals with a wide range of topics and issues when attending the Municipality meetings and the internal MobiSAM meetings. These meetings produce large amounts of data that might be both relevant and irrelevant to the study as communication is only one of the many issues that a resource-constrained environment faces. Therefore, the researcher will spend more time in the write-up stage in order to determine what to include and how it is be analysed. The use of case designing prompting case study questions, propositions and unit of analysis assists in limiting this constraint. The case study approach is, however, the most suitable strategy to investigate the alignment factors that impact implementation of innovative ICT in municipality's strategy as (Schell, 1992; Yin, 2013);

1. It examines a problem within its real-life context.
2. The main questions are how and why questions with limited investigative control.
3. There are various sources of information for the case, which included observations, interviews and questionnaires to allow for triangulation.

5.7 Data collection

Data is collected using both primary and secondary tools. Primary data is collected throughout the

project as observations, and these observations are further investigated by administering questionnaires and conducting interviews. Project documents and local government documents were also consulted to acquire more information on the context. The study followed a longitudinal study time horizon as the researcher was part of the ongoing project.

5.7.1 Time horizons

Given a case study approach is applied, triangulation of data sources is used to mitigate bias (Saunders, Lewis Thornhill, 2009; Yin, 2013). Use of a case study approach requires the study to be conducted over time as it aims to research the dynamics of a problem. This is called a *longitudinal study*, where the investigation is conducted over time as the issue runs its course (Yin, 2013). A longitudinal time horizon allows the researcher to examine the change process as MobiSAM is implemented and how the participants interact with the system. It assists in explaining the context as change occurs over time (Menard, 2007). Information collected during a longitudinal study can be obtained at various phases of the project. The researcher has an opportunity to identify the challenges as they occur, observing possible ways of resolving these and at times with the project team, participating in addressing these. Therefore, data collection occurs throughout the research with the guidance of the research questions. The project went through various stages that the researcher used to extract information related to the research study. The data collected, forms part of the research findings in conjunction with the final collection of data through the questionnaire and interviews. Table 5.4 summarises the phases of data collection. In the last stages of the data collection, the researcher uses interviews and questionnaires. The interviews reiterate some of the data collected in all the phases of the project via observation and questionnaires distributed.

Table 5.3: Data Collection Phases

Phase	Purpose	Data collection tools
Preliminary Phase (Baseline Study)	The researcher was involved in developing and implementing a Baseline Study that aimed to establish the current status of the Municipality before the implementation of the system. The researcher managed to acquire information answering *Question 1* of the research. • What are the information and communication-related challenges associated with service delivery in resource-constrained local municipalities? It assisted in understanding the communication ecologies of the municipality.	Questionnaires Participant Observations Document Analysis
Planning and Development Phase (Needs Assessment and Strategy Formulation)	In this phase of the project, MobiSAM aimed at acquiring the needs of the municipality and the community to be fulfilled by the system. This process assisted in identifying the needs required to change from the current to the desired conditions. The researcher took part and extracted information on how citizens can use the ICTs to get their issues resolved. It also assisted in identifying benefits that the municipality will receive from them with *Question 2*. ● What role does citizen engagement play in supporting service delivery in resource-constrained local municipalities'?	Participant Observation Document analysis
Implementation (Process Re-engineering)	This phase focused on the formulation of strategy after the needs of the community and the municipality had been taken into account. The strategy considered the views of all stakeholders with the aim of providing a system that will be relevant to their needs	Participant Observations Document analysis

	while facilitating two-way communication between the municipality and citizens. *Question 3* • How can innovative ICTs be used to support citizen engagement to improve communication in resource-constrained local municipalities?	
Monitoring and Evaluation (Process Assessment)	Process assessment is one of the last phases of the project where the new processes are examined against a set of criteria to determine capability of those processes to perform the service delivery issues. The researcher observed how the actors interact with the system and identify critical factors that support or hinder the alignment of processes with innovative ICT. This assists in answering the last question, *Question 4,* of the research. • How can communication processes of a resource-constrained local municipality to be aligned with innovative ICTs to support citizen engagement?	Questionnaires Participant Observations Interviews Focus group Document Analysis

5.7.2 Research instruments

The research instruments that are employed include questionnaires, participant observations, document analysis and interviews. Among these, the primary source of data is participant observation, as it is conducted throughout the research and triangulation is used to validate the data through interviews and questionnaires.

Participant Observation

Participant observation requires one to be immersed in the research as supported by the pragmatist paradigm (Creswell, 2007; Yin, 2009). It gives the researcher a platform to understand and observe the views of the participants in their context. Observing meetings assist in understanding the

dynamics of the municipality and the relationship between the different participants (Klenke, 2016; Ajjan, Kumar and Subramaniam, 2016). Through observations of activities such as workshops the researcher is able to understand the current processes of communication in the municipality, identify the current challenges faced and how they impact citizen engagement. Furthermore, participant observations provide the researcher with a platform to observe how the municipality staff interact with the project activities as well as, the system once implemented. The researcher is guided by less defined ideas and the theory (AST) in observing (Welman and Kruger, 2001). The researcher is also in attendance as a participant observer, at

1. Local Government level – Management, Special Council Meetings, Council meetings, Operation Masiphatisane establishment
2. CSO and public forums – Kowie Catchment Forum, Black Sash, GRA, Local Communication Forum, Public service accountability and Monitoring (PSAM), Unemployed People's Movement(UPM)
3. MobiSAM – needs assessment, strategy formulation workshops, training workshops, and process assessment

The researcher was involved in training and facilitates workshops as they were aligned towards achieving more effective citizen engagement. The researcher established key areas of focus to take note of as observation goals listed below:

- What are the challenges the Municipality were facing with communicating service delivery issues?
- How does the municipality currently communicate with citizens concerning citizen engagement?
- What influence has MobiSAM had on the way they communicate?
    - How did it transform their communication processes?
- What challenges were faced through the implementation of the system?
- What were the opportunities that came about with implementation that supported communication and in turn transparency and accountability?
- How can innovative ICTs efficiently be aligned with communication processes for citizen engagement?

Questionnaires:

This is one of the secondary sources of data and is used to complement observations outlined throughout the study (Cecero, Nelson and Gillie, 2004; Silverman, 2016). A questionnaire is a data collection tool that has a series of questions in a predetermined order with the aim of achieving the research objectives (Powe, Garrod and McMahon, 2005; Patten, 2016). The questions are based on the whole project with specific sections that answer this research's objectives. Therefore, the questionnaire was developed by the MobiSAM team as a whole. The questionnaire was divided into five sections that are demographics, Municipality position, MobiSAM use, and Perceived usefulness shown in the Appendices. The researcher provided input on the questionnaire to address the research objectives and addressing factors from literature. Questionnaires are distributed to participants who used the system as they have hands-on experience with the system itself (Cecero, Nelson and Gillie, 2004; Patten, 2016). Initially, a baseline study questionnaire was administered to investigate the current communication processes of the municipality and to establish the challenges they faced. A process assessment question was then conducted after the implementation of the initiative to understand the implementation of the system and investigate what impacted the alignment or misalignment of their processes. All the questionnaires are attached in Appendix B.

Interviews

Interviews involve face-to-face meetings, where the researcher asks the participants a series of questions (Powe, Garrod and McMahon, 2005). An interview guide is developed to outline the key areas and themes to be discussed either from literature, research questions, questionnaire and or observations (Cecero, Nelson and Gillie, 2004; Brinkmann, 2014; Silverman, 2016). They allow the interviewer to gain further clarification and explanation to responses made in the interview itself, questionnaire as well as observations made by the researcher. The qualitative research interview seeks to describe the meanings of central themes in the life world of the subject (Cecero, Nelson and Gillie, 2004; Brinkmann, 2014; Klenke, 2016).

The interviews are both semi-structured and unstructured in order to get a deeper understanding of their experience with service delivery challenges, as well as, information and communication

requirements for service delivery in relation to the Municipality (Gujarati, 2003; Saunders, Lewis and Thornhill, 2003; Silverman, 2016). The questions are directed at the participant's experience while interacting with MobiSAM. The interviews are with people that engage with MobiSAM including technicians, departmental users, media and communications manager, media and communications assistant, ICT manager, municipal manager, civil society representatives, ward councilors, and citizens. The interview guide is attached in Appendix D.

The purpose of the interview is to (Ajjan, Kumar and Subramaniam, 2016):

- recognise the role of different stakeholders in the communication process and their interests in the system being implemented,
- recognise the significant challenges related to the MobiSAM project implementation and its outcomes.
- gathering information regarding communication processes, structural issues and decision processes

Focus groups

Focus groups assist the researcher and participants in constructing meaning from the topic of discussion (Silverman, 2016). The communications department, help desk, technicians and the fire departments operators are interviewed in groups as they contain a small number of people that have similar views and roles in the municipality. Focus group interviews provide a platform to prompt for stakeholder's views on the project with the aim of further understanding the 'how' and 'why' specific factors supported or hindered the alignment of the initiative (Silverman, 2016). The researcher facilitates the conversation around the use of the system and the challenges they have faced and gather suggestions in those areas they have faced challenges. Furthermore, these recommendations are used to improve the project and better equip the project for future reference. (Hallikainen and Chen, 2005). Focus groups also assist to identify the core themes that impact the implementation process of MobiSAM in the Municipality and provides a platform to observe the reactions to key questions in an open forum.

Table 5.5 shows the list of people interviewed stating their roles and user level. User level is determined by the job role of the user. Level 1 are the people that receive service issue reports first

which are the communications departments and Customer Care. Level 2 consists of departments that are responsible for issuing the assigned reports to the technicians. They make sure that they get feedback from technicians on resolved issues. The last level which is level 3 are the technicians that resolve the problems reported.

Table 5.4: List of the interviewees, their role and purpose

Department	Interview type	Role	User Level	Reason
Communication Department	Focus group	Media and Communications Manager	1	These are the project champions for MobiSAM and are directly affected by the reengineering of processes in implementing the system. They are the first people to receive reports which they then assign
		Customer care	1	
		Assistant Media and Communications Officer	1	
		Media and Communications intern	1	
		Switchboard Operator	1	
		IT manager	1	
		IT assistant	1	
	Focus group	Technicians	3	These are users of the systems and are concerned with addressing service delivery reports and providing feedback to the central team at Level 1. They influence the processes of service delivery.
	Interview	Manager	2	They manage the technicians in the department with the exception of the electricity department. She has knowledge of service delivery processes and influence over the level 3 technicians, procedures and tasks.
	Interview	DEIS Director and Acting Municipal Manager	2	The director currently also held the position of Municipal Manager. He was responsible

Engineering and Infrastructure services				for managing the whole department with the focus of ensuring the quality of water, sanitation and road services which are also the main issues reported on by citizens. He has the power and influence over the whole department and is accountable to what occurs in the department.
	Interview	Operations manager	2/3	This user has the influence and knowledge of service delivery processes. He oversees and resolves reports from citizens.
	Focus group	Helpdesk Clerks	2	They receive tickets assigned to service departments, from MobiSAM. Also, they received complaints directly from citizens through front desk reports and phone calls. They are responsible for assigning the issues to the technicians
Electricity	Interviews	Manager	2	The electricity manager is accountable for technicians in the electricity department. She has knowledge of service delivery processes and influence over the level 3 technicians' procedures and tasks.
	Interviews	Administrator	2	Refer issues from the Communications Department to the technicians and receives reports through walk-ins
Fire department	Focus group	Switchboard operators	1	Handles reports from the citizens after regular working hours

Document analysis

This research forms part of an ongoing research project, therefore, documentation of preceding

evaluations in the projects, such as the Baseline Study, Needs Assessment, Strategy formulation and the Process Assessment are consulted. Some of these evaluations have been written up by team members therefore the research is going to build on those documents as well. Municipal documents are also analysed, such as the council meeting documents, communication strategy and communication policy documents. Reviewing the documents as the project assists in revealing information about context and processes of the municipality. More importantly, preceding assessment domains inform the key themes that form part of the proposed framework. Reviewing the documents assists in getting a comprehensive view of the processes and adds value to the alignment framework assisting in informing the reflective process.

5.7.3 Credibility of Research Findings

Reliability: All interviews are conducted at a neutral time to avoid participant bias due to the participants' moods depending on time or day of the week. The anonymity of participants throughout the data collections is applied (Creswell, 2003; Patton, 2005; Silverman, 2016). To eradicate observer bias and error, there were two people that conducted the interviews with a guideline that provided a high degree of structure but with leeway to ask follow-up questions (Byrne, 2001; Patton, 2005; Silverman, 2016). Interpretation bias was managed by consistently comparing the data gathered from one data collection tool to the rest, in this case data from observations to interviews and questionnaires responses (Creswell, 2003; Patton, 2005, Ajjan, Kumar and Subramaniam, 2016).

Generalisation: This is an issue that needs to be taken into account as many have argued it is a limitation of single case studies. The generalisation of a single case study can be based on analytic generalisation where the theory is used as a basis to compare with empirical data collected of the case study (Firestone, 1993; Polit and Beck, 2010; Maxwell and Chmiel, 2014). Yin (2009), described it as generalisation to theory by stating that the generalisation of a single case study can be based on deductive reasoning and theoretical generalisation (Johansson, 2003; Yin, 2009; Maxwell and Chmiel, 2014). Deductive reasoning uses the theoretical framework, Adaptive Structuration Theory, to derive alignment factors as the findings from data collection. Consequently, single cases are generalizable to theoretical propositions as they aim to contribute

to knowledge by expanding the theory (Johansson, 2003; Yin, 2009 Maxwell and Chmiel, 2014).

5.8 Data Analysis

The identification of alignment factors is achieved through explanation building and thematic analysis. Thematic Analysis is used to analyse the qualitative data collected as it assists in identifying themes from data (Friese, 2014). Quantitative data is also used through analysis of questionnaires. It is analysed using descriptive statistics as it provides simple explanations. It also summarises features of collective information. Thematic analysis enables the researcher to look for themes from the data collected allowing easier analysis and grouping of related themes (Saunders, Lewis and Thornhill, 2003). In this research, thematic analysis is used to identify common themes, such as, the influence that key actors will have in alignment, suitable processes to follow, and key focus areas. These themes are used to develop a framework to guide the alignment of the communication processes with innovative ICTs in local government (Daly, Kellehear and Gliksman, 1997). The research uses thematic analysis that relates to open coding and closed coding as it going to use predetermined themes from AST theory and observation of emergent themes (Merriam, 1998; Ezzy, 2013). As the initial coding effort, data are deconstructed into the simplest form possible, examined for commonalities, and sorted into categories. Thematic analysis is conducted by following the steps stipulated by Braun and Clarke (2006) shown in Table 5.5.

Table 5.5: Thematic Analysis Steps

Step	Description according to study
Familiarisation with data	It is important to familiarize with the data collected through questionnaires, interviews and observations. The researcher went through the data repeatedly and thoroughly in order to find themes and patterns from the data collected. This involves listening to the interview audios and reviewing other data sources repeatedly to make sure the key aspects have been identified.

Generating initial codes	This entails going through all the sources of data and grouping them under those themes. The data collection methods used will all be analysed and recurring themes such as lack of feedback will be identified and noted. This stage involves coding the data and grouping that arises from the data. The Adaptive Structuration Theory was used to guide the generation of initial codes (factors)
Searching for themes	After the initial codes are generated there is need to refine and group the codes into potential themes.
Reviewing themes	This stage entails reviewing the themes generated from the codes, deleting, merging and identification of new themes The factors that are identified are reviewed as some might not be relevant to the study. This assists in producing a thematic map of the analysis.
Defining themes	At this stage, the researcher observes the themes that emerged from the literature review, empirical observations and theory relevant to the alignment of Digital Citizen Engagement (DCE). This will assist in defining and refining according to the essence of the research.
Overall Report	This is the final stage of the analysis where the final report is compiled of the themes that have been identified relating to the case study research questions These themes are then used to develop the DCE alignment framework

Explanation building is a case study analysis technique that analyses data by building explanation on the case. It helps the development of causal links (Yin, 2009). This analytical process is used to analyse the data collected. Table 5.6 illustrates the steps that study will take in explanation building. The proposed DCE alignment framework is developed through focusing on particular data (Yin, 2009).

Table 5.6: Explanation Buiding Steps

Step	Description according to study
Making initial theoretical statement	The AST theory is used as the initial phase of explanation building. The theory inputs guide the researcher in identifying factors that impact alignment in DCE projects such as factors within the Advanced Information Technology.
Comparing the findings of the initial case against such a statement	The findings from the data collected are compared to the factors and structures stated by the Adaptive Structuration Theory allowing the factors to be refined as factors that do not apply to the context such as the Group Internal Systems are disregarded. This is the same for alignment factors arising from data that do not tie into the theoretical framework.
Revising the statement	The findings are revised according to the AST in an iterative manner as the project goes through phases. The iterative nature of the alignment process in itself will require constant revision as new factors emerge from the process.
Comparing other details of the case against the revision	Other data collected from each phase of the projects and from the various methods are compared against the revised proposition. These include contextual data from document analysis of the municipality documents.
Future Research Comparing the revisions to the facts of 2nd, 3rd or more cases	The formulation of the framework is an iterative process that keeps yielding new factors depending on the context therefore the revision are compared to other case studies.
Repeating the process if needed	This is an iterative process that will happen until the alignment factors have been refined.

5.9 Ethical considerations

Research that involves people needs to be ethically conducted in order to minimise harm and be

useful (Davies and Dwyer, 2007). As this study involves primary research (observations, interviews and questionnaires), research ethics is applied as people are involved in the data collection (Vosloo, 2014). These participants are protected by seeking informed consent before any form of participation, assuring that their contribution and identities are confidential and anonymous (Kimmel, 1988 and Tarling, 2006). A consent form is developed and signed by the participant before engaging in the process (Creswell, 200; Brydon, 2006; Krauss, 2009). An informed consent is presented after the researcher has explained the purpose of the research to the participants and the implications of their contribution. The participants are given the ability to withdraw from the process, the right to ask questions and receive a copy of the findings once collated (Creswell, 2003). The form is accompanied by an information sheet that details the purpose of the research, including an ethics code that can be used be for reference if the participants feel their ethics have been breached.

Ethical clearance was sought from the Rhodes University's Information Systems Department ethics committee against the code of ethics. The ethical clearance application includes consent forms of the participants, interview questions and letters that are sent to the participants informing them about the research (Vosloo, 2014). The letters stated what the research is about, the risks and benefits involved, and also reiterated the anonymity and confidentiality of their participation. This letter is for the participant to make an informed decision and to enable them to withdraw from any part of the data collection (Christensen, Johnson and Turner, 2011; Vosloo, 2014).

Participant observation which is the stance in this research involves the long-term involvement of the researcher in the context therefore informed consent was established at the beginning and continuously updated as they proceeded. However informed consent is hard to acquire regarding participant observation; therefore, the researcher ensures that participants are provided with adequate information for them to decide if they would like to participate in the research (Reynolds, 1982). The formation of relationships with the participant is vital to the study as it assists in more open engagement of the participants and willingness to provide their views and knowledge on what has impacted the implementation and alignment of the DCE system. Relationships encourage more effective communication between the stakeholders and provide a platform to clarify any

expectations between participants and the researcher (Brunet *et al*., 2004; Brydon, 2006; Mthoko and Pade-Khene, 2013). This assists in establishing a sense of culture and other dynamics that might assist the researcher to be aware and therefore more considerate (Creswell, 2003).

The researchers' identity and role in MobiSAM is made known by the participants (Savage and Moore, 2002). The researchers' identity is always be known to the participants and the purpose of their presence. Raw data collected from the participants through interviews and observation is stored on a computer and to ensure security it can only be accessed by the researcher. Names of the participants are withdrawn from the discussion for anonymity and confidentiality (Blumberg, Cooper and Schindler, 2008). This research involves various stakeholders who may share conflicting opinions and thoughts. Therefore, the participants need to be reassured of confidentiality. Lastly, the data collected is only shared with people who have a stake in the results and are part of the research in a detailed capacity.

5.10 Conclusion

This chapter outlines the theory used to guide the method to be followed in the research. The research uses the Adaptive Structuration Theory to guide the formulation of a theory that is used in aligning Digital Citizen Engagement initiatives at local government level. The chapter discusses the research methodology and how it applies to the study. The research paradigm, pragmatism, required the researcher to be immersed in the research to investigate the alignment factors through the exploration of a case study. Pragmatism is an approach that evaluates theories or beliefs regarding the success of their practical application. The case study strategy provides a holistic understanding of the proposed framework in a real-life context. The case study design guides the exploration of the proposed framework in a real-life environment suitable in-depth understanding of the problem. The chapter also presents the data collection tools to be employed in the empirical investigation. The chapter concluded with the ethical considerations employed to ensure this research study is conducted in a manner that is deemed appropriate by various entities. It provided an overview of how the research study was conducted.

Chapter 6: Case Study Exploration of Makana Municipality

This chapter provides a case study description of Makana Municipality and the implementation of MobiSAM a Digital Citizen Engagement initiative. The factors that arise from empirical investigation of the case study will then be used to formulate the DCE framework with the guidance of the Adaptive Structuration Theory.

6.1 Introduction

Municipalities are adopting initiatives to assist in improving service delivery. However, alignment of these initiatives with municipality processes is an increasing need as most initiatives are facing a number of challenges and lack sustainability. Consequently, there are no existing frameworks or models to assist in aligning projects to the municipality processes in the Digital Citizen Engagement field. Case studies could be used to investigate how local government is adopting digital citizen engagement initiatives, identifying factors that have hindered or supported the alignment process. The alignment factors are informed by observations that take place throughout the project lifecycle. A single case study, Makana Municipality, will be analysed to establish the alignment factors to be considered in a resource-constrained environment. The case study investigation provides the context in which a Digital Citizen Engagement (DCE) project is implemented and adopted.

The alignment factors were motivated by theory, literature and data collection. The following chapter provides results and discussion of the case study, and identify factors that impact the process. It outlines the researchers' experiences and observations within the context while assessing the adoption of ICTs. The chapter starts off with a brief background of the municipality and the supporting DCE initiative. Subsequently, the alignment strategy applied the MobiSAM team is then discussed. The chapter concludes by identifying the outputs generated from the processes, which are dependent on how the inputs impacted the process.

6.2 Background

Makana Municipality covers an area of 4 375.62 km^2, and the population figure is 82 060 (Statistics SA, 2016). Makana Municipality is classified as a Category B municipality by Cooperative Governance and Traditional Affairs (CoGTA) (CoGTA, 2009). Makana Municipality is classified as Group 2 under category B3 (World Bank, 2009; Clifford 2015). This is illustrated in Figure 2.2, in Chapter 2. Makana consists of nine towns which are: Alicedale, Salem, Riebeeck East, Seven Fountains, Fort Brown, Sidbury 1920, Manley Flats, Carlisle Bridge, and Grahamstown: whereby Grahamstown makes up the largest population. The town is divided into 14 wards with the most massive three wards being Ward 1, Ward 13 and Ward 14. Figure 6.1 illustrates the ward boundaries, also indicating the size of wards with the top right corner zoomed in allowing all wards

to be visible.

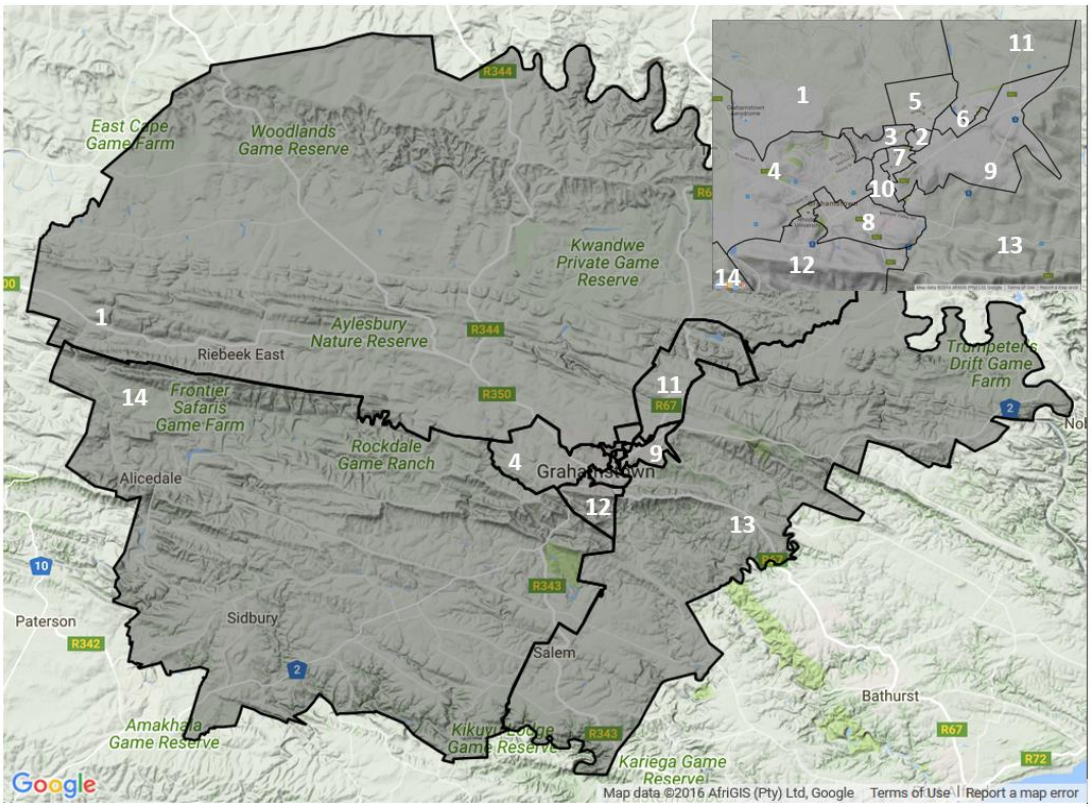

Figure 6.1: Makana Municipality Ward demarcations (Baseline Study, 2016).

From the Statistics SA (2016) report, it was stated that Makana Municipality had a significantly high unemployment rate of 25.5%. The Baseline Study revealed that 39.2% of the residents have primary education level to no education at all. This was but merely a representation of the Municipality education level. The last recent IDP documents confirm that the majority of the population still have little to no education (IDP, 2015/2016; Makana Municipality, 2015). 55% of the households in the municipality are poor with most of the population receiving no income or are below the poverty line of less than R801 per month (Makana Municipality, 2015). This places Makana under a significant burden to provide basic services for its community. Various efforts have been to alleviate poverty by issuing of grants to the underprivileged, which has led to about half of the population depending on social grants in the municipality.

6.2 Service Delivery in Makana Municipality

This is the case with and most of the municipalities in South Africa as local government has no

capacity to supply adequate services to the community (Mogale, 2005; Chuene, 2012; Madumo, 2015). The service delivery crisis within Makana Municipality has been well recognised over the past years by media indicating financial, water, maintenance and infrastructural challenges (Chuene, 2012; Mdlongwa, 2014; Dispatch Live, 2017). Particularly, in service delivery as it is stated that (Thinyane, Siebörger and Reynell, 2013: 245):

> *"...local government capacities are in short supply, and financial sustainability is frequently in doubt. This hampers total government ability to perform traditional functions such as service delivery and regulation, collecting rates, user charges, and fees."*

The municipality was named among three of the worst municipalities in the Eastern Cape in 2011 with a debt of R19.8 million (Mngxitama-Diko, 2013b). This led to the Municipal Manager and Chief Financial Officer being charged with misconduct, who were subsequently removed from their posts. In 2012, the newly appointed municipal manager and strategic manager were also dismissed under suspicions of fraud, gaining R3 million in pay-out. By the end of 2013, the largest town in the municipality, Grahamstown, reached a point where it had no water for two weeks. This led to the matter being taken up by the President's office, leading to the recruitment of Amatola Water consulting to address the issues.

Since early 2017, Amatola Water consultants have since stopped assisting the municipality, after not being compensated for their work. Though the problem of water service delivery is currently being addressed, the municipality is still facing challenges due to its dilapidated infrastructure, which currently threatens the continuous delivery of water. Low dam levels have also been reported as the two main dams (Setters and Howieson) were both at 18%, as of the 4th October 2017. In various municipal council meetings, concern has been raised over declining revenue collection rates, which has affected its income. The public is invited to these meetings including Civil Society Organisations (CSOs). In Makana Municipality, the most prominent ones include the Public Social Accountability Monitoring (PSAM), Black Sash, Kowie Catchment Forum, Upstart Youth Movement, and the Unemployed Peoples Movement (UPM). They all aim to make a significant improvement to the community. At a CSO public meeting hosted by the Grahamstown Residents Association (GRA), the Mayor stated that they were R330 million in debt and that 47% of the current debts were collectable. Most of these issues stem from a decline in meter readings,

which have been caused by lack of training of technicians (GRA public meeting 25/08). It was also established that the municipality had failed to account for the last ten years financially, due to the vacant post of an Accounting Officer. They addressed this by appointing a new Chief Financial Officer (CFO) to assist in clearing the existing backlogs. At a recent special council meeting held in November 2017, it was stated that the collection rate for revenue had dropped from 90% to 71%. This was a result of a significant increase in indigents (citizens who cannot afford basic services), compelling that the government must provide for them. Furthermore, the debt owed to the South African electricity public utility, Eskom, has increased from R58 million to R68 million.

Due to these issues building up over the years, the municipality was put under the administration of Section 139(1) (b) of the Constitution in August 2014 (Mdlongwa, 2014). Complaints were filed against the municipality under the Promotion of Access to Information Act (PAIA), due to its inability to provide adequate services to the community. The Kabuso Forensic report also implicated individuals in the municipality of corruption, as various political players pushed the release of compromised versions of the final report (Majai, 2014; Grocott's Mail, 2017). The provincial government was tasked with intervening where the local municipality have failed in fulfilling its constitutional obligations (Constitution of the Republic of South Africa, 1996). In 2013, local media reported that 13 Municipalities were put under administration of Section 139 (1) (b) (Calderwood, 2013). Since then more municipalities have been placed under administration, especially in the Eastern Cape, which has the top three ranked worst performing municipalities in the country (Mini, 2011a, 2011b; Thinyane, 2013).

Citizens have raised issues of poor administration as the municipal manager post had not been filled since 2014, which they concluded resulted in lack of direction and prolonged processes within the municipality (Strategy Formulation Workshop, 2016). This was also affirmed by the establishment of the operation *Masiphatisane* initiative by the Office of the Premier (Masiphatisane, 2016). It was established to ensure that the services rendered to the community in various wards align with public planning and improve linkages between all stakeholders. This initiative aimed to use the Integrated Service Delivery Model (ISDM) to guide their processes. They encouraged a bottom-up approach, where war rooms established in each ward provided a platform for the community to report service delivery issues. The aims and objectives of the

initiative were feasible and promising however, the process was superficially rushed, and the project failed. The few war rooms that were established did not survive as the participants of the project were not trained in how to guide the process. Similarly, most government-initiated projects are not fully supported and sustainable due to lack of management (Elkadi, 2013). It is suspected that the initiative fell apart because of prioritizing political agendas. Therefore, their aim was simply to establish and not support addressing service delivery issues. The current communication problems that are being faced by the municipality include lack of sustainability of a positive mood internally and externally, as well as, a lack of consistency in holding regular departmental meetings to steer service delivery (Communication strategy, 2016; CoGTA, 2014). Previous studies support the view of the lack of response from local governments as a primary cause of an increase in service delivery protests (Doreen 2007). Lack of access to effective communication mediums and language barriers, has negatively impacted the effectiveness of communication and message transmission in resource-constrained municipalities (Communication strategy, 2016). The issue of poor communication between citizens and the municipality remains a challenge, despite the eagerness of service providers to communicate effectively. The municipality has established various ways to communicate with the citizens, which include communicating via Ward Councillors and Community Development Workers (CDWs). When communicating with larger groups, they hold *Indabas* and community meetings. They also use written notices, the local radio station, the newspaper and emails to communicate to send important messages. The Speaker of the Makana Municipality Council emphasised that there is a need for more effective communication internally. A large hurdle that stood out during observation was the lack of feedback from the municipality regarding the status of reported service delivery issues.

The municipality had no formally set procedure on how to receive, track and resolve complaints, internally between departments, and externally with citizens. The municipality had three departments that receive complaints which are the Communication Department, Fire Department, and the Department of Engineering and Infrastructural Services (DEIS). These departments received complaints from citizens via various methods including WhatsApp, emails, front desk walk-ins, SMS, Facebook, and phone calls (both landline and cell phone). This haphazard reporting structure, which resulted in duplication of reports became part of the municipality

culture. Table 6.2 shows the problems expressed by the municipality and citizens through three strategy workshops run by the MobiSAM project held with municipal staff and local stakeholders.

Table 6.1: Problem demarcation by the municipality and citizens (Osah, 2017).

BOTH MAKANA MUNICIPALITY + CITIZENS & CIVIL SOCIETY	
Recurring service delivery protests:	
MAKANA MUNICIPALITY	**CITIZENS & CIVIL SOCIETY**
1. Service delivery requests are not communicated promptly to concerned divisions: 2. Lack of awareness by service recipients on the mechanics of consumption and overconsumption of water reservoir reserves: 3. Public infrastructure being vandalised but not reported: 4. Lack of evidence to support engagement aimed at soliciting increased funding to support local government functioning:	1. Lack of planning by the municipality 2. Lack of appropriate technology 3. Lack of government transparency 4. Lack of evidence to support meaningful engagement with local government 5. Cynicism towards the government on their ability to listen to the ordinary citizen

6.3 Makana Municipality Digital Citizen Engagement Initiative

Mobile Social Accountability Monitoring, (MobiSAM) is a citizen engagement initiative that was introduced to Makana Municipality with the aim of supporting two-way communication between citizens and government. MobiSAM is a form of mobile government as it is also used as a social accountability monitoring tool. The MobiSAM project focuses on the innovative aspect of mobile government. There are three primary methods of mobile government these are innovative, supplement and expand. The *Innovative* method considers new ways in which local government provides services to its citizens and new forms of interaction with citizens (Thinyane, Siebörger, Khene and Mthoko, 2017). MobiSAM operates as a digital tool, providing a channel for lodging reports on basic service delivery issues that affect citizens daily. It provides the municipality with a system that helps facilitate communication with citizens and a ticketing system for tracking. It is classified under the innovative aspect as it is a new way of facilitating two-way communication within local government. MobiSAM provides a platform for more collective action for citizens and a platform for citizens to individually report issues and provide feedback, this is illustrated in Figure 6.2 (Peixoto and Fox, 2016).

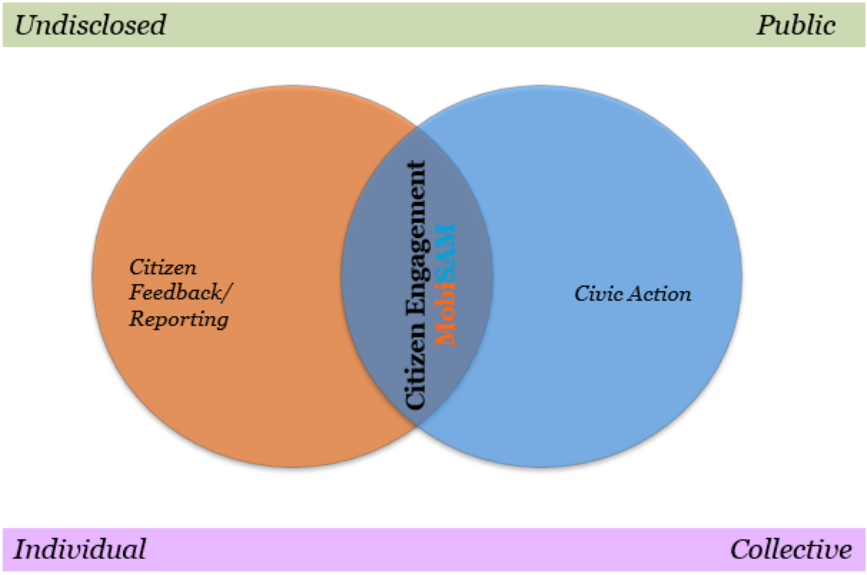

Figure 6.2: Unpacking user feedback and civic engagement: Citizen Engagement Overlap Adapted from (Peixeto and Fox, 2016).

MobiSAM was divided into two phases. The first phase MobiSAM 1.0 focused on creating a platform for citizens to communicate their issues to the government. The project faced challenges related to lack of government buy-in and lack of responsiveness, as it applied an adversarial approach. The second phase MobiSAM 2.0 was started with the aim to increase government responsiveness and build relationships to overcome the challenges faced in the previous phase.

6.3.1 Phase 1.0

The initiative was founded in 2012 by two researchers at Rhodes University, who were motivated by the lack of adequate service delivery in Makana municipality (Thinyane and Coulson, 2012). It was funded by the Ford Foundation to enable citizens to participate and communicate with the municipality. The system offered a platform to gather and collect real-time information, facilitating social auditing and facilitated citizen participation making sure that citizen voices are heard by the municipality (Thinyane and Coulson, 2012). A Baseline Study was conducted to understand citizens' use of technology, and how they participated in local government issues. The Baseline study reiterated the lack of responsiveness from the local government to citizens pertaining to Water and Sanitation, Electricity, and Roads (Thinyane and Siebörger, 2017). Table 6.2 illustrates the satisfaction levels of citizens in these and other department regarding service delivery.

Table 6.2: Levels of satisfaction regarding municipal services amongst participants (Thinyane and Siebörger, 2017)

Municipal service	Satisfied	Not satisfied	Unsure	No response
Electricity	82.86%	17.14%	-	-
Water	16.19%	83.81%	-	-
Refuse removal	73.33%	26.67%	-	-
Sanitation	61.9%	35.24%	1.9%	0.96%
Parks and recreation facilities	20.95%	74.29%	4.76%	-
Roads and sidewalks	21.9%	78.1%	-	-

More than half of the participants had made a complaint to the municipality and had been dissatisfied with the services they received (Thinyane and Siebörger, 2017). The process assessment highlighted the municipal service that receives the most reports however participants noted that it is dependent on Wards. Though with the drought water is the highest reported issue. A municipal worker noted:

> *"In Ward 8 and 11 there are complaints about houses, they want formalized areas. But mostly its water housing and sanitation."*

MobiSAM aims to remove the distance barrier by enabling communication from anywhere and the traditional paper-based reporting in Makana. This initiative, however, faced various challenges including lack of government responsiveness, lack of attitude towards public participation, and limited access to public documents to support the accountability process (Thinyane, Siebörger, Khene and Mthoko, 2017). Further investigation led to the realisation that the local government institution had communication challenges internally, which impacted how they communicate with the citizen as well.

6.3.2 Phase 2.0

The next phase of the project focused on capacitating the municipality by strengthening their ability to communicate internally and externally. With this in mind, the project was re-established in 2016 and focused more on citizen engagement and government responsiveness (Thinyane, Siebörger, Khene and Mthoko, 2017). A greater focus was placed on building foundations and relationships between stakeholders in the project, to improve the state of communication and collaboration between citizens and the municipality. Phase 2.0 is based on Operational Model illustrated in Figure 6.3. This phase of the project encompassed more than technology but also other factors that affect DCE projects in their context. DCE contexts are complex and constantly evolving socially, politically and economically. Therefore, the model employed an adaptive approach that encouraged continuous learning and evaluation of the context. The model consists of four aspects which are:

- *Citizen Education and Training*: Training and education is required in order to empower citizens. Empowering citizens will enable them to participate and increased awareness of local government processes. Citizen education workshops were held on citizens' rights, local government functions and how they can communicate with government. Training was held on how to use MobiSAM to report, track and provide feedback on issues to the local government.
- *Building Government Responsiveness and Citizen Engagement Capacity*: There is a need to motivate government responsiveness and educate citizens on effective ways to engage in order for effective communication. The project conducted training for municipal staff and held workshops to understand the processes and educate them on how best the technology can support their processes.
- *Stakeholder Engagement*: The MobiSAM Project engaged with Makana Municipality through meetings and workshops. They also engaged with the provincial government during the establishment of Operation Masiphatisane, and civil society organisations such PSAM, GRA and Grocott's Mail.
- *Technology platform development*: Technology was implemented in phases. The first iteration encompassed the developed of technology while the second iteration integrated a ticketing system to assist with tracking of service delivery issues. An iterative and incremental approach was applied to technology development, due to the uncertainty of the context.
- *Comprehensive Evaluation*: You just need to say the project applies a comprehensive evaluation approach. This evaluation approach consists of the following stages: 1) Baseline Study, 2) Needs Assessment, 3) Programme Theory Assessment and 4) Process Assessment. The project is still yet to conduct an Outcome and Impact Assessment.

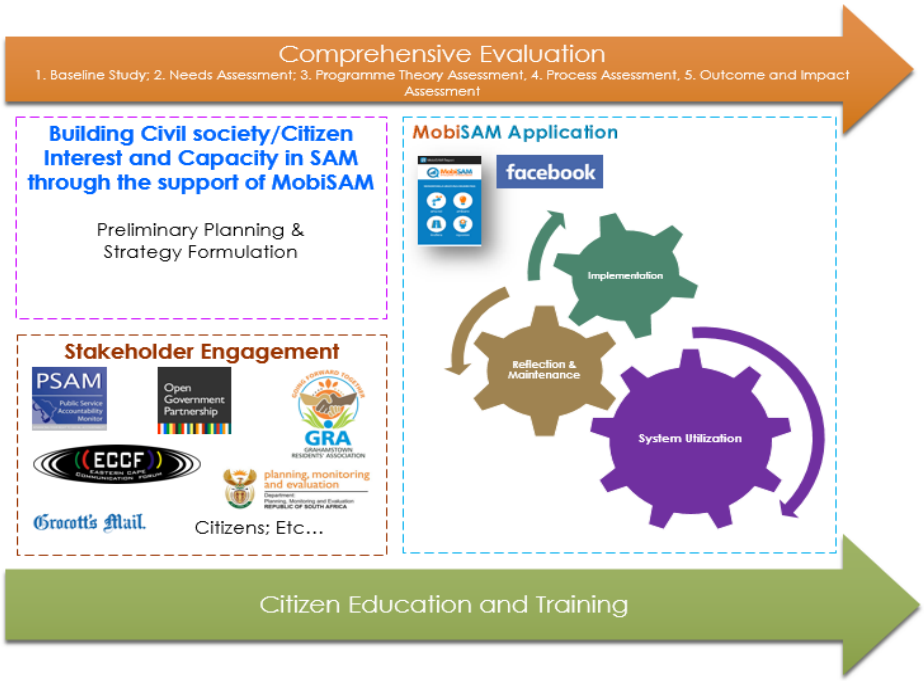

Figure 6.3: Operational Model of MobiSAM (Pade-Khene, Thinyane, and Machiri, 2017).

6.4 Factors of Alignment of Digital Citizen Engagement (DCE) in Makana Municipality

The theoretical framework that guides the research study is the Adaptive Structuration Theory, which identifies the factors that impacted the alignment in DCE projects. The structures that are present in theory were used as a point of reference in examining the local government context. It divides its structures into three sections, which are inputs, processes and outputs. Inputs are the structures, or in this case, factors that impact the alignment processes, while outputs are generated from the alignment process of an initiative. The process relates to the integration and alignment of MobiSAM in Makana Municipality. The case study description discusses the process first, because understanding the process sets the context for the types of inputs that influence the appropriation process. This process is influenced by the relationship and engagement between citizens and local government, which also assists in identifying inputs and factors. The Appropriation process involves the integration and alignment process and the citizen-state socialisation. Subsequently, the inputs that have been identified from the process, literature and the case study are discussed. Lastly, the outputs generated from the appropriation process are presented.

6.4.1 Appropriation Process

The appropriation process is the act of alignment that impacts DCE, using resources, factors, and processes (Avolio, Kahai and Dodge, 2001). The appropriation process encompasses two sub components: which are 1) Integration and Alignment, and 2) Citizen-State Socialisation. The integration and alignment process was adapted from the generic business re-engineering process (Vakola *et al*., 1998) while the Citizen-State Socialisation is a vital aspect that emerged from the study, in relation to the way in which the citizen and the local government engage.

a) Integration and Alignment Process

The key to the success of such an initiative requires problem identification and demarcation, in order to build capacity and buy-in for government responsiveness and citizen engagement. Furthermore, examining contexts also requires identifying ways to increase participation, such as: showing results from engagement, designing multiple channels of participation, and obtaining pre-commitment from citizens (Spada, Mellon, Peixoto, Sjoberg, 2015). The business process re-engineering model was used as a lens to guide the alignment process of the system in the municipality. This assisted the aligned of the ICTs with the processes, people and resources of the municipality. Successful alignment goes beyond alignment of technology as it requires the existence of adequate resources to support the process and staff to be trained and informed of the changes. There are various methods used in alignment however the researcher used Vakola *et al*., (1998) as he provided a generic model that could be adapted to any context. This is illustrated in Figure 6.4.

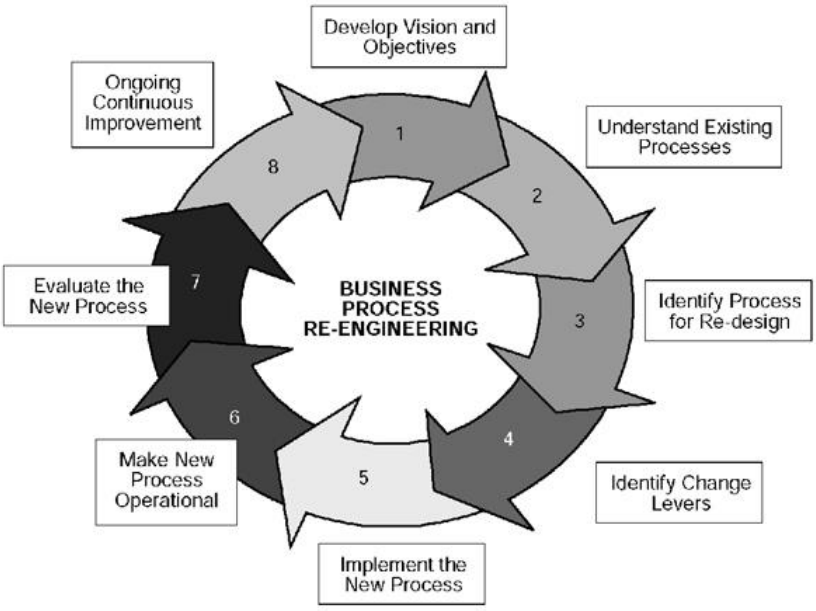

Figure 6.4: A generic model for business process re-engineering (Vakola et al., 1998).

The MobiSAM project processes were organic and unraveled appropriate practice in the context of digital citizen engagement in local government. As the project reached post-strategy formulation, alignment became paramount, reflecting between context relevance and theory. The Vakola *et al*., (1998) model lent itself as a framework to guide the framing of practices that had already been applied, and other practices for re-engineering, going forward. Table 6.2 illustrates the how the generic model was used and how it links to the model that was used in the research.

Table 6.2: A comparison between the generic BPR and the integration and alignment process.

A generic model for business process re-engineering	MobiSAM integration and alignment process
1. Develop Vision and objectives	1. Building Relationships and Problem demarcation
2. Understand existing processes	2.Needs assessment
3. Identify Process for Redesign	3.Strategy formulation
4. Identify Change Levers	4.Process Reengineering
5. Implement the New Process	5.Implement New Process
6. Make the New Process Operational	6.Evaluate the New process
7. Evaluate the New Process	
8.Ongoing Continuous Improvement	

The researcher observed that the MobiSAM project activities were iterative similar to Business Process Re-engineering (BPR) except the first step, some aspects enriched this process for this particular project context.

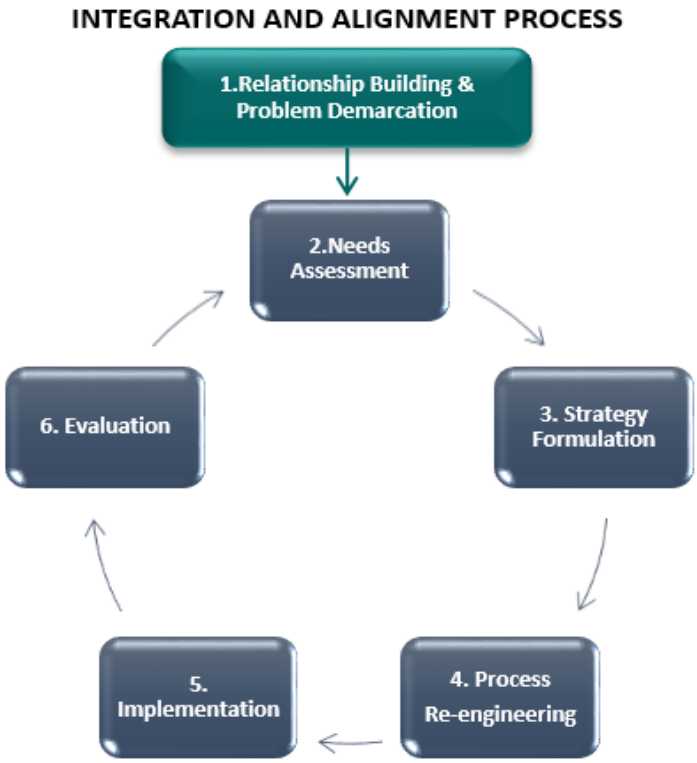

Figure 6.5: Digital Citizen Engagement Alignment Cycle of MobiSAM

Figure 6.5 illustrates the integration and alignment process of MobiSAM. The first three stages differ from Vakola *et al*., (1998) model, as various methods were adopted as the process unfolded for the particular research field. The first stage of the integration and alignment process that is fundamental to citizen engagement is, *building relations and understanding the problem*. The second stage then aims to understand the existing process, followed by the strategy formulation stage that encompasses the development of vision and mission statements, as well as, redesigning the process. The rest of the stages (4, 5 and 6) are similar to the processes of the Vakola *et al*., (1998) model, which include re-engineered process, implementation and evaluation.

1) Building Relationships and Problem Demarcation

This is the problem definition phase where the MobiSAM team found redundancies in the existing communication processes of the Municipality (Vakola and Rezgui, 2000). The municipality faced various challenges, and at this stage, the team investigated the root causes of the issues that were

directly linked to lack of communication between citizens and, government, and internally between government departments (Vakola and Rezgui, 2000). The team aimed to build relationships with the government in order to ensure more success and sustainability of the project. The Communications department was the project champion in Makana Municipality as the focus of the project directly linked to their responsibilities. Various meetings were held to establish an entry point into the municipality and to obtain a deeper understanding of how the municipality functions. Subsequently, the team managed to build relationships with some municipality staff members from the Customer Care Unit and the Department of Engineering Infrastructural Services (DEIS) front desk. There was little to no involvement from the councillors, ward committees and Community Development Workers (CDW). This was because their term in office was coming to an end that August 2017, therefore, they showed no interest in the initiative. A member of the baseline interviews confirmed that when they stated;

> "*...they would not show interest because it was the transition phase and there would be new councillors coming in so they are not phased."*

The councillors were not bothered to show interest in the initiative, and introductory presentation to the council kept being postponed. The MobiSAM team collected information by administering a Baseline Study that assisted in finding the gaps in technology, realising the communication ecologies within the municipality and technical status. A *Baseline study* was conducted for both phases of MobiSAM. In the initial phase, the study was only conducted in Grahamstown where there is a high population in Makana Municipality. In Phase 2 a mixture of qualitative and quantitative methods were used to collect data. Interviews were held with the Communications Department, and questionnaires were administered to staff members that deal with service delivery complaints. The primary beneficiaries of the project were identified as citizens and government. The Baseline study was categorised and guided by the following evaluation questions:

- Citizens
    a. What is the status of service delivery satisfaction and citizen participation in Makana Municipality?
    b. What is the communication ecology of citizens in Makana Municipality?

- Local Government
    a. What is the status of service delivery communication internally and externally within the local municipality?
    b. What is the communication ecology of the local municipality?

The questionnaires were administered to the general public by going to public areas and communal areas in the community. Questionnaires were distributed to the public to determine what challenges they had been facing in relation to communicating with the municipality. Questionnaires were also administered to the Municipal staff with the aim of understanding the existing processes. Phase 2.0 focused on establishing the current communication challenges and issues related to service delivery within the municipality. The questionnaire consisted of four sections: demographic information; mobile phone usage, service delivery satisfaction and current participation. The baseline questionnaire is attached as an Appendix A. The municipal questionnaire was distributed to the staff members that received complaints. The questionnaire consisted of five sections: position in the municipality, communication channels and access to information, mobile devices and computer proficiency and use. The staff members were also asked about previous MobiSAM training.

The Baseline study revealed that communication within the municipality was not centralised as service delivery issues were reported through too many channels. This resulted in duplication of reports, and an inability to track their progress. MobiSAM created a pathway to provide a communication platform to facilitate communication between stakeholders. However, there are still challenges *of resistance to change, organisational culture and acceptance, as well as, a lack of a culture of providing feedback*. These all relate to change management and alignment, which MobiSAM is still exploring. Furthermore, the comprehensive approach to evaluation continues to support learning in the project, and resilience in addressing these challenges over time. The Baseline results found that most people in the community had mobile phones and had access to a mobile phone. Comparing the two Baseline studies, it was seen that complaints increased from 58% to 81% also bringing across the problem of increased service delivery issues.

2) Needs Assessment

At this stage, the needs assessment process was used to identify the communication process that

needed to be redesigned, and the team investigated how technology could be used to support this process (Vakola and Rezgui, 2000). With all the information that had been gathered, there was a need to identify what the stakeholders required. This was accomplished by facilitating workshops that would enable the elicitation of needs that would solve their problems. This issue mainly lied with the technicians as they do not communicate the progress of issues back to the front desk. A municipal staff from the front desk raised noted;

> *"When they go check what the problem was and see it's complicated, they never get back to the reporter (councillor in this case) saying we do not have this or that to fix the problem."*

The needs assessment was completed by having a workshop with the municipal staff and the citizens to establish a balance between the two principal stakeholders and to make sure all needs are taken into consideration. Figure 6.6 illustrates the existing reporting processes and channels were compiled and documented. This structure caused made reporting issues complex and hard to track problems and increase in report duplication.

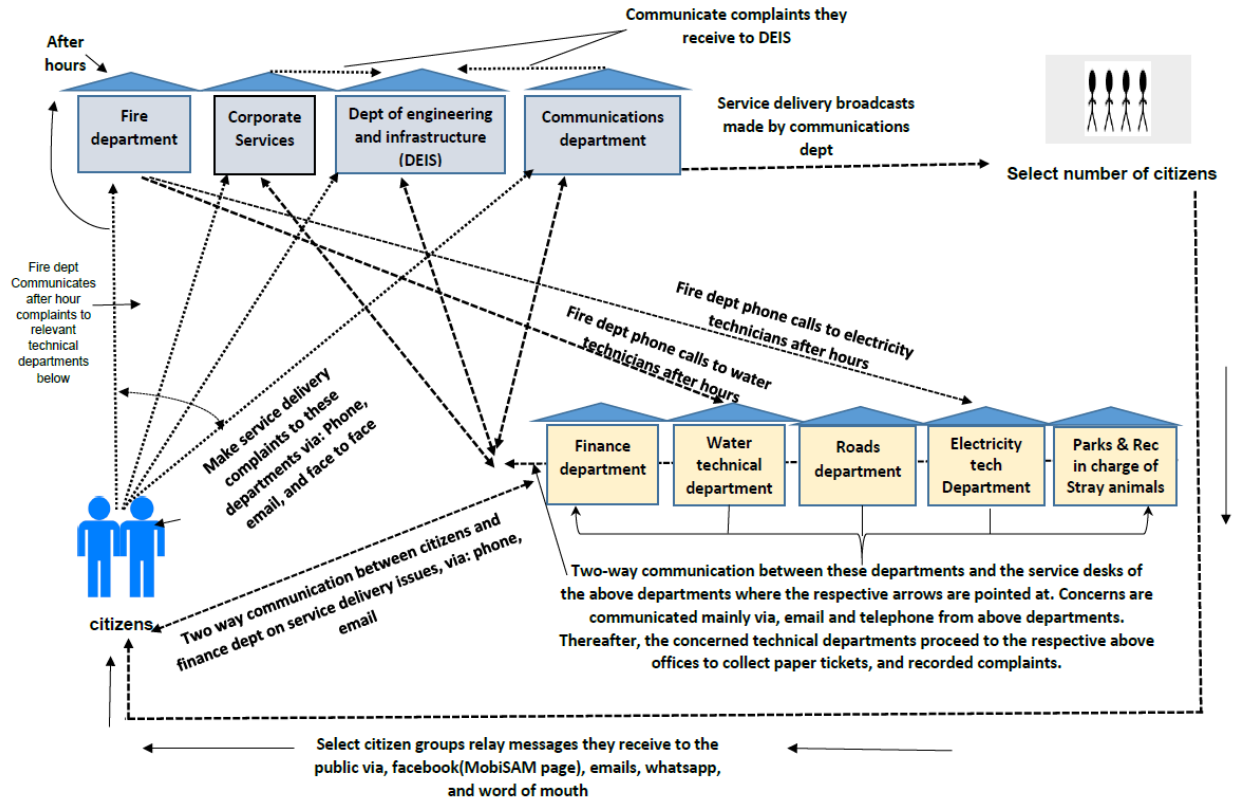

Figure 6.6: Figure 6.6: Original service delivery reporting structure in Makana municipality (Osah, 2017).

3) Strategy Formulation

The strategy formulation stage relates to Vakola *et al*., (1998) stages in identifying a process for redesign, identifying change levers and developing a vision and objectives. The purpose of the strategy workshops was to elicit service delivery challenges and to brainstorming on the feasible and realisable objectives for integrating MobiSAM. In both meetings, the participants started by identifying the challenges being faced by the municipality. The main problems that appeared frequently were poor administration, poor maintenance, financial constraints and over capacitated plants. These were established from a problem tree that also required the participant to note root causes and positive aspects related to the operation of the municipality (fruits) illustrated in Figure 6.7.

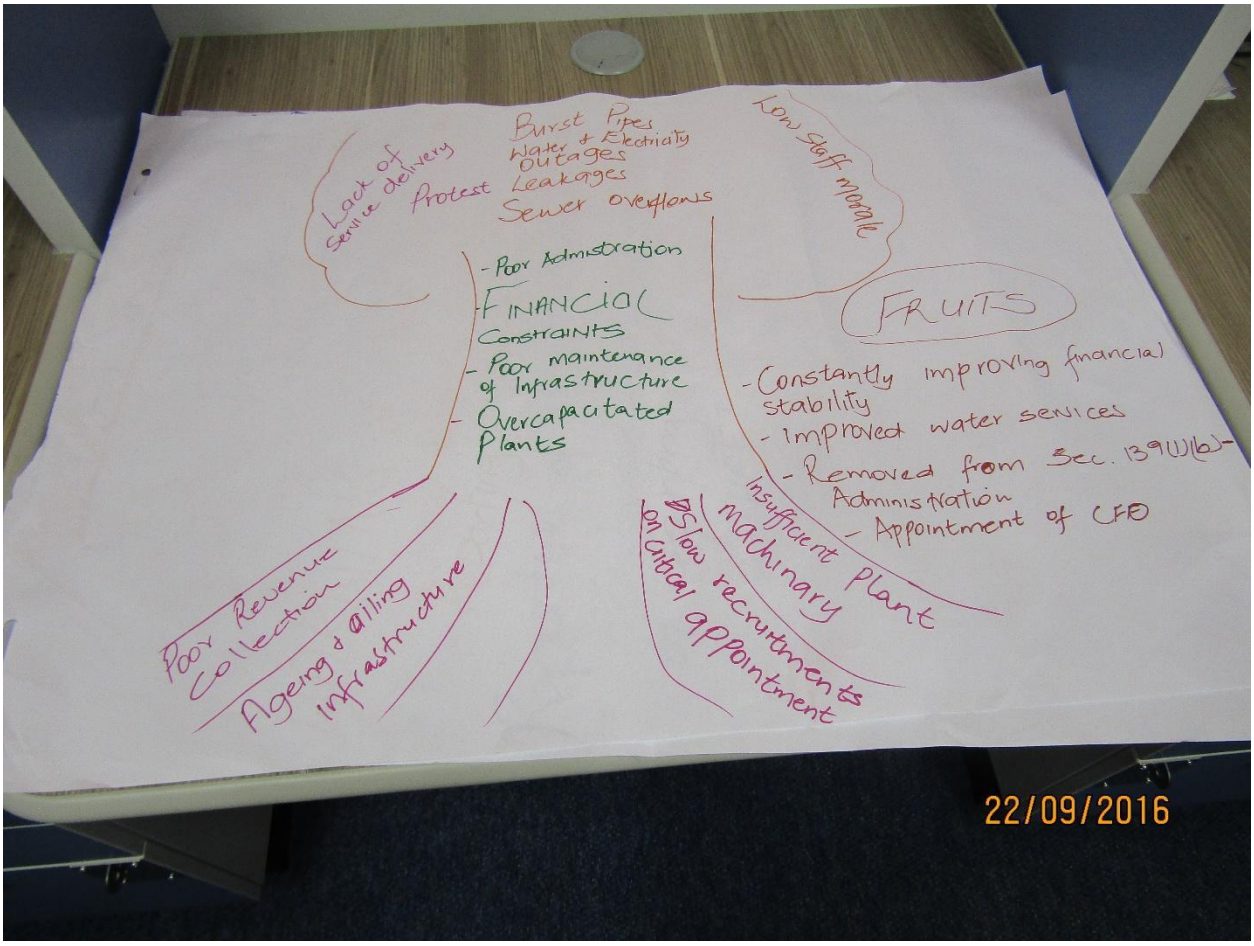

Figure 6.7: Strategy Formulation Problem Tree

There were various challenges that were being faced by the municipality that needed to be redefined; however, the root cause of most of the challenges were related to lack of communication, hence MobiSAM was created around facilitating communication and transparency. A civil society representative emphasised the importance of two-way communication, improved internal communication, and streamlining communication. As one participant noted:

> *"A well-informed citizen will make informed decisions".*

If citizens are well informed they can provide more valuable input into the municipality planning. This stage encompassed the formulation of the proposed new communication processes after integrating the users' (municipal staff and citizens) needs to what the system could perform

(Strategy formulation Report, 2016). A strategy document was then formulated to guide the implementation of ICTs, which detailed the vision and mission of the project that were elicited from the workshop as follows (Osah, 2017):

***MobiSAM Vision**: Striving for greater citizen engagement and participation in local government decision making aimed at realising an effective and responsive local government representation that is accountable.*

***MobiSAM Mission**: Consistent, transparent service delivery related evidence-based dialogue between Makana municipality and citizens, as well as, effective and efficient internal communication between constituents of the municipality's service delivery value chain.*

A SWOT analysis was conducted to investigate the strengths, weaknesses, opportunities, and threats context and how to analyse how they impact the use of MobiSAM in preceding evaluation (Osah, 2017). The MobiSAM team will take advantage of the strengths and opportunities identified and counter the threats and weaknesses.

Table 6.3: MobiSAM SWOT analysis (Osah, 2017).

Strengths +	Weaknesses –
• Competent MobiSAM project team possessing a range of expertise. • Funding provided for first year and a half of project initiation and application deployment. • Supportive Communications Officer from Makana Municipality who continues to champion the project. • The Municipality has appointed a Chief Financial Officer (CFO), and Makana Municipality is constantly improving its financial stability. • Municipality offices are connected to the Internet. • Growing civic mobilization and citizen interest in addressing the challenges of local government.	• Makana municipality is resource constrained. • There is a high employee turnover, and slow recruitments of critical employments. • Low employee morale. • The MobiSAM team can only advice, however, cannot enforce or determine how the municipality responds to service requests. • There is a sense of despondency among citizens from marginalized contexts, hence less of a desire for citizen participation. •
Opportunities +	**Threats –**
• A large proportion of Makana residents have access to mobile phones. • There are active citizen groups and civil societies in Makana that can champion the projects in jurisdictions where they have a presence. • National government has of late expressed commitment to the establishment of a local Communications forum, and Catchment Management forum. • Local government has committed to implement an integrated Service Delivery Model (*Masibhathisane*), which can integrate MobiSAM data.	• National security laws that limit the public's access to sensitive information. • Mal-administration and corruption, backed by tyranny. • Political change and influence. • Municipality removed from Section 139(1) (b) – Municipality is no longer under administration.

There was no consistency in workshop attendance as new participants attended the joint strategy formulation workshop that were absent at the initially. In addition, some participants that participated in the initial workshop were absent for joint workshop. The project suffered resistance from Municipal technicians as they did not fully buy into the system, even after training. As shown in Figure 6.9, they are the last level of communication as they are responsible for repairing and coordinating repairs on service delivery issues. They did not perceive the system to be of use to their tasks. Therefore, closing the feedback loop was the biggest challenge. Figure 6.8 illustrates the service delivery reporting and feedback with MobiSAM in Makana municipality that was implemented. It was aimed at removing the redundant processes which resulted in duplication of reports with the introduction of one entry point and set procedures distinct to each level.

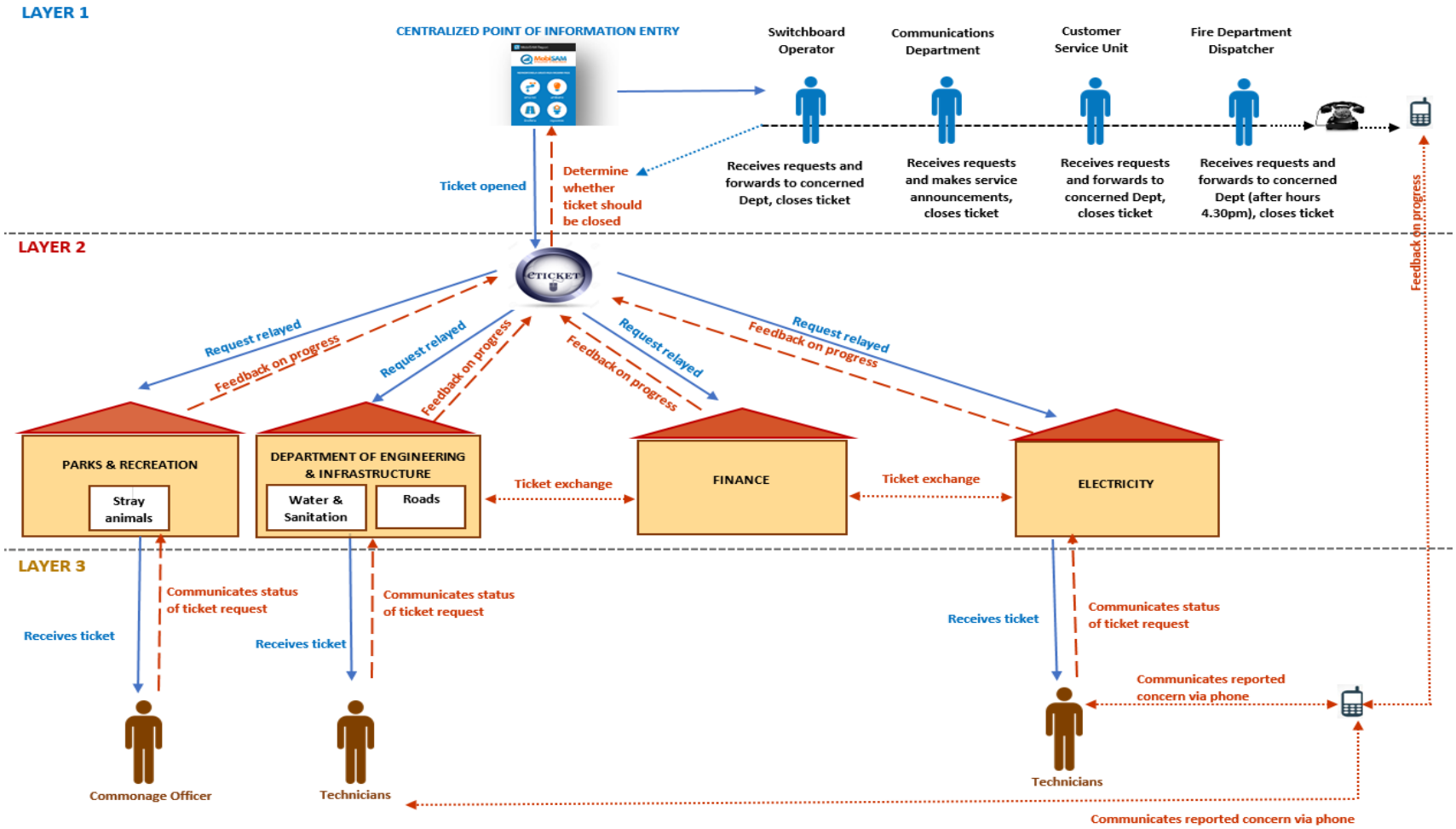

Figure 6.8: Service delivery reporting and feedback by MobiSAM in Makana municipality (Osah, 2017)

The system users were trained as groups depending on their level illustrated in Figure 6.8, and were provided with user manuals. The first level group includes the people that receive and assign issues, the second level are the service departments that receive reports from the first level, and lastly the technicians that resolve issues.

4) Process Re-engineering

The project was implemented in phases in order to learn from each cycle as it progresses. This was partially due to the fact that there was no guideline on how to implement and align such a system in the context. The project team held a change management workshop to assist with the transition from the old process to the re-engineered process. This was accomplished by the use of process flow charts that enabled the participants to identify the current processes of opening, creating and closing tickets. Figure 6.9 and 6.10 illustrates two process flow chats created while the rest are attached as Appendix B.

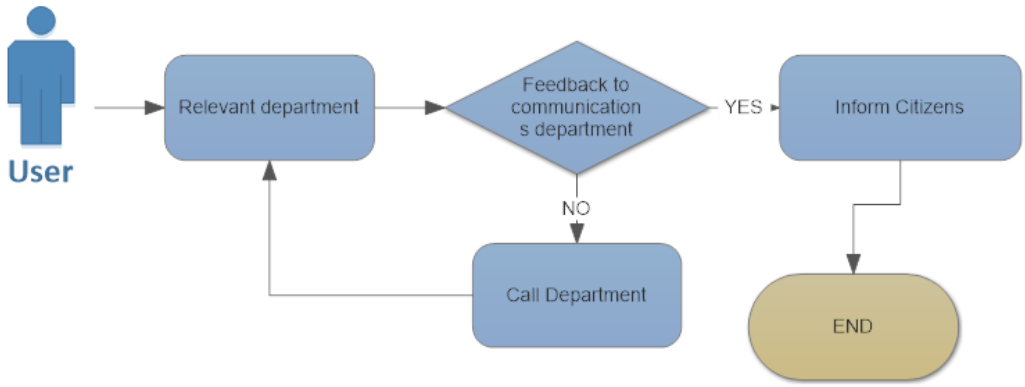

Figure 6.9: Service delivery requests in Makana through the Communications Department.

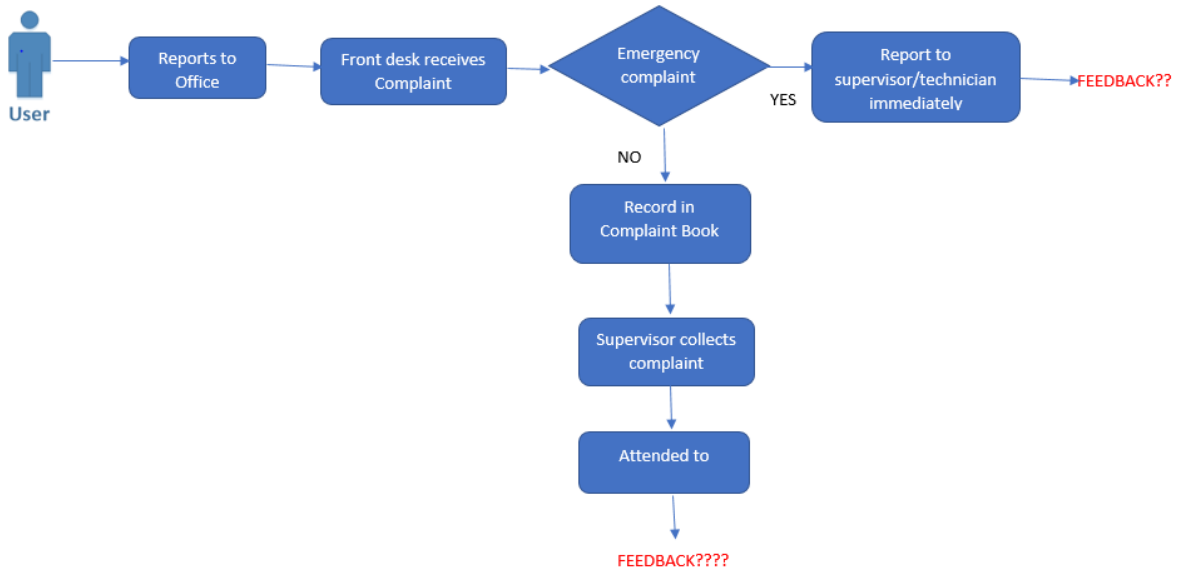

Figure 6.10: Communication Flow in the Department of Engineering and Infrastructure Services (DEIS).

Figure 6.10 illustrated diagrammatically the lack of feedback (highlighted in red) in the DEIS directorate. Custer, Novin and Palumbo (2011) illustrated the reasons for lack of feedback in a diagram using the relationships between three stakeholders which are citizens, government and International Organisations

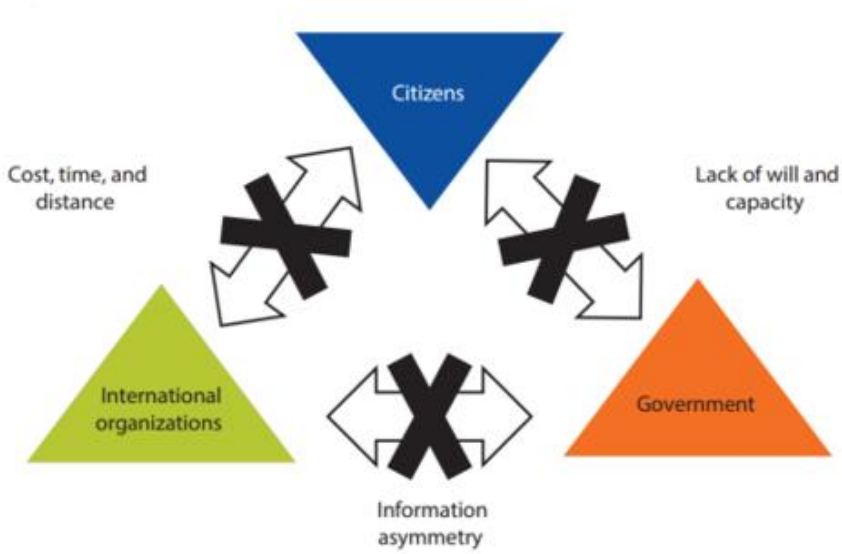

Figure 6.11: Reasons for Lack of feedback (Custer, Novin and Palumbo, 2011).

The government does not provide feedback due to lack of capacity and will. Lack of two-way communication between the citizens and international organisations can be due to cost, lack of time and distance. The main issues highlighted by the exercise were:

- Technicians are not time sensitive to providing feedback.
- The fire department currently does not provide or give any feedback
- All the announcements go through and are approved by Directors and the Municipal Manager. Therefore, there are not released promptly as they might be a lot.
- The finance department is large and complex and cannot be easily integrated into the system.

The main issues also included the realisation that there is a repetition of activities in the municipality regarding receiving complaints, three departments can receive the same complaint. The municipal staff deduced that there was a need for a centralised reporting system. At this point, technicians were not included in the system as key users but were responsible for giving feedback to the departments through other means. The workshop then focused on the provision of feedback with the aim of eliciting the challenges that were being faced in providing feedback and why it is essential. Problems that were encountered with feedback included the following:

- No precise definition of roles on who does what or who is responsible for giving feedback.
- There is also no ownership or control of the task in the municipality.
- The employees are concerned about who will bear the costs (data).
- False (politically correct) feedback is given due to technicians not willing to be shouted at by the citizens for lack of service delivery.

The main notions that were emphasised were the importance of information sharing and bi-directional communication. The team also facilitated ways to improve feedback as a communicator and a receiver, with the aim of making the communicator sensitive to the way they communicate. Part of change management includes focusing on the factors that may hinder re-engineering. The main cause for failure is resistance from the users. The participants believed that users might fear

job loss as their roles may become redundant and fear the responsibilities that come with the change that may lead to more duties. The participants then suggested ways in which they can seamlessly migrate from the existing paper-based to the new system. These included uploading the backlogs before launch (implementation) and using processes concurrently until they have completely migrated to the system. This is still a work in progress.

5) Implement New Process

This was the most important phase of the process as most projects fail to implement systems effectively by not focusing on the people that are involved in the implementation. Training was held at Rhodes university computer labs, as well as at the municipal offices. It is vital for the participants to have access to the computers for a more practical training. Users were trained in groups according to their roles and duties. These groups are indicated in the new process diagram in Figure 6.8. The ward liaisons (citizen mediators to assisting citizens to report issues), citizens, and CSOs were also trained on how to use the system. The MobiSAM team trained the users on how to create, follow, and close service delivery tickets. At this level, the municipal users were also trained on how to assign and update service delivery reports. The MobiSAM system provides a platform to increase service delivery awareness; therefore, users were trained on how to answer polls, how to create polls (municipal staff only) and where to view polls and heat maps of service delivery issues. The MobiSAM team illustrated how the transition from the old paper-based system to the new system might operate, by demonstrating how to log paper-based reporting forms onto the system at the municipal offices, with the aim of facilitated smooth transition.

6) Evaluate the New Process

Evaluation was also a vital stage in change implementation as it examined the success and failures of the project and aimed to find ways to improve the system. The project evaluation was aimed at comparing the results after implementation to the objects and goals to establish whether the implementation was successful and how to improve it. The methods and procedures used in the evaluation included interviews, questionnaire surveys, participant observations and document analysis. Questionnaires were administered in an attempt to and understand the changes that have occurred, perceived usefulness of the system by the users, and existing challenges associated with implementation and use. The questionnaires also aimed to understand the coverage of MobiSAM,

and which and how many people knew about the system. Follow-up interviews were scheduled with specific users of the system, service department managers clarify and elaborate on issues that had been identified from the questionnaire survey. The project had ongoing evaluations, which contributed to informing the continuous improvement of the system and MobiSAM activities throughout the project. The team continuously communicated and visited the municipality to assist with clearing service delivery backlogs to make sure the system could be used efficiently.

b) Citizen-State Socialisation

Citizen-State Socialisation is the process by which citizen and local government learn to engage in a way that is mutually acceptable and constructive. This definition emerged from the process experienced in the MobiSAM project but originates from the concept of Socialisation, which is defined by the Encyclopædia Britannica (2017) as:

> *"…the process whereby an individual learns to adjust to a group (or society) and behave in a manner approved by the group (or society). According to most social scientists, socialisation essentially represents the whole process of learning throughout the life course and is a central influence on the behaviour, beliefs, and actions of adults as well as of children."*

This process of citizen-state socialisation is fundamental to any citizen engagement process. Various platforms are used to for engagement and communication between citizens and local government. The issue of participation by supporters in decision-making is of vital importance if the socialisation function is to be achieved. The following platforms have been used:

- Public Forums on Service delivery

Public Forums were established to create an environment where citizens can communicate directly with municipal members. These are open to all the citizens impacted by service delivery issues and the relevant department. It aims to inspire the consistent application of citizens' voice. Giving citizens a way to communicate, and acknowledge the role of MobiSAM in facilitating this. An example of this is the Kowie Catchment Forum. The forum was instrumental in driving awareness and assisting government to inform citizens of the water crisis due to the drought. They focused

on informing citizens in a catchment area of how water is managed and how they can save water with the aim to democratise water management. They also provided a platform for citizens to be involved in establishing the primary objectives of the Forum.

- Municipal Communication Strategy development workshop:

The communication strategy is a document that address issues which may arise. Makana provided stakeholders with the opportunity to engage with the development of the communication strategy and policy document, highlighting key areas or tools essential for effective communication. The main aim of the documents is to strengthen government communication with citizens.

- Civil Society Meetings (e.g. GRA, PSAM, Black Sash workshop,

There is a need for intermediary intervention such as CSO and MobiSAM to assist in mobilising both government and citizens. Different CSOs have different goals and objectives but all aim to improve the community. CSOs have assisted in building critical mass to request collaboration with local government to address service delivery concerns. The Unemployed Peoples Movement aim to mobilise all the unemployed youths in the community and try assists youths that do not have jobs including demanding income grants. There is a large pool of untouched ideas and can be implemented to increase communication, but without consistency, this might not be sustainable.

- Masiphathisane (The Integrated Service Delivery Model)

Operation Masiphatisane was established to ensure that there is a unified way of providing services through a platform of engagement with citizens. Their key contribution was the service delivery model to promote community-driven approach. The Office of the Premier (provincial government) expressed commitment in 2016 to the establishment war rooms (community committees), which was a way of getting closer to the community and improving service delivery. However, the establishment of war rooms was a rushed process. Most war rooms were established but no follow up was conducted and no training was held to assist in guiding the fruition of the process and war rooms.

- MobiSAM Strategy Workshop meetings

Three strategy meetings were held with citizens and municipal staff. The joint strategy meeting gave the stakeholders a platform to communicate and understand how the system would assist them. It also assisted in combining their needs as MobiSAM meant to benefit them both and the role each had to play in order for the system to be efficient. This has given rise to Communication Strategy meetings with the aim of overcoming their existing challenges. Initially two separate workshops were held with citizens, and then government in order to avoid conflict – nonetheless, in the end, their perspective were brought together in a joint meeting, illustrating how their concerns and desires were quite aligned.

6.4.2 The Inputs

The data collection has revealed three main inputs that impact the alignment of DCEs within the municipality. These factors should be considered before implementing any technology. These include advanced technology; local stakeholder support from citizens (private/public organisations, and Civil Society Organisations); and, local government influence based on the internal and external organisation environment.

a) The Advanced Information Technology

Advanced Information Technologies (AIT) are tools and techniques that enable engagement between various parties in an organisation. In this research, AIT refers to the digital citizen engagement tool, MobiSAM. The factors to be considered include the technology development, the project implementation team, and funding. The components of the MobiSAM system in Figure 6.12 are discussed according to the classification of innovative technology.

Figure 6.12: MobiSAM system (MobiSAM, 2017).

Innovative Technology Used – Changing the way Local Government Communicates

The term innovative is a word that is used about technology as it is constantly evolving. According to (Drent and Meelissen, 2008) MobiSAM can be classified as an innovative ICT because;

a. *It results in knowledge as it collates and visualises problems reported*

The MobiSAM system collates issues reported and visualises them through google maps and graphs per ward area as illustrated in Figure 6.13. It also provides status of reports that can be used to hold the government accountable and track issues. The information gathered can be used in evidence-based planning providing a better stance in resolving service delivery issues.

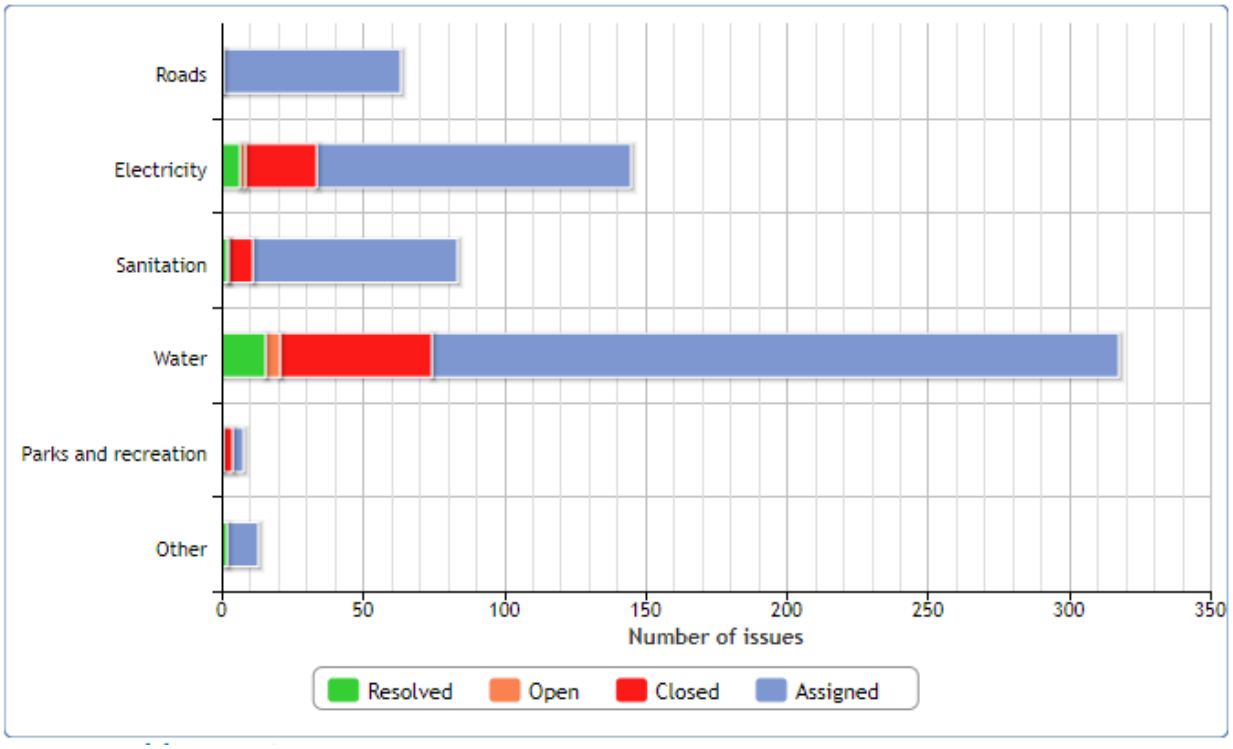

Figure 6.13: Visualisation of MobiSAM data.

b. It is also a tool that is used to achieve multiple tasks

MobiSAM incorporates various technologies which include a website, emails, SMS, Facebook, and Twitter. SMS, Facebook, Twitter and emails were the original focus, with mainly Facebook being used. This assisted to explore the use of the technology in the digital citizen engagement space, in the Makana context. The users have increased considerably since Phase 1.0 and users engage more on Facebook compared to the other forms of reporting.

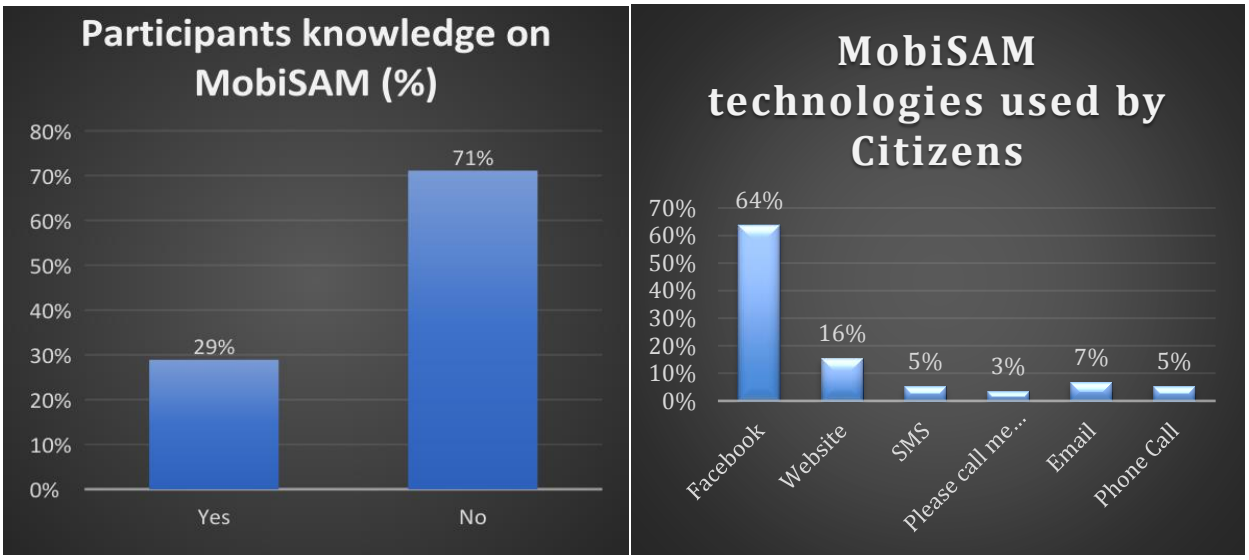

Figure 6.14: Comparison of participants (citizens) that are aware of MobiSAM and what technology has been used.

The Left-hand side of the Figure 6.14 illustrates the number of people that knew about MobiSAM. It can be noted that among the participants 71% did not know what MobiSAM was while less than a third (29%) were familiar with the initiative. Among the 29% that were familiar with the system the most popular technology they used was Facebook with 64% followed by the Website with 16%. SMSs, 7% email, 3% please call me backs and phone calls were at 5% showing that they are barely used as communication medium.

Issues reported via Facebook were then forwarded directly to the municipality via a WhatsApp group with the MobiSAM team and some Makana staff users. The municipal staff include the project champions (Customer Care department and Communications department), Operations managers from the DEIS (MobiSAM Funders Report, 2017). Therefore, there was a greater possibility of receiving feedback compared to the other technologies. The researcher observed that citizens preferred engaging with Facebook more than the other technologies. This was also supported by a significant amount of activity seen, issues were particularly around the water crisis. Nonetheless, Facebook, Email, and SMS reports were also entered on the MobiSAM website to support tracking an issue and generating evidence-based data for future analysis.

WhatsApp had a more direct link to the municipality and had on average a 90% response rate (MobiSAM Funders Report, 2017).

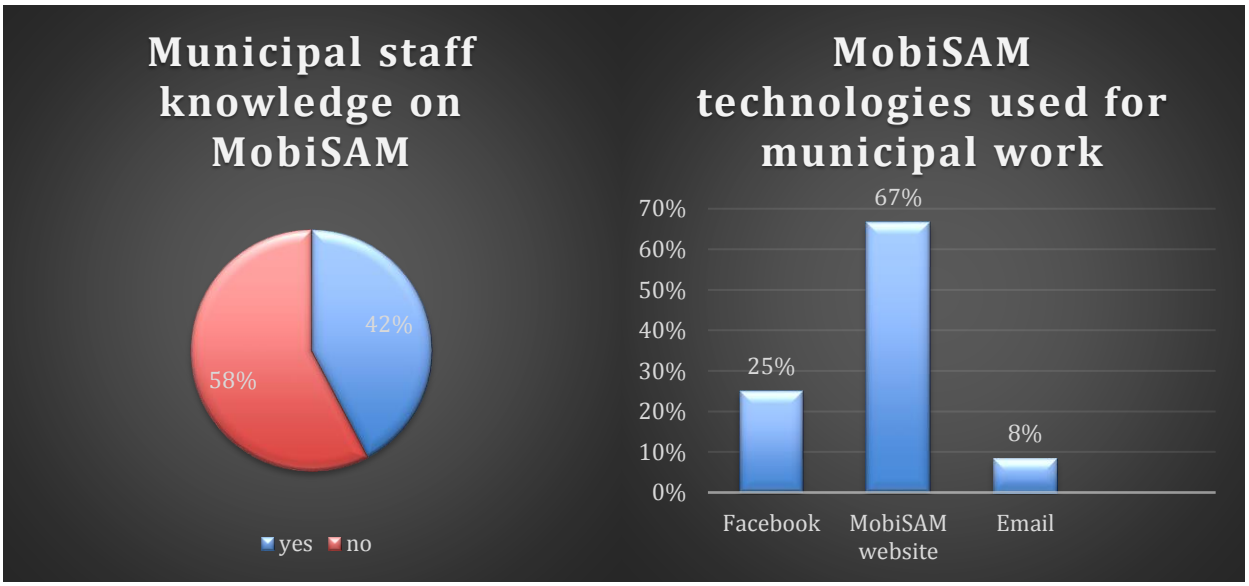

Figure 6.15: Number of Municipal staff and the technology they used.

These reports were then recorded on the MobiSAM website to support tracking of issues some citizens report service issues directly on the website. Figure 6.15 illustrates that 42% of the municipal staff had knowledge of MobiSAM and 58% had no knowledge. Of the 42% that had knowledge of MobiSAM, 67% of them used the MobiSAM website to accomplish their municipal tasks. While 25% used Facebook and 8% used email. It can be concluded that Facebook usage was lower than the MobiSAM website as Facebook is blocked for municipal workers. Emails allowed more interaction between the project team and the citizens on a more personal level. Besides reporting issues, they also emailed queries they had towards logging in and functionality on the website. For the residents in the townships or rural areas, they use SMS more often as a form of communication compared to the residents of town (MobiSAM Funders Report, 2017). Learning from this experience also contributed to the development of the website.

The ticketing system aimed to address the internal communication challenges within the municipality and to track the progress of reports. The MobiSAM technologies are used to report

service delivery issues, monitor reports, and enable timeous communication between the two stakeholders involved (government and citizens) (Figure 6.16).

Figure 6.16: Functions provided by the MobiSAM website.

The reports had three stages open, assigned, resolved and closed as illustrated in Figure 6.17. When an issue was submitted it would be recorded as open, and an email will then be sent to the to the reporter and the municipal staff that receive complaints (Level 1) (Figure 6.7) The issue is then assigned to the relevant department, and the reporter is notified via email. Once the problem has been addressed, it is then set as resolved on the website. The user is then prompted via email to close the ticket to confirm it has been resolved and completed.

Figure 6.17: Tracking progress of a reported issue.

This ticketing system allowed for the municipality and the citizens to track the problems within the MobiSAM system, aiming to mitigate the challenges being faced with regards to communication. This suggestion was brought about by the municipal workers as they found it hard to track the progression of a report internally. This also assisted them in holding each other accountable if the status of a report had not changed over a period, making it also easier to identify at which level the issue is stagnant. Also, the citizens' main use of the system was to track the progress of their lodged complaints and to use the ticket number as a reference when following up with the Municipality.

There are other factors to be considered relating to social aspects. It is important for the users to understand the underlying purpose of the project in order to understand what values and processes the technology will be supporting. This includes the project implementation team, which consists of the leadership of implementers, the composition of the team and their capacity. Different leadership styles have a direct or indirect impact on the attitude and behaviours of the employees, as well as, the use of the system (Asrar-ul-Haq and Kuchinke, 2016).

The l*eadership of the implementers* had an impact as they are rquired to be hands-on and aware of the various issues that can constrain the project. They also need to support the team beyond implementation, but through all the stages within the context. During the needs assessment phase, the lack of supportive leadership aimed at creating vision and inspiring the team led to lack of confidence of some of the project team members (transformational leadership). This also affected how workshops were conducted resulting in important municipal staff members regressing intentions towards the project. More focus was placed on technology rather than taking into account the context. This however evolved with the introduction of dual management consisting of both a computer science perspective and information systems to focus on all aspects that affect the project. The leadership of any project needs to make sure that they do not portray their views on the project rather take into consideration users views.

The MobiSAM *team* was responsible for making users understand the underlying purpose of the project in order to understand what values and processes the technology will be supporting. Regardless, even with a full understanding of what the purpose of the project is and its intended use, it does not guarantee the use of MobiSAM. The project team was made up of a group of diverse individuals who were involved in Journalism, Information Systems, Sociology and Computer Science. Having such *a diverse team* made brainstorming sessions more fruitful, and each member was able to contribute according to their field they are in making the project as a whole successful. It also assisted the team to not just focus on the technology but the various aspects that impact the project.

Among the team members were ward liaisons that were intermediaries between the team and the community and assisted with reporting issues for community members that had no access to

phones, airtime or resided far away from the municipality. They were allocated wards according to where they stayed and were provided with airtime and data to assist with their tasks. The Communication department noted that their presence should have been stronger as a lot of issues from particular wards are still not being reported. However, they stated that they reported issues that were brought to them. More hands-on management was needed in order for them to accomplish their tasks and to measure their impact. Nonetheless, the potential success of the project will depend on the cooperation of Makana Municipality.

The amount or consistency in *funding* of a project impacts the effectiveness and quality of the technology. The MobiSAM project was initially funded by Ford Foundation in Phase 1.0, and it ended in 2015, and the project had to find new funders for the next phase. MobiSAM 2.0 was subsequently funded by Making All Voices Count (MAVC). They provided funding to ensure the project was implemented until August 2017. The MAVC allocated the team with two people that that provided continuous engagement and support. The funders supported the project by constantly holding progress meetings with the team. They met with all the beneficiaries of the project which included municipal staff and citizens. This aimed to identify the impact that the project had on the community and involvement of key stakeholders. Representatives of all the CSOs that are stakeholders of the project were invited. The meetings were held separately and the MobiSAM team was not in attendance in any of these meetings. This aimed to elicit authentic real reactions to the projects as the presence of team members might intimidate stakeholders. The following are some of the questions and answers provided by the beneficiaries:

> "Question: Do you know about the MobiSAM platform developed and if so, what do you know and understand by it?
>
> > *Response: Yes, I know about MobiSAM, I was one of the people that accepted the programme to be implemented by Makana municipality to assist in terms of communication with the community.*
>
> Question: What difference is it making or contributing to the improvement of service delivery in Makana?

Response: It has become a go-to tool for Makana residents who want to report service delivery related issues."

The MAVC funders also assisted in identifying collaborations that would assist in building the project and provide future opportunities. The suggested collaborators included the Eastern Cape Non-Governmental Coalition. They shared the same goals as the project and believed that the relationship between citizens and government needs to be improved by activating and mobilizing the community. The funders allocated the project a monitoring and evaluating consultant that assisted the team in clarifying our aims in MobiSAM. Given the problems that were being faced by the municipality the consultant assisted the team in rethinking the teams' objectives and aims. This aided the team to think through what they wanted to achieve rather than building high expectations that cannot be practically implemented. The Monitoring and Evaluation plan produced is attached as Appendix E.

The Funders held annual meetings for the projects they sponsor in the area of civic technology, transparency, accountability and increased government responsiveness. These meetings were called Community of Practice (CoP). Community of Practice (CoP) were held annually to bring projects that had finished their journeys together to reflect and learn from each other. They also wanted to inspire and motivate the projects to keep contributing to progressive developments.

Table 6.4: Technology Inputs Summary Table.

Input	Alignment Factors
Technology	Technology Development and Use
	Project Implementation Team
	Funding Support

b) Stakeholders Support

The MobiSAM project champions agreed that the success of the project depended upon local stakeholder support. The stakeholders that were key in this case study were the Citizens, Civil Society Organisations and Local Media. The key local media sources identified in the baseline

study were Grocott's Mail, Radio Grahamstown, and Rhodes Music Radio (RMR) and these were used to support the project activities. They assisted in increasing awareness and provided platforms and ideas for the implementation. The alignment factors of the input stakeholder support can be classified as a civil society, citizens and local media. These can be further broken down into sub factors as illustrated in Table 6.5.

Table 6.5: Stakeholder Support Alignment Factor

Stakeholder Support Alignment Factor	
Civil Society Factors	Common goals
	Capacity Building
	Mobilising citizens
Citizen Factors	Attitude towards citizen engagement
Local Media Factors	Media Access
	Capacity Building
	Enabling Citizen participation

CSOs objectives should support the effectiveness and running of local government including to support any initiative that aims to assist in improving the provision of service delivery (Chitiga-Mabugu, 2014). It is essential to have *common goals* with CSOs as they will bring them together to work towards reaching the desired goals. During the strategy formulation workshop, the civil society organisations stated ways in which they could support the implementation of MobiSAM in their respective organisations. The Table 6.6 lists the commitments the CSOs made in the strategy formulation workshops.

Table 6.6: Commitments made by civil society and active citizen groups (Osah, 2017).

ORGANIZATION/ENTITY	COMMITMENT/S MADE
Radio Grahamstown	• Commits to providing radio airtime to inform and educate people about civic rights, and MobiSAM. Makhaya hosts a show on Wednesday that addresses local government issues.
Umthathi Training Project	• Commits to encourage people in the community to report service related concerns using MobiSAM. • Commits to deploy Umthathi champions to help register more marginalized community members on MobiSAM, as well as, help to report service concerns using MobiSAM.

	• Commits to providing a training centre for MobiSAM related advocacy training workshops with community members and high school students.
Legal Resources Centre	• Commits to aid in litigation (an action brought in court to enforce a particular right of a person or group) issues, whereby rights of citizens are being infringed upon.
FAMSA	• Commits to organise workshops in the communities to create awareness about MobiSAM.
Unemployed Peoples Movement (UPM)	• Commits to introduce and encourage community members to report service concerns using MobiSAM. • Commits to aligning MobiSAM with Ushahidi – where members of the young women's forum employ technology to identify community concerns. • Commit to publishing MobiSAM related news in their newsletter.
Joza youth hub	• Commits to organising workshops to introduce/create awareness of MobiSAM
Grahamstown Residents Association (GRA)	• Commits to publicising MobiSAM on their social media platform, and column in Grocott's Mail. Also, commit to advertising MobiSAM in their forums, and newsletter.
Public Service Accountability Monitor (PSAM)	• Commits to providing training to SAM, and helping people to register on MobiSAM.
Rhodes University Community Engagement (RUCE)	• Volunteering their community-based organisation partners to get trained on how to use MobiSAM – in order for these partners to help train community members.

As the project progressed, civil society's continued to evolve and support the changes. In this regard, Grahamstown Resident Association (GRA) was the most active civil society that was involved in the implementation and alignment of MobiSAM in the Municipality. Their commitment evolved from publicising MobiSAM to reporting on behalf of citizens who had no access, following up on issues reported on the system with the municipality and closing reports that had been resolved. Their knowledge and skills gave the project a platform where they could leverage off.

The CSOs also assisted with *building citizen capacity* through education and training. For citizens to hold the local government accountable for inadequate service delivery they need to have access to information and relevant participatory skills. The Public Service Accountability Monitor (PSAM) held training with MobiSAM on empowering citizens about their rights and importantly the obligation the local government has to fulfil those rights. They also partnered with Black Sash in hosting a ward committee workshop with an open invitation to important stakeholders. This workshop educated ward committees on their duties, roles to the citizens and the municipality. The Local Media also participated in educating the community by playing a MobiSAM jingle informing citizens on what MobiSAM is and how to report issues. This jingle was frequently played on Rhodes Music Radio (RMR) and Radio Grahamstown to reach a wider audience.

These platforms also provided MobiSAM with *media access* to organize radio appearances hosted to answer questions and educate citizens on MobiSAM. Grocott's Mail wrote articles on service delivery and updating citizens on the status of the community. Grocott's Mail also posted a bi-monthly article on tools that can facilitate communication including MobiSAM the engagement of citizens and local government. The team also distributed pamphlets and posters to the community. The communication mediums were also used as further means to communicate. The Grocott's Mail Newspaper wrote (Grocotts, 2017);

> *"In an attempt to connect with the largest cross-section of Makana residents, we have been using the local airwaves (Radio Grahamstown) on Wednesday mornings between 9am and 12 pm."*

This assisted in increasing the knowledge of MobiSAM in the community as more people engaged through the various means of communication available. Local media enabled citizens to engage and participate in improving service delivery actively. Knowledge of the system of the system has an impact on how and how many times users engage with the MobiSAM system. *Citizens' attitude* towards citizen engagement was an essential input in the alignment process. The citizens in the rural areas had an apathy approach as they were not concerned or enthusiastic about DCE

initiatives. This is illustrated in Figure 6.18 as it outlines Ward 9, among other wards in the area, as one of the areas that had not made reports.

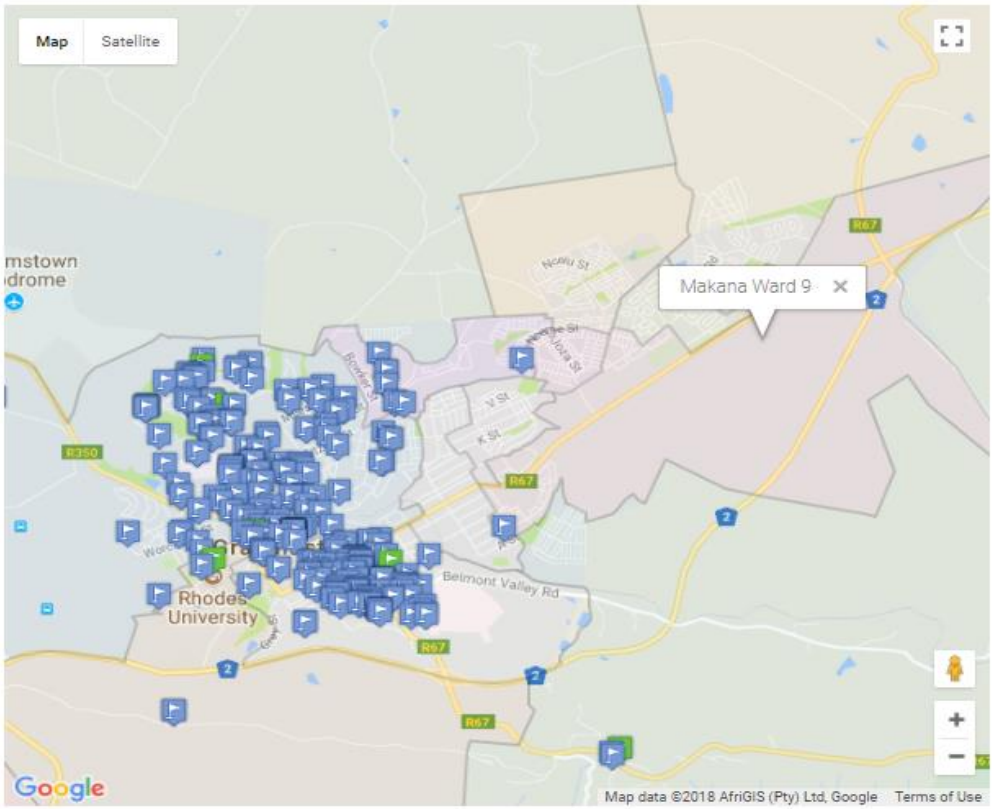

Figure 6.18: Heat Map is representing the number of reports from Wards.

Attitude towards citizen engagement is impacted by access, perception, trust and availability of resources. With 24.2% of its residents below the poverty line, there were sections in Makana where citizens could not afford airtime/data and tools that enable access to MobiSAM (Thinyane, 2013).

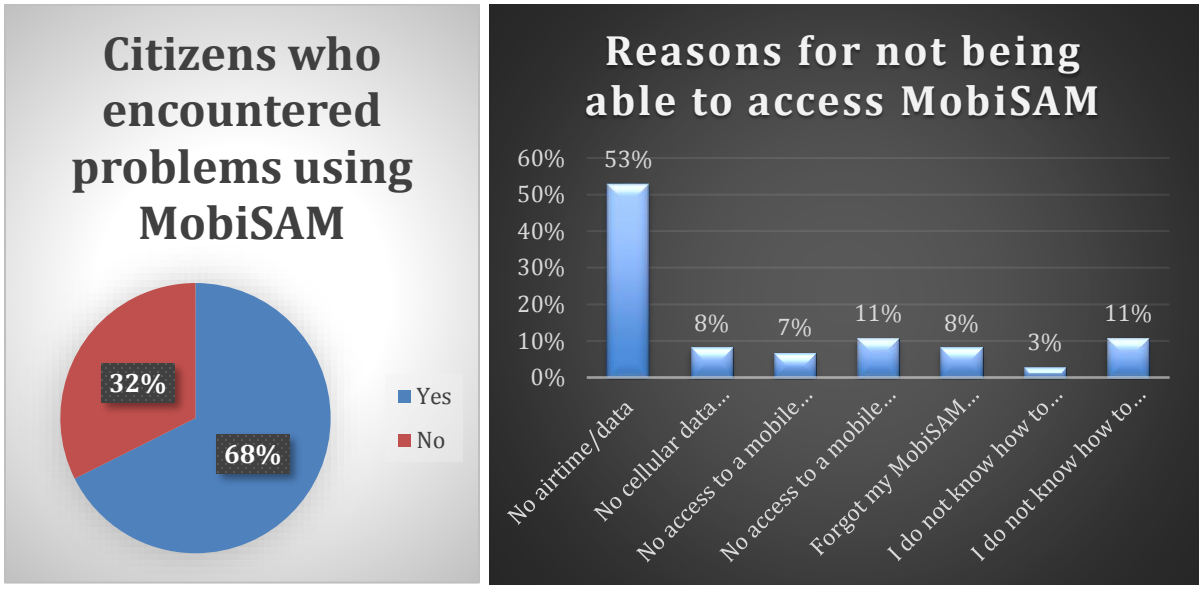

Figure 6.19: Participants that couldn't access the system and the reasons.

This is also illustrated in Figure 6.19 in the pie chart where 68% of the participants were not able to access and use MobiSAM, and 32% had access. Further investigation (bar chart) illustrated that the main reason at 53% was due to lack of data and airtime. The other reasons at 11% are no access to a mobile phone with Facebook or web browser and no knowledge of how to use the MobiSAM website. 8% had no cellular data or coverage or had forgotten their credential.

Table 6.7: Stakeholder Summary Table.

Input	Alignment Factors
Stakeholders (Citizens and CSOs, Local Media) Support	Common goals
	Capacity building
	Mobilising the community
	Attitude towards citizen engagement
	Knowledge and skill
	Media access

c) Local Government Institutions

Local government institutions focus on factors that impact the alignment related to the organisation. These were further classified into two main subheadings which are organisational environment and tasks. Organisational environment focuses on the factors that impact the government externally and internally while tasks refer to the constrained contents that impact how a task is performed. Organisational environment factors include culture, structure and readiness. Organisational culture encompasses value and beliefs of an organisation. It was essential to create a supportive organisation structure, which will be beneficial in the implementation of MobiSAM in their day to day tasks. The existing *organisational culture* of the Municipality does not promote two-way communication.

Makana Municipality's culture determines how municipality employees communicate with citizens and each other, as well as how they perform their tasks (Adams and Van Rooyen, 2017). An essential component of organisation culture is a commitment as it plays a critical role alignment of ICTs. The purpose of the system is not fully realised if all municipal staff do not accomplish their tasks. The Communications department focus group shared this as their biggest challenge thus far. A communication municipal staff noted that:

> *"Biggest challenge is other people do not take it seriously; it's pointless for me to assign when they do not log into MobiSAM."*

Makana encountered some challenges in the restructuring. The most critical challenge that they faced was the inability to provide feedback to the community, as well as internally to the other departments. The lack of feedback has resulted in a feeling of hopeless and lack of trust for the citizens. Another challenge faced was lack of ability to make proper decisions by the senior managers to support the change.

All interviews and questionnaires brought up the issue of lack of expenses towards data and airtime. The municipality did not provide any money towards the use of mobile phones as a mode of communicating service delivery issues between the departments or with the public (Baseline Study, 2016). The technicians' manager raised the issue of no data supply as she implied that was the primary cause for not responding to reports sent in via WhatsApp.

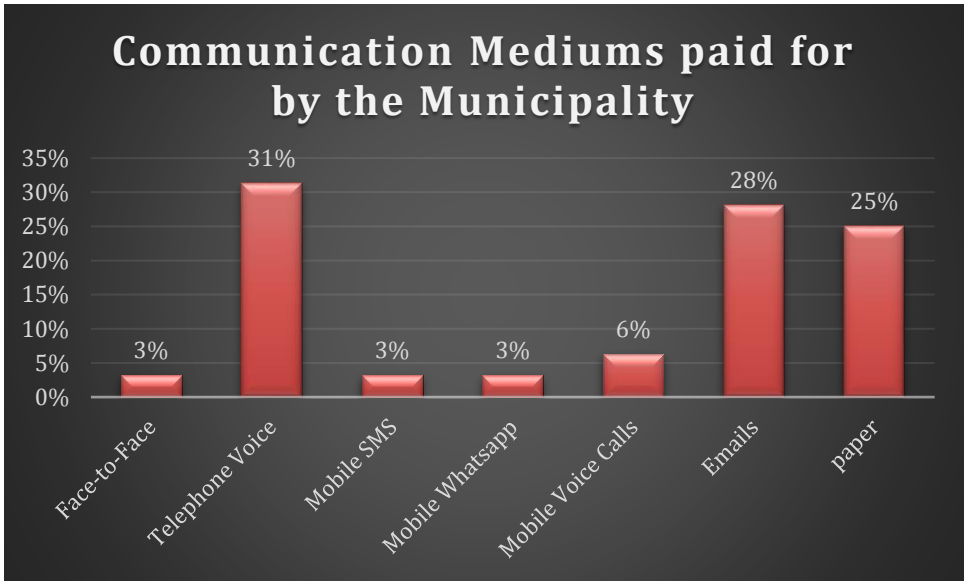

Figure 6.20: Communication mediums paid for by the municipality (Baseline Study 2016).

The municipality mainly provides 25% paper for reporting, platforms for sending emails 28% and telephone voice calls at 31% as shown in Figure 6.20. The less common tool used were mobile voice calls (6%), and mobile WhatsApp and SMS and face-to-face at 3%. Efforts were made by the municipality to communicate issues, but lack of feedback has been a stumbling block as they do not think it's necessary. The municipality staff used the communication mediums that are paid for by the municipality more than those they have to provide for themselves.

Mostly the technicians faced the challenge of not providing feedback. As long as they resolve an issue, they saw no need to report back to their seniors or citizens. In a focus group, a need was raised to have included the technicians from the initial planning rather than what the technicians' manager had opted for initially of not including them. Interviews and observations indicated that municipal staff have a laid-back culture and are only motivated by deadlines. It was noted that:

"They lack supervision, so people are not working. They are only reporting after three

months, therefore, some people work after three months."

Participants from the process assessment mentioned that at times municipal staff come to work with no knowledge of their tasks for the day and some even the whole month. They also emphasised the need for more supervision and regular deadlines to improve the current work ethic. MobiSAMs' success is dependent on all stakeholders and relevant departments working together, however, there is lack of synergy between these departments in the municipality. From observations of meetings and the process assessment, the Finance, DEIS, and Communication departments work in silos while they aim to address issues that affect the whole community. A Customer Care Unit staff confirmed and noted;

"They [DEIS] do not see MobiSAM as part of their work, they do not take it seriously."

This results in issues not being recorded as 'resolved' on the MobiSAM system. The department had the advantage of having direct communication with the technicians but still do not provide adequate feedback. The department continued to work as they did before the system was implemented. A participant from the DEIS department stated that:

"When people have been doing things in a certain manner for so long it's hard to change."

This illustrates that the culture of the department has impacted the adoption of new ICTs or projects within the department. The finance department structure was too complex and interlinked. Therefore, implementation of MobiSAM in the department required the other departments to be fully functional for it to be implemented efficiently. They also had a large number of subsections that complicate the planning process, and their roles are not easily separated. Another example is the electricity department. Due to the location of the electricity department, they functioned differently from the other municipal departments, they barely had internet access and were usually out of the loop regarding communication.

The *organisational structure* of the Municipality was inflexible, like many other local municipalities, with little to no room for change. Organizational structure is the process by which a municipality communicates, allocates responsibility and adapts to change (Root, 2016). Makana had a lot of posts that were not filled or were temporarily filled with high staff turnover raising the issue of human capacity. The Makana organogram is attached in Appendix F as evidence to the various vacant posts in the municipality that have led to the inability to manage change efficiently. The introduction of new processes greatly relies on the flexibility of the organisational structure. The municipality faced difficulty in altering their structure in order to support the ICT. The staff members raised the issue of lack of management support as most departments are working in silos. The MobiSAM team overlooked the difficulty in implementing in more than one department. Ideally, one implementation strategy will have worked for all departments however the municipality works in silos, therefore, each department had a different mechanism to address the same issues. Consequently, various strategies might have been needed for different departments.

A MobiSAM user interviewed believed that if there was *management commitment and support* more municipal staff would see the value of the system. They also thought this might change the culture within Makana. It is vital to involve management from the beginning of alignment as they play a vital role in supporting and encouraging change. The project was unable to get buy-in from a member of management due to their needs not being acknowledged in the initial stages of the alignment process. Management did not know how the MobiSAM system was used and what processes it affected. They were also not aware of the day to day running of the current processes and challenges that were being faced by the staff. In an interview, a participant holding a high position asked for a staff member to explain how they go about their day to day tasks after they mentioned they were involved in signing off on its implementation. This shows that management accepted the idea of a project but did not see it through on how it affects and impacts employees' day to day tasks. This is typical in resource-constrained municipalities as they are more concerned with results than how the work is completed.

The *leadership style* in the municipality had an impact on how the system was aligned in the

municipality. Laissez-Faire leadership was the one that was more prevalent in the DEIS departments. A municipal staff noted that;

> "*Everybody knew, but even their supervisors and managers do not care."*

The staff members take advantage of this by only working when they need to. In some parts of the Municipality which is the DEIS, there was more authoritative leadership whereby they have a specific way they work and set processes they follow in order to accomplish their tasks. The project champions struggled to involve managers from other departments. After a failed attempt to involve the new Director of Corporate and Shared Services and the human resource manager, one of the project champions reported that:

> *"I struggled to get managers to participate. There was only one manager keen to participate."*

The participants also believed that if management were more involved, it would encourage the workers to engage more. The water department manager did not attend any meetings and was not willing to engage in any dialogue as her department has the worst backlog regarding reports. The implementation of technology and the change that was subsequently associated with it called for a more hands-on leadership style than the one currently used.

There has been a prolonged process of filling the Municipal manager and CFO post after the last ones were fired in 2014 due to corruption and maladministration. The municipal staff participants who attended the strategy formulation meeting indicated that this resulted in lack of direction and low staff morale. The Directorates acted as the Municipal manager on a rotation for three months until the vacancy is filled. This makes it hard to implement any technology as each acting Municipal Manager had a different set of requirements and view of the system. Management was not accountable for their own tasks as well. The management were involved in the deliberations of putting Makana under administration. The Concerned Citizens Committee to Save Makana

(CCCSM), the group rallying for the provincial government to intervene, engaged in the negotiations and agreed to suspend litigation in good faith, management has failed to answer emails, was unable to respond and took too long to agree to a meeting. All the while arrangements to appoint a person to help with the municipality turnaround have been frustrated and delayed. Far from being open and welcoming, the management were hard to contact and reluctant to provide any information.

The Makana Council Speaker played a vital role in the communication of issues to the community on behalf of the municipality, as well as is meant to receive the problems from the community. This communication was via the ward councillors, councillors and community development workers. However, the speaker of the office was also a student so she was barely available and most of the day to day activities were managed by the manager of the speaker's office. The manager of the speaker had no buy-in on the project. Management viewed such projects as temporary and only for research, however, the team's commitment and exit strategies have reinforced trust within the municipality for a more sustainable tool. Therefore, there is a need for support from management and increase in commitment to encourage the staff to use the system. However, due to increase in engagement on MobiSAM and consistency of the team in implementing the system the manager of the speaker's office started involving the project in other communication aspects in the municipality.

There were various WhatsApp groups in the Municipality depending on department and management teams. Another stakeholder in this quadrant was the Office of the Premier, the Provincial government. They became direct stakeholders through the implementation of the Integrated Service Delivery Model, known as 'Masipathisane'. MobiSAM was identified as a key tool to support the Masipathisane initiative - this would have been useful, had government implemented this more effectively. There was a need for more support from higher levels of the government and supporting projects that aim at improving service delivery. The establishment of forums including the Kowie Catchment Forum took almost half a year. The forum aimed to tackle the water issues that were being faced by the municipality and giving the community a voice on

how water was managed. All the above factors raised a question of *organisational readiness.* Readiness (UN, 2008, p.13):

> *"depends on factors such as the availability of economic, human, and technological resources, a government's willingness in understanding and catering to the needs of the citizens, the sufficiency of infrastructure and adequacy of services delivery, content accessibility."*

As mentioned previously, focus group interviews revealed the concern that there was a need for the municipality to solve its internal issues before adopting any form of innovation. However, from the outcomes of the implementation of all departments involved it could be established that some departments were ready while others were not. The communications department demonstrated readiness and full acknowledgement of the MobiSAM platform as an enabler in their day to day tasks, therefore, they used the system more. On the other hand, departments such as the DEIS and electricity were not ready as the DEIS still has redundant processes, and the electricity department does not have supporting infrastructure. An interviewee from the DEIS focus group commented that:

> *"We need a new structure of doing things then MobiSAM can fit it in."*

To facilitate municipality readiness, various workshops were held by the MobiSAM project team from needs assessment workshops, strategy formulation, and problem identification and process re-engineering. However, the poor attendance was an accurate reflection the lack of departmental readiness and attitude towards readiness mainly the Communications Department and Customer Care attended. The *availability of internet* was essential when it comes to most technology innovations including the MobiSAM. In order to assign, resolve and close issues the user needs to be on the internet which raises the need to have a consistent internet connection. The participants consistently raised the concern that the internet would be down for weeks and therefore hinder the use of the system. Those that are not desktop based complained that they are using their personal

mobile data to respond to citizens with MobiSAM. A member of management of the highly affected areas were discouraged from using the system as they mentioned that:

"I do not have access to the internet so why should I go…to meetings and workshops."

The *technical support* section at the municipality was short-staffed, with two interns, one system administrator, and one head of IT to provide support for over 280 users across five sites. At the time of the baseline study, the Head of IT was responsible for managing the IT department; Customer Service Department; Archives; and Communications Department. The level of support was really low leading to some departments not having internet for a month or more. Technical support was an essential aspect to ensure the sustainability of the MobiSAM initiative.

During the Baseline Study investigations, the IT manager who was also the project manager revealed that they could barely manage the 280 users within the municipality. This was worrying as the further study showed that the municipality has about 600 employees therefore about half had no access to the internet and the half that did could not be supported. This affected the use of MobiSAM within the municipality as areas such as the electricity department has gone for two or 3 months without an internet connection.

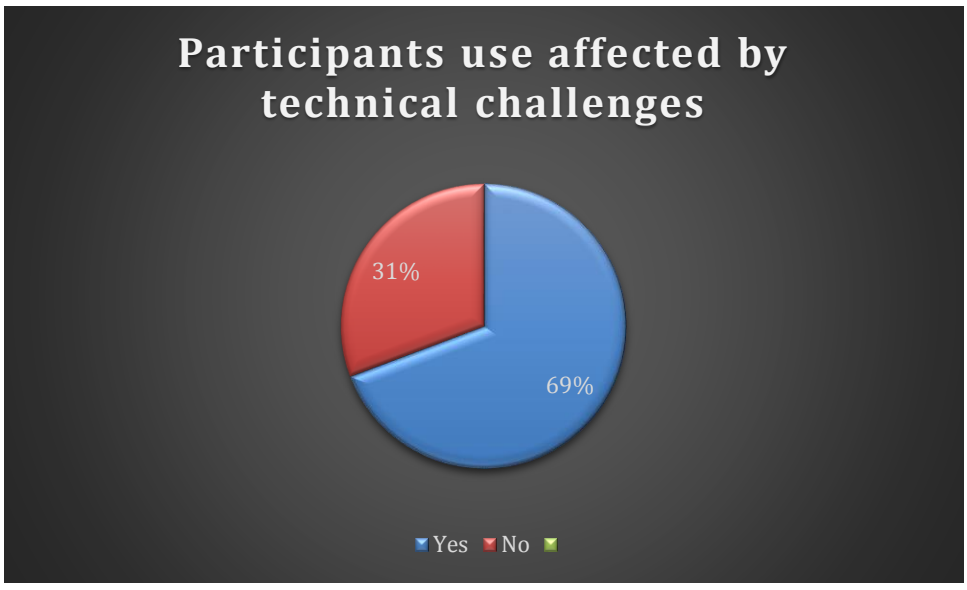

Figure 6.21: The percentage of participants that were affected by technical.

Figure 6.21 illustrates the percentage of participants that were affected by technical 69% of the participants' encountered technical challenges in using MobiSAM. While 31% participants were not affected by any technical challenges. The participants were asked to specify the reasons for facing these challenges shown in Figure 6.18. Figures 6.21 and 6.22 illustrate how IT support has an impact on the use of MobiSAM technologies showing that lack of IT support would reduce the use of MobiSAM. The interviews also brought up issues of old and dead laptops that councillors were raising. These are provided by the municipality, but most of them do not function well, and the councillors have resorted to using their laptops. Nonetheless, this was not a significant challenge for MobiSAM, as it was accessible on mobile phones.

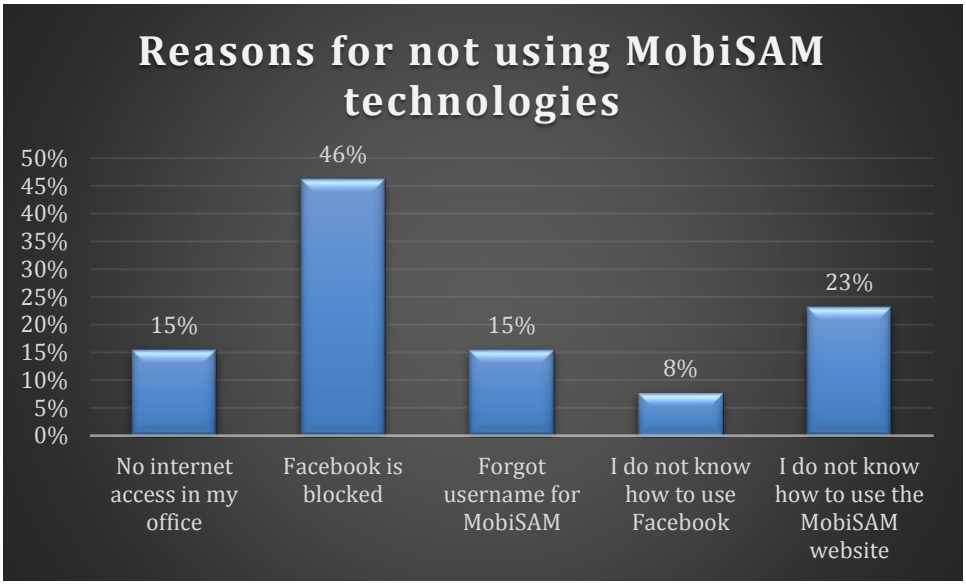

Figure 6.22: Reasons for not using the system.

Most of the participants at 46% mentioned that Facebook was blocked therefore they cannot use it as a form of communication. While 23% of the participants did not know how to use the system, 15% of the respondents had no Internet connection, therefore, could not access the system. The participants also raised lack of training as a significant challenge to using the system. One participant voiced out that lack of training on the system had an impact on why they did not use it while some said it affected the frequency of use. They were from a department that had not been

included in training and urged the team to train all departments that provide any form of service provision. The lack of resources in resource-constrained environments of humans and hardware had also been a significant concern and cause for inefficient IT support. Currently, most of the municipal offices were connected to the Internet, except Alicedale and Riebeeck East (Osah, 2017).

The users that had more *knowledge of the system* used it more often than those did not. The housing department were very adamant in the use of the system and were not willing to participate or pay attention to what MobiSAM was about. Knowledge of the system could be gained from workshops that the team facilitated. There was irregular attendance at the workshops and training. A participant noted that:

> *"...some people went there hoping that they would get a certificate, why should I do it. There is no benefit."*

The management and participants noted that a form of recognition would motivate staff to attend the workshops and also use the systems. This could be in the form of a certificate of attendance. The participants that attended most of the workshops used MobiSAM more than those that rarely attended. They stated that the training and workshops influenced their use of the system as they knew what they were doing. For the project champions, they could relate, so they used the system more. They, however, brought to the team's attention that there is a need for *follow-up* workshops for staff members that did not use the system daily.

> *".. need follow up workshops to remind people of what they are supposed to be doing."*

There was a need to train all users of the system and the people that would be impacted by the system which includes low-level staff members. The Operations Manager suggested that the technicians should not be trained as it was unnecessary – however, what emerged from the workshops was that they were key in providing feedback after addressing a service delivery issue. CSOs reported that some staff sit around service issues sites without doing their work, and charging for overtime when it becomes urgent.

The investigation raised the issue of *human resource capacity* in resource-constrained contexts as a significant challenge. Due to low income and high levels of debt, most municipalities in resource-constrained areas are understaffed with high staff turnover. Availability of staff members within the implementation in March 2017 was low as most of the staff allocated a small portion of their time to the project rather than integrating it into their work. From the workshops, it was established that there were six technicians and the rest were semi-skilled plumbers in the Water and Sanitation Department. Hence, most of the plumbers were not qualified for the specified job. There was no available information on the exact numbers of total technicians as a new organogram was still being established. This affected the number of reported service delivery issues that could be solved, and the rate at which they are resolved (turnover time).

At the introductory meeting to the ward councillors in September 2016, it was highlighted that half of the posts for Community Development Workers (CDW) were not filled and these positions were still vacant at the beginning of November 2016.The role of Community development workers' (CDW) is to report to the Speaker of Council and communicate the community's needs. A lack of adequate staff members affected the consistency and timely reporting of community service delivery issues to the permanent Municipal Manager for five years hence have had to rotate the role with acting managers from their staff cohort. Furthermore, before 2016, they had not had a Chief Financial Officer (CFO) who then went on maternity leave after a few months on the job. Most of the interns in the municipality have no job roles, therefore, they tend to sit idle doing nothing a lot of the time. Furthermore, 200 staff members in the municipality cannot be accounted for, but are on the payroll.

Within the IT department, there was not enough support or capacity to maintain all systems and manage all the users. A representative of a civil society organisation mentioned that after various interactions with the municipality he could conclude that:

> *"there are very few people who are IT literate to a degree and can be you know…. to solve problems and keep things running."*

This was after the IT manager left and the interns available were not able to resolve issues that arose. Human capacity is an essential factor in facilitating that the alignment of such initiatives is efficient.

The *political* standing of a municipality might have an impact on the alignment of a system. Political associations have a negative bearing on service delivery as there is a tendency from the dominant party to marginalise other party supporters (Ndaba, 2014). This relates to the councillors as some of them put forward their political agenda ahead of providing service delivery. This was observed as from the lack of attendance at ward meetings in some wards and unreported or unresolved issues in areas that they abide in. It was noted that the areas with more problems have less engaged communities and leaders. On 24 November 2017, at a special council meeting, concern was raised over being put under administration again though in this case under Section 139 (a) of the constitution which dissolves the whole council. The argument between the two leading parties stemmed from a political backing. One side was rooting for the Member of the Executive Committee (MEC) to intervene ("*put his money where his mouth is*") and the other claiming that most of the issues being dealt with are (emanating from lack of maintenance of infrastructure) historical and they are doing their best.

Table 6.8: Local Government Summary table

Input	Alignment Factors
Local government (Municipal officials and Council)	Organisational Culture
	Organisational structure
	Organisational readiness
	Management commitment and support
	Capacity
	Level of IT support
	Human capacity
	Knowledge of the system
	Political influence

6.4.3 The Outputs

Outputs are the outcomes that are generated from the alignment process. The outputs that were generated can be classified as citizen engagement and participation, government responsiveness and social cohesion. These are also part of the MobiSAM objective in implementing ICTs to facilitate communication within and by the municipality. These will either be positive or negative depending on the impact of inputs and other factors on the alignment.

a) Citizen Engagement and Participation

Citizen engagement increased with the new innovative platforms that were being created to facilitate communication. The number of posts and likes on the Facebook increased as people found it more reliable and timeous than other traditional forms of engagement. Citizens were trained on their rights and on how to use the website and supplementary technology (Facebook, email, SMS), giving them a platform where they can use the MobiSAM to hold the government accountable for their services and also knowledge on what services they are entitled to.

Once citizens were informed and empowered, they could be more *effective* in reporting, and make sure that they receive the services. Once the citizens established how effective posting on Facebook and the feedback they received from the MobiSAM team they were more engaged and willing to communicate frequently. With the social media platforms came with the repercussion that the MobiSAM project team was working for the municipality, therefore there was an increased backlash when there was a delayed response from the municipality, which was beyond the team's control. There arose a need to manage the user expectations and continuously communicate that technology is only a tool to facilitate and improve communication.

The citizens had a platform to hold the municipality *accountable* for resolving issues as the system provided evidence-based information and tracking of reported problems. The ticketing system increased accountability of departments, but no action was taken on those that did not accomplish their tasks. The main aim of MobiSAM was to increase citizen engagement and improve service delivery. This was not entirely realised as the municipality still focuses on sending announcements but does not listen to the citizens or provide feedback on their issues. The provision of information

was meant to assist in educating citizens by also empowering them with participation mechanisms (Bekker, 1996). Citizens are often empowered through citizen engagement activities that provide a platform for them to voice their issues and needs (Davies and Simon, 2013). Active citizenship needs to be understood as a vital component of citizen engagement (Einfeld and Collins, 2008). It involves the citizens engaging with the government and the citizens engaging with the place. This is illustrated in Figure 6.23.

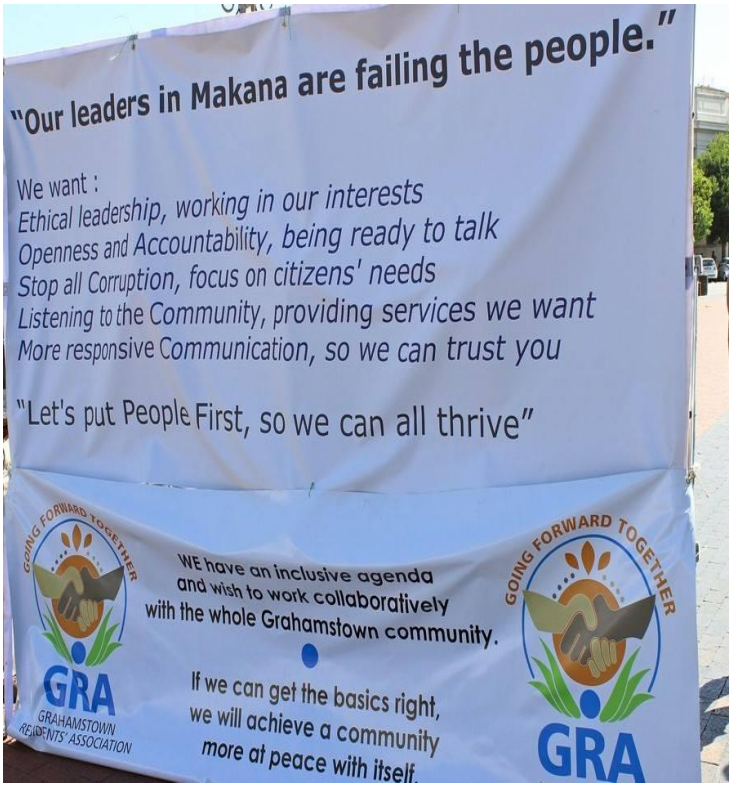

Figure 6.23: Examples of Active citizenship

Table 6.9: Citizen Engagement and Participation Summary table.

Outcome	Outputs
Citizen Engagement and Participation	Accountability and Transparency
	Engagement and Active citizenship
	Empowerment

b) Government Responsiveness

Initially, constructive communication lacked in public forums as there was increased tension between the municipality and citizens. Citizens would use the platforms to insult and accuse the municipality of the lack of adequate service delivery. The municipality had inadequate channels of communication with both the citizens and internally. MobiSAM managed to build relationships and obtain support from the Customer Care Unit and Communication Department. Although there is still a long way to go to ideal engagement, these departments ended up being project champions as they assisted in encouraging and promoting MobiSAM to the municipal management and council. They were informed about the project and how it can support their communication

processes. They also mobilised municipal members for workshops and training throughout the project.

The project team contributed to the communication strategy and policy documents enabling that the municipality objectives and goals root for citizen engagement. They reported issues on behalf of citizens on the MobiSAM system and followed up on reports unresolved within the departments. The introduction of MobiSAM has improved the communication process between departments and with the citizens with the introduction of the central ticketing system. It has also encouraged the municipality to create a Communication Facebook page as illustrated in Figure 6.24.

Figure 6.24: Introduction of a Makana Communications Facebook page

The MobiSAM projects' centralised reporting and resolving issues within the municipality across the various departments assisted in departmental cohesion. It also reduced duplication of reports that existed in the initial communication process giving a pathway to clear reporting. Though the rate of responsiveness is still low and requires improvement, the municipality has increased response in specific departments mainly water as illustrated in Table 6.12.

Table 6.10: Statistics on closed reports

	Roads	Electricity	Sanitation	Water	Parks and recreation	Other
Reports Closed by Municipality 13 September 2017	0	8	2	14	1	
Reports Closed by municipality 2 October 2017	0	8	2	16	1	0

Feedback is the response that is received after a message has been communicated. Therefore, it can be a measure of effectiveness of the message communicated. The system also provides the government with easy ways to provide feedback and track progress. However, there is still no harmony in the way some municipality departments work. There are still rigid department barriers that are preventing the provision of services to the community.

Table 6.11: Government Responsiveness Summary table

Outcome	Outputs
Government Responsiveness	Capacity building
	Reduced Duplication
	Departmental Cohesion
	Closing the feedback loop

c) Social Cohesion

It is a broad concept that covers several components such as a sense of belonging, social exclusion, citizen engagement, and trust. Social cohesion unifies a society being (Janmaat 2011:61; Cloete, 2014). It could be deduced that social cohesion unites a community. There is a sense of despondency among citizens, this is especially evident among citizens from marginalised contexts. As a result, citizens are reluctant to engage in citizen participation and are *unaware* of their rights to engage. A citizen that is well informed will be more sensitive to the municipality. From the process assessment, a citizen noted that;

> *"A lot of residents shout and complain about the service delivery shortcomings but if they knew they would be a bit more forthcoming and sensitive. But its anger for lack of response."*

Increase in engagement has been seen to increase trust (Lekorwe, 2014). Davies and Simon (2013) stated that citizen participation increases fairness and strengthens civic capacity. Trust emanates from a responsive government that is capable of providing for its citizens (Warren, Sulaiman. and Jaafar, 2014). Citizens trust in the municipality increased as they started noticing the progress of government communication. However, there has been no significant increase in citizens' trust in the government as they still have communication problems this has improved slightly but is a working progress. The citizens believe that the municipality can provide adequate services, the development of effective management and financial planning, as well as effective engagement with citizens.

Table 6.12: Social Cohesion Summary table

Outcome	Outputs
Social Cohesion	Trust
	Awareness
	Sensitivity

6.5 Conclusion

This chapter presents a case study of the MobiSAM, DCE initiative, and its process of alignment and appropriation in Makana Municipality. The case study description emerged through a reflective exercise of the different components of the Adaptive Structuration framework in a real-life setting. The background of Makana municipality is discussed, highlighting the key challenges and status of the municipality. The MobiSAM project was presented as an innovative digital citizen engagement project introduced to Makana Municipality in 2012. This project consisted of 2 phases, with phase 1.0 experiencing lessons learned related to government responsiveness, and phase 2.0 focusing on addressing these issues. The factors of alignment in DCE are categorised

into Inputs, the Appropriation Process, and Outputs. Figure 6.25 provides a skeleton of the results that emerged from the empirical investigation. What is paramount from the investigation is that these factors essential for alignment are not easily available or operational in local government in South Africa, due to resource constraints and political influence. Nonetheless, the results of the empirical investigation, whether negative or positive, provides a lens of the essential aspects for implementing digital citizen engagement. If these elements are improved on or enabled positively, they can go a long way in supporting digital citizen engagement in South Africa and similar local government contexts in other countries.

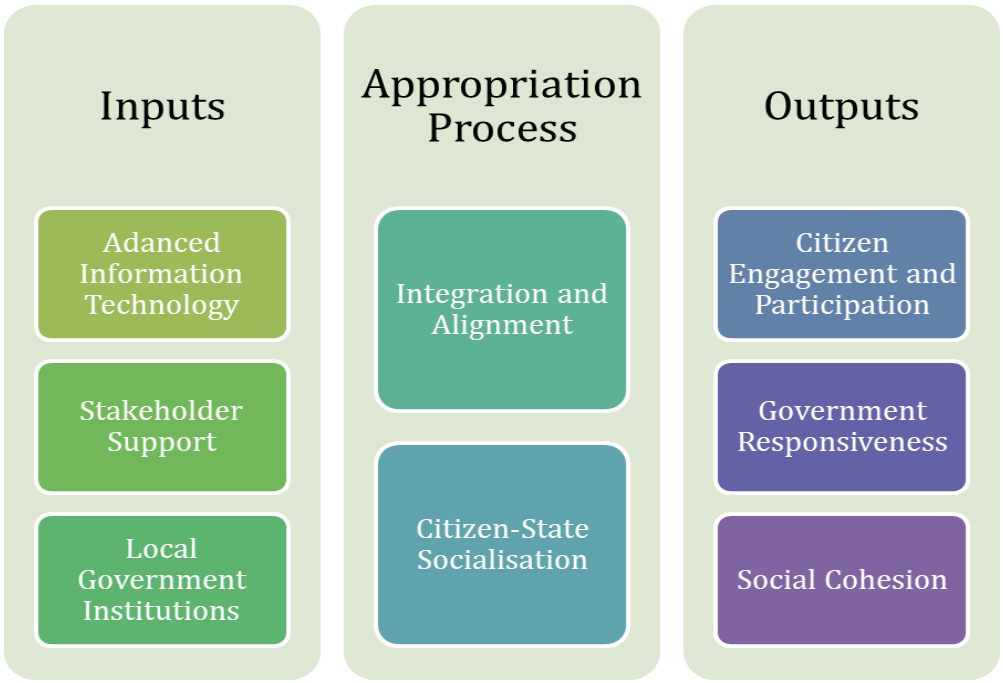

Figure 6.25: Outline for proposed framework

Chapter 7: Proposed Framework for Digital Citizen Engagement Alignment

This chapter is based on the analysis conducted in the previous chapter. It proposes a framework to align DCE initiatives with communication processes at local government level. The main components of the framework are inputs, appropriate process and outputs. These components are important focus areas to consider when aligning DCE initiatives with communication processes.

7.1 Introduction

Since Digital Citizen Engagement is a fairly new research field area, its implementation and alignment strategies have not been extensively discussed in the literature (Peixoto and Fox, 2016; Haikin, *et al.,* 2016). Nevertheless, other researchers have discussed how to evaluate DCEs, subsequently outlining the benefits and challenges that such initiatives have faced (Peixoto and Fox, 2016; Haikin, *et al.,* 2016; Madon, 2017). The alignment of DCE initiatives with communications processes is vital, to be able to translate the strategy into results (Khumalo, 2016). The ideal local government organisation is one that illustrates high-performance, which encompasses alignment of and high engagement with stakeholders (Ebrahim and Irani, 2005; Bhaskar and Singh, 2014). An understanding of the Digital Citizen Alignment Framework is a significant stage towards effective DCE implementation and adoption to improve service delivery.

The chapter integrates and presents the Digital Citizen Engagement Alignment Framework for local government generated from the findings of the case study. Firstly, the overall framework is introduced and outlined as an evolved framework from the Adaptive Structuration Model. Subsequently, each component of the framework is discussed in detail that is the, Appropriation Process, Inputs, and Outputs. Lessons learned contribute to propositions for each factor. It is concluded that the iterative nature of the integration and alignment process in resource-constrained contexts makes the framework dynamic in a context. Other contexts can contextualise the framework to learn from it in different local government environments.

7.2 The Digital Citizen Engagement Alignment Framework

The Digital citizen engagement alignment framework was developed with the guidance of the Adaptive Structuration Theory. Most local municipalities in South Africa struggle to effectively meet service delivery needs, which emanate from ineffective planning and communication with citizens. Understanding these alignment factors is a step towards building realistic and active citizen engagement. The components that make up the alignment framework include the inputs, the appropriation process, and the outputs. The inputs that can either positively or negatively impact the appropriation process assists in realising essential factors that hinder or support the

alignment process. The appropriation process consists of two sub-components;

i) The Integration and Alignment Process, and
ii) Citizen-State Socialisation.

The outputs are the factors generated from the appropriation processes. These can also be negative or positive depending on the effectiveness of the appropriation process. The blue dotted arrows denote that the input factor impacts the appropriation process and the orange arrow indicates factors are generated from the appropriation process. The appropriation process can generate both inputs and outputs as the processes is iterative and allows for identification of critical factors as it progresses. The bi-directional arrows between the alignment process and Citizen-State Socialisation illustrate that they feed into each other. To efficiently align DCE initiatives it is important to involve stakeholders and for there to be constructive engagement. The stakeholders should be involved throughout all the stages of alignment and factors to consider in the process might should be realized from Citizen-State Socialisation.

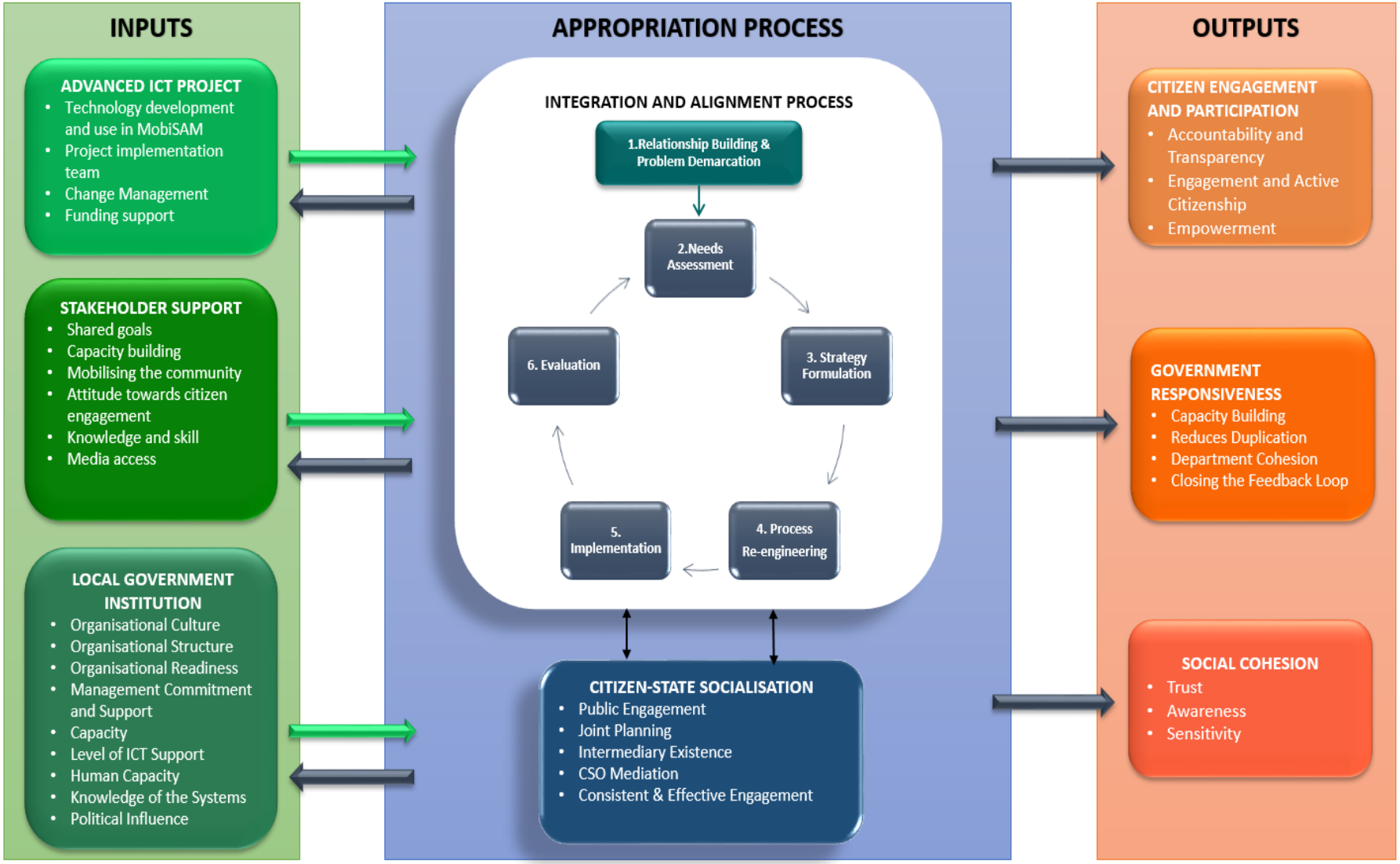

Figure 7.1: Digital Citizen Engagement (DCE) Alignment framework

7.2.1 Appropriation Process

The appropriation process is the alignment of the structures, resources and other factors that impact digital citizen engagement (Avolio, Kahai and Dodge, 2001). The appropriation process of the DCE alignment process focuses on two separate important processes which are the alignment process and the Citizen-State Socialisation. The alignment process encompasses the alignment of DCE technology with local government communication processes, and of resources and people. Citizen-State Socialisation is an important aspect that emerged from the study and involves the way stakeholders relate to each other. The integration and alignment process impacts the Citizen-State Socialisation as it can be used to motivate engagement and encourage more efficient participation through the integration of ICT tools. Interaction can generate both inputs and outputs the integration and alignment should be conducted first.

7.2.1.1 The Integration and Alignment Process

The integration and alignment process should encompass a comprehensive process that considers six stages of adopting technology to improve communication processes. Given the complex structure and culture of local government, it is an iterative process because the context is always evolving. Lessons from each stage will be employed and adapted in the next iteration until the process of alignment is fully engaged. The iterative process alleviates the risk and increases the ability to adjust to unpredictable outcomes. Correspondingly, resource constrained municipalities lack the capacity to adopt technology at once thoroughly, therefore, implementing in stages will assist with swift adoption. Relationship building and problem demarcation is not included in the iteration process as it is a once off process that establishes the context and finds an entry point into the project. The other five stages are iterative as each cycle will lead to the desired outcome and improves the process. Modifications are done based on the environment. This also assists in testing the impact of technology as it is introduced.

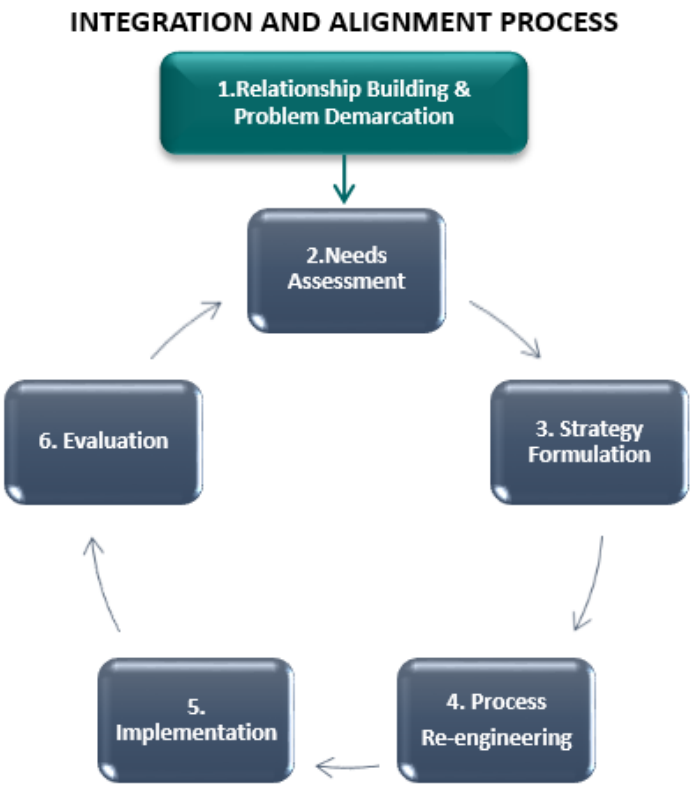

Figure 7.2: Digital Citizen Engagement Alignment Cycle

1) Relationship Building and Problem Demarcation

This stages assist in attaining buy-in from stakeholders and building capacity to increase citizen engagement. It is vital to inform municipal staff and provide a basic understanding of how the project operates and its purpose. These staff members will then assist in understanding the Local Government Institution processes, and they can be a middleman between the project team and the institution (project champions). They can also be used to round up the other users and participants of the project and assist in identifying the problems. It is essential to include all vital stakeholders in order to have a more comprehensive understanding of the problem. This stage is crucial as it assists in identifying the problem within a process. This can be accomplished by conducting a Baseline Study to obtain an in-depth understanding of the problem. The outputs of this stage inform the whole alignment cycle. Therefore, it is crucial that it is completed.

2) Needs Assessment

This stage involves requirement elicitation from key stakeholders. This assists in determining their exact needs and aspirations for the system, so as to deduce the functional requirements (Vakola and Rezgui, 2000). An important tool on this stage is observation of community needs holistically that they may not be verbally communicated in order to ascertain it encompasses the critical needs of the community. These can be established from facilitating practical activities and using diagrams as illustrations of their ideal condition. In most instances, various issues arise that require different approaches to resolve them. Prioritisation will need to be applied to identify key processes to focus on. It is essential to pay attention to the users of the system and the processes rather than the technology alone.

3) Strategy Formulation

This stage entails understanding how the technology to be implemented and aligned can support the processes that are identified within the needs assessment (Vakola and Rezgui, 2000). This can be accomplished by involving the key stakeholders that are affected by the change in processes. Different stakeholders have different views of how the ICTs should be adopted, therefore conducting different workshops allows the project to amalgamate the diversity of views. The mission and vision statement for the project is established at this stage after planning and analysing how the technology to be implemented can support the process identified. The mission and vision statements are created at this stage as the project team now has a full understanding of the context and how ICTs can support it. It is vital to identify the strengths and opportunities to leverage off while also recognizing the threats and weaknesses to improve (Bull *et al*., 2016). The documentation produced at this stage will be used to guide the re-engineering of the process. After the overall strategy has been formulated, it is important to consult the stakeholders to ensure that all the key aspects have been addressed before developing the technology and implementation.

4) Process Re-engineering

This stage consists of user training, testing and providing the appropriate technical support. The users can familiarise themselves with the system and advise on changes that should be made to improve the system. It is essential to train users in their environment to increase chances of usage; however, most resource-constrained environments do not have enough computers or technology to accommodate all users at once, therefore, some of the users might be trained offsite. Change

management should occur at this stage to assist with the transition from the old to the new processes, as well as, assist with ways in which issues such as resistance can be avoided. Standard issues in resource-constrained municipalities are lack of feedback, resistance and lack of involvement. These issues will negatively impact the alignment process, if not dealt with. Though not much can be done to guarantee the issues will not impact the project, training and workshops on change management reduce chances of these problems affecting the progress of the project.

5) Implementation

This is the stage where the process is made operational. It is ideal to implement the technology in phased releases in a resource-constrained environment. This assists in learning from each iteration as the environment is complex and unreliable. It is important to involve users at this stage to ensure that the users understand their role in the implementation. Various training sessions should be held, which include all users and management to ensure that they are familiar with the system. These include training on how to use the system, manage accounts and communicate with the citizens. It has been concluded that is important to provide a form of acknowledgement for attending training and workshops to motivate users to participate.

6) Evaluate Processes

This is the last stage of the cycle and focuses on assessing successful aspects of the project, and to identify areas in need of improvement. This is exceptionally beneficial for an iterative driven approach, as each stage will be a learning opportunity with room for improvement. In the evaluation stage the project team assesses the outcome of the projects and the objectives set at the beginning. It is important to also analyse the impact of the technology as a whole by analysing the number of people that know about the project regardless of if they used it or not. There is a need for a comprehensive evaluation that ensures thorough in-depth evaluation. Digital Citizen Engagement projects implemented in a resource-constrained will follow the definition of Comprehensive evaluation as stipulated by Pade-Khene and Sewry (2011: 326), that states;

> *"The comprehensive application of all appropriate domains of evaluation throughout the life of a rural ICT project, in ways that are adapted to the social, political, cultural, and economic rural environment, and designed to inform ICT interventions to improve and*

support rural development."

It is crucial for the project implementers to go through every stage of evaluation including a Baseline study to understanding the needs of the users, program theory assessment, needs assessment, process assessment, and Outcome and Impact Assessment. Therefore, the evaluation of all of the processes is considered comprehensive. This is not a linear it is quite an iterative process.

7.2.1.2 Citizen-State Socialisation

It is widely recognised that institutionalised spaces (government institutions) for state-citizen interaction in South Africa are not vibrant local democratic areas (Van Vuuren 2014; GGLN, 2016). They do not allow for ample engagement and this has led to an increase in citizens' lack of trust and discouragement. Citizen-State Socialisation is defined as how the two stakeholders learn to conduct themselves in a way that is acceptable. Socialisation is said to represent:

"*the whole process of learning throughout the life course and is a central influence on the behaviour, beliefs, and actions of adults as well as of children."*

Through engagement, stakeholders learn how to behave in a way that is progressive for service delivery in the community. There is a need for citizens and the government to socialise in order for government to establish the community's pressing needs and for the citizens to know how the government functions. An informed citizen will make an informed decision. Joint planning and involvement of citizens in the creation of key documents, such as the communication strategy plan will assist resource-constrained local municipalities in evidence-based planning and target issues that are affecting the community. It is essential for citizen participation and engagement to exist. Civil society also assists in acting as a mediator and as a go between for citizens and government assisting with conflict management. This is very important especially in resource-constrained environments where resources are limited. Therefore, more communication and engagement entail that resources are directed where they are most needed.

Citizen engagement is established by the government and aims to encourage and provide platforms for government to engage with citizens (Holmes, 2011; Grandvoinnet, Aslam, and Raha, 2016). The government should always create and support new ways to communicate and create platforms

that they can use to improve their communication for better service delivery. The existence of public forums assists in providing a platform where the state and citizens can communicate service delivery issues. The local government can also use these platforms to monitor CSO and engagement projects within the community (Holmes, 2011). It is important for the DCE project team to facilitate communication of both stakeholders and include them in project planning and development.

7.3.2 Inputs

The appropriation inputs are categorised into the advanced technology, Local Government institutions and Stakeholder support (citizens and Civil Society Organisations). Advanced technology focuses on the technology development and use. As Toyama (2011) stated, technology is only an amplifier of underlying factors such as organisation culture, willingness and human resource capacity. Therefore, technology can have a positive or negative effect depending on the impact of these factors. It is essential to include these factors as inputs that impact the appropriation process. The data analysed resulted in grouping these factors as a local government institution and stakeholder support. The local government institution aims to analyse the organisation's external and internal environment and how it impacts alignment while stakeholder support focuses on the level of support from other organisations, citizens and CSOs.

a) The Advanced Technology

Advanced Information Technologies (AIT) are tools and techniques that enable engagement between various parties in an organisation. It is important to know the factors that impact the alignment of technology with the communication processes. The input has factors such as technology development and use, project funding, and the project implementation team (team, capacity, leadership) to accommodate the impact that the DCE implementers have in the adoption of ICTs. These factors are essential in marginalised contexts where the implementers are usually not a part of the local municipality, such as an outsourced service provider, or research funded initiative.

Table 7.1: The Advanced Technology

Input	Alignment Input	Description
Advanced (ICT) Technology	Technology Development and Use	It is important to investigate and establish what DCE technology to implement in a resource-constrained environment. Different local municipalities may have different needs and may prefer a particular mode of communication. Use of various forms of technology is necessary where there is more than one mode of communication for effective alignment. The level of complexity or sophistication of the system has an impact on the usage of the system as the easier it is to understand the more they use it. Users will be willing to use something they understand rather than complex regardless of the level of understanding they have for the purpose and benefits it will bring. Additional support should be provided with regards to user manuals and training.
	Funder Support	Funding is mostly offered on a contractual basis and short-term however most of the implementing DCE technologies in resource-constrained environment goes beyond the funding period (Lofstedt, 2012). Alignment of resources-constrained municipalities take time and a lot of resources. Such contexts require more support as there are numerous underlying issues that will need attention before implementation. Funders should be able to support projects beyond providing financial aid but through encouraging continuous engagement in all aspects of the projects. The funder should provide a platform for projects to meet and facilitate collaborations giving projects an opportunity to learn and grow. They should also thoroughly evaluate projects and assist them in setting realistic goals that they can work towards within the context.

	Project Implementation team	The leader of a project should have the ability to drive the initiative through the various stages within a context in order for the project to be effectively aligned. Implementing technology in most local government which are resource constrained is difficult as issues vary according to each context and more hands-on leadership is required. Transformational leadership will motivate the team members to be more innovative and the motivated to do more in transforming existing practice in local government. A leadership style that lacks sensitivity to the context will affect the morale of the team members as they might not do their tasks to their full potential and invest enough effort training and assisting in the implementation of the technology. A diverse project team will be more productive, and they can tap into their different strengths in assisting in accomplishing the bigger mission. A team with the same background will not be able to adjust to the various outcomes and issues in a resource constraint environment. There is a need to have a balance between members that understand the context, communication ecologies, citizen engagement, push for the active citizenry and the technology itself.

b) Stakeholder Support

This component focuses on stakeholder support which involves all the users of the system and those affected by it as well. It is important for the framework to include all stakeholders as they play a vital role in adopting ICTs and in service provision for alignment. There is need to identify the key stakeholders and build relationships in order to be able to identify what encourages or affects their use of technology. The more the stakeholders' opinions and views are aligned with the project and are informed the more they will be willing to using the system. The needs assessment will assist in identifying stakeholders. As direct or indirect users of the ICTs, it is vital for the technology to be accessible to them and for them to have an understanding of what the system aims to accomplish.

Table 7.2: Factors Impacting Stakeholder Support

Input	Alignment Factors	Impact of alignment factor
	Common goals	It is crucial for the DCE initiative to align with other CSO in their common goals, improved service delivery issues. Citizen groups and civil societies can act as community champions in the project by mobilising citizens within the municipality. Sharing common goals also imply

Stakeholders (Citizens and CSOs, Local Media) Support		that the CSOs will evolve with the initiative, they will improve their commitments or change them as the project evolves. This paves the way for all the other inputs and commitments CSOs will have. CSOs are mainly known for capacity building.
	Capacity Building	It is critical to train users in a resource constrained environment regardless of how easy the technology is to understand in order to ensure that the users understand the functions of the system. Issues of digital literacy and access, as well as civic education can essentially be provided by civil society.
	Mobilising Citizens	CSOs have knowledge about the community and context that the project can benefit from. As citizens are an important stakeholder, and it is hard to mobilise them if the project is still new. Their ability to mobilise citizens is an advantage that the project team can leverage off.
	Knowledge and skill	The knowledge and skills that citizens have can support or hinder the alignment process of DCE projects. Citizens capacity or lack thereof will impact the implementation of ICTs. The knowledge citizens have on the local government processes, technology and the project will enable more effective engagement.
	Attitude towards citizen engagement	The most important input from citizens is their attitude towards engagement. Attitude towards citizen engagement impacts alignment. The more the citizens are willing to engage the more they will be open to tools and projects that support the process. Attitude will impact how they perceive the initiative and the use of the technology. The perception that users have on the technology before and during implementation impacts the attitude citizens have on ICTs. The attitude of citizens can be determined by how the government responds to them and availability of effective ways to communicate with them.
	Media Access	Media is an essential tool in alignment that should be used to reach a wider audience. In particular local radio is an excellent mode of communication to reach marginalised areas and allows for engagement. The use of media platforms assists in educating more citizens about the project.

c) Local Government Institutions

This input is largely impacted by the alignment process. It could be noted that some of the

alignment factors in this input are generated from the appropriation process, in particular, the integration and alignment process. Within local government, issues surrounding, weak leadership, vacancies in critical positions, poor financial management, lack of transparency and accountability, and communication with communities have been seen as the standard factors affecting service provision (The Presidency, 2014; GGLN, 2016). DCE alignment is impacted by social factors that include the organisational culture, structure and management support. The institution, employees, have an impact on how ICTs are used in the organisation.

Table 7.3 Factor impacting Local Government Institution

Input	Alignment Factors	Impact of alignment factor
Local government Institutions	Organisational Culture	It is vital to establish the role that organisational culture will impact change. Organisational culture pays a crucial role in promoting innovation (Alsaeed, Adams and Boakes, 2014). If positive norms are shared within the municipality, they can stimulate new ideas that assist in implementing and adopting new approaches (Adams and Van Rooyen, 2017). There is a need for an adaptive organisational culture as the introduction of technology will bring up new processes and mechanism of accomplishing tasks
	Organisational structure	Similarly, to the organisational culture, the Organisation structures of an organisation need to be flexible to changes. Most internal structures of Local Government institutions are usually large and complex to change. Implementing new processes will affects the process and structure of an organisation. The change brought about by ICTs will be difficult to implement if the structure is inflexible.
	Organisational readiness	Organisational readiness refers to the level of preparedness of an institution including the people that implement change. High readiness will be accompanied by users that are more cooperative, are initiative and apply greater determination in implementing the new processes. DCE initiatives have often failed due to inability to establish readiness for change. Organisational readiness is comparatively low in Local government than in businesses to users and members of the institution. Therefore, they are characterised by viewing the change as irrelevant and undesirable and barely participate and support in the planning.
	Management commitment and support	Management commitment and support are a vital driver of organisational change in an organisation. More so in change brought about by the implementation of ICTs. Therefore, it is important to capture management commitment and support at the initial stages. A critical challenge is an inability

		to make good decisions that will support and improve the procedures and processes. This affects the implementation and adaptation of ICTs. The dedication and leadership are important outcomes of that result in the success of change. The leadership style of management in Local Government impacts how the municipality functions. Effective leadership will impact organisation readiness in it encourages employees to be innovative and in a place where they can realise the need for change and embrace it.
	Level of ICT support	For the ICT-based initiatives, there is need to establish a strong ICT support with adequate resources and employees. There is need to ensure a more stable internet and constant technical changes from which equally skilled employees are required. ICT related change requires a specific level of skill and knowledge in technology.
	Human capacity	Substantial human and financial resources are required to sustain direct citizen feedback mechanisms, which require commitment and capacity. Human capacity is a key contributor to an organisations performance. Factors such as, experience and skills of individuals were valuable in reaching organisational objectives and it is easier to adapt to change. Resource-constrained local government often have a significantly large number of vacant roles leaving the existing employees with more significant tasks. Adequate human capacity is vital for organisational change.
	Capacity	There is a need to understand the influence local government's capacity has in to adapt and responding to change. Most local governments are situated in marginalised communities and do not have the capacity to provide adequate service delivery. Despite that most municipalities have the ability to improve financially they still have a long way to go.
	Training	Training is an important aspect of ICT implementation and change management. Lack of training for users affected by DCE initiative has led to failure and inability to change. Due to high staff turnover, there has to be repeated training sessions on the use of the DCE ICTs.
	Political influence	Political interference is a main cause of poor service delivery (Ndaba, 2014). Political influence impacts the way ICTs are adopted and implemented. Negative consequences may arise, where there is sudden change political influence due to lack of continuity in most municipal contexts.
		There are three government tiers these include the National Government, Provincial Government and Local Government. It is imperative for the first two

	Inter-organisational relations	levels support the mandate of the Local Government. The support can be through establishing and creating new ways of supporting service provision. Lack of support and lack of inter-organisational relations can be the downfall of a municipality.

7.2.3 Outputs

Outputs are outcomes that are generated from the system. The results depend on whether the inputs acted as an opportunity or constraint in the alignment process, which leaves the outputs to be less predictable. The outputs of the alignment process are linked to the interests of Digital Citizen Engagement. Increased citizen engagement and participation from using the ICTs will encourage accountability, transparency and engagement.

a) Citizen engagement and participation

Citizen engagement and participation increase with the new innovative platforms that are being created to facilitate communication. The citizens should have a platform to hold the municipality accountable for resolving issues as the system provided evidence-based information. The factors that are generated from citizen engagement and participation include increased accountability and transparency, engagement and active citizenship, and empowerment, as detailed in Table 7.4.

Table 7.4: Citizen Engagement and Participation Output

Outcome	Outputs	Impact of Factor
	Accountability and Transparency	The activation of people's ability to voice out their opinion and encourage their participation in decision-making, promote collective action in holding the government accountable. Lack of accountability in government institutions is the most significant factor for failures in service provision. Alignment of DCE initiatives with government process will encourage increased transparency as the ICTs will enable the citizens and the government to track issues.

Citizen Engagement and Participation	Engagement and Active Citizenship	Alignment and adoption of the ICTs will increase engagement as they provide a platform that facilitate effective, timeous two-way communication. It also assists the Municipality to engage more internally within departments to resolve service delivery issues. Increased engagement from the implementation of ICTs will educate citizens and give them the ability and opportunity to indulge in activities that assist in making the community a better place.
	Empowerment	The provision of information is meant to assist in educating citizens by also empowering them with participation mechanisms. Citizens are often empowered through citizen engagement activities that provide a platform for them to voice their issues and needs.

b) Government Responsiveness

Government responsiveness is an important factor generated by the appropriation process. As one of the challenges that municipalities face it is a key outcome of the process to increase government responsiveness. Factors that increase government responsiveness are departmental cohesion, capacity building, and reduced duplication.

Table 7.5: Government Responsiveness Output

Outcome	Outputs	Impact of Factor
Government Responsiveness	Capacity building	Government responsiveness is dependent on capacity and willingness. The alignment of ICTs and communication processes will increase the ability of the government to drive citizen engagement with more evidence-based planning. Capacity building will be accomplished for municipal staff through training provided on strategy formulation and ICT use.
	Reduced Duplication	The implementation of ICTs provides a central reporting system which can play a role in addressing departmental silos and encourage the staff to work together.
	Departmental Cohesion	It can be established that a tracking will ensure government responsiveness. Increased responsiveness will enable them to collect data for reporting. The ICTs adopted will introduce an improved way of communication which entails a centralised reporting system. Increased communication within the departments, can assist in tracking issues. Therefore, they can work together better to address issues reported.
	Closing the feedback	Feedback is communication received after sending out a message or providing a service. Most local institutions do not provide feedback or communicate well to the community and also struggle to collect information from the people. The implementation and alignment of ICTs will assist in obtaining

	loop	information from the community which supports in evidence-based planning.

c) Social Cohesion

It is a broad concept that covers several components such as a sense of belonging, social exclusion, citizen engagement and trusts. Social cohesion unifies a society. It could be deduced that social cohesion unites a community. Social cohesion input will increase trust, awareness and sensitivity.

Table 7.6: Social Cohesion Output

Outcome	Outputs	Impact of Factor
Social Cohesion	Trust	Knowledge of increased engagement increases levels of trust. It has been prominently realised that citizen engagement leads to increased levels of confidence in institutions. There is increased trust when citizens are involved in the alignment process
	Awareness	Effective engagement increases awareness of local government processes and capacity. Availability of knowledge assists in the citizens being more sensitive in how they approach and report to the municipality. This will in turn encourage the municipality responsiveness. This is important as it leads to difficulty in accessing information, lack of urgency and power to effect change by the public.
	Sensitivity	Increased awareness and knowledge in the local government institutions will enable the citizens to be more sensitive to the current situation of constrained resources in a municipality and be able to communicate their needs better.

7.3 Conclusion

The need for a Digital Citizen Engagement (DCE) Alignment strategies to assist in facilitating communication has led to the development of the DCE alignment framework. The framework is structured in a way that acknowledges factors that negatively or positively impact the alignment process to produce results. The main components of the framework are the inputs, Appropriate Process and Outputs. The alignment process involves six steps which a project should go through. The six steps are relationship building and problem identification, needs assessment, strategy formulation, process re-engineering, implementation and continuous evaluation. The integration and alignment process is iterative, and new factors may arise from each iteration. The first stage is not iterative as it aims to inform the whole process. The alignment process emphasises building relationships and the understanding the context and problem before defining objectives. The other stages are iterative as there is unpredictable of elements and a need for continuous improvement.

Each context will differ therefore there is need to understand where and how ICTs can support the processes within the organisation. It is also important to note the engagement between the citizens and state throughout the process is vital as it assist in planning and helps identify factors that may impact alignment. Factors that impact the process are identified and are called inputs. For a DCE initiative, these include the technology development and use, stakeholder support and local government. Factors that impact alignment under these vary according to context and are realised through literature and the appropriation process. The implication of these factors then assists in establishing how DCE ICTs can efficiently be aligned to generate the ideal outputs.

Chapter 8: Conclusion and Future Research

Chapter 8 rounds up by concluding the research study. It outlines the aspects presented in the research and identifies future areas of study.

8.1 Introduction

There is an increased need for effective communication between local government and citizens in South Africa, in order to improve citizen engagement. This has given rise to digital citizen engagement initiatives that aim to facilitate communication between citizens and resource-constrained local government. Many of these initiatives have failed at the implementation and adoption stage due to lack of strategy and models for guiding the process. The research study establishes that there is a need for digital citizen engagement initiatives that use these ICT tools to be aligned to the communication processes to improve citizen engagement and facilitate a more transparent and accountable government. A digital citizen engagement framework was developed from the findings in literature and data in a resource-constrained context. The data was collected and analysed to create the alignment framework, by identifying factors that hinder or support the alignment process. This Chapter concludes the research study of aligning local government communication processes with digital citizen engagement, to promote effective citizen engagement and service delivery. The research contributions are indicated, and future areas of study are presented.

8.2 Research questions

Research question 1: *What are the information and communication-related challenges associated with service delivery in resource-constrained local municipalities?*

This question was addressed in Chapter 2 of the literature review, and within the empirical investigation of a real-life case study. The purpose of this question was to establish the challenges within resource-constrained municipalities. The purpose of this question is to establish the amount of communication related challenges that have been faced by local municipalities. It also aimed to assist and see the impact the challenge has on service delivery. This question was aimed at also illustrating the interrelatedness of the challenges being faced with communication or lack thereof in providing services. It was revealed that among the three levels of government, local government is responsible for providing basic services to the community. Most of these local government institutions are resource-constrained and are faced with various challenges in providing services to the community. These challenges include lack of capacity, lack of implementation policies, inability to clear backlog, and increased service delivery protests. The majority of these challenges

have been linked to lack of communication between government and citizens. This chapter assisted in identifying factors within local government that may support or hinder effective communication for service delivery.

> **Research question 2**: *What role does citizen engagement play in supporting service delivery in resource-constrained local municipalities'?*

This questioned aimed to identify the link between the challenges identified in RQ1 with citizen engagement. It helped establish how citizen engagement can be used to support service delivery in under resourced municipalities. This can be used by municipalities to address challenges that they have that are linked to communication. This research question was addressed in Chapter 3 through an understanding of recent literature on supporting local government service delivery through citizen engagement. This chapter provides an investigation of the role of citizen engagement and its importance at local government level. Citizen engagement assists in achieving good governance (accountability and transparency), empowerment of stakeholders, and increasing social cohesion. However, there are some limitations that have been noted in engagement, including lack of participation, lack of awareness of citizens' rights, and lack of capacity by the local government. The empirical investigation also identified the impact that Civil Society Organisations have on a project, and the need for shared goals and aims to assist as the project evolves. It is also important to create spaces where stakeholders can progressively engage. What has emerged over the years is a need for more sustainable ways to communicate, that assist in eradicating some of the citizen engagement challenges.

> **Research question 3**: *How can innovative ICTs be used to support citizen engagement to improve communication in resource-constrained local municipalities?*

Research question three was addressed in Chapter 4 as it sought to understand the need for alignment of such projects, as well as, stipulate how it can be conducted. The purpose of this question was to establish how ICTs can be used to improve service delivery by facilitating communication and improving citizen engagement. Innovative ICTs have been used to facilitate communication. The use of the Adaptive Structuration Theory (AST) will assist future projects to guide the identification of factors that impact and are generated from the alignment of technology.

In particular, this theory will be useful in investigating inputs that affect the alignment of digital citizen engagement projects in various contexts. In this study these inputs include technology, stakeholder support, and local government institutions and they can either impact the alignment process *negatively* or *positively*. This alignment process unraveled organically leading to the creation of a new DCE alignment cycle at local government level. The DCE alignment process derived can be further used to guide the alignment of such initiatives in resource-constrained environments. The researcher used a pragmatist approach to provoke practical solutions to guide the alignment of digital citizen engagement initiatives. The paradigm can be used in future projects to get practical unique solutions that resolve their issues through in-depth analysis of a context.

> **Research question 4**: *How can communication processes of a resource-constrained local municipality be aligned with innovative ICTs to support citizen engagement?*

A reflective approach was taken on data collected to identify factors and how they impact and relate to each other to align efficiently with communication processes. The main purpose of this question was to enable other initiatives to effective align their projects with processes in a more efficient and sustainable way by improving citizen engagement. The use of a case study approach assisted in establishing how the alignment might occur and the factors emerged from data collected. A pragmatic approach was used to identify practical alignment factors that impact digital citizen engagement in a real-life resource-constrained environment. Understanding these observations and interactions will assist in identifying how the factors impact the alignment process and efficient outcomes that can be generated.

8.3 Outline of the research

Chapter 1: Introduction

This chapter introduces the research study by providing a background on service delivery and the challenges that have been faced in resource-constrained municipalities, in relation to communication. The research identifies challenges related to the lack of communication at local government level and how citizen engagement can be used to address them. The chapter also outlines the questions to be investigated to support and develop the alignment and how it can be conducted to produce a digital citizen alignment framework.

Chapter 2-4: Literature Review

These Chapters investigated research questions 1 to 3 focusing on understanding the communication challenges at local government; the role citizen engagement has in improving the provision of service delivery, and how ICTs can be used as an innovative and sustainable solutions to improve citizen engagement and in turn service delivery.

Chapter 5: Methodology

This chapter detailed how the research study was accomplished by applying the pragmatist philosophy, and the case study research strategy. The research followed an abductive approach which consists of both deductive and inductive approach taken in conducting the study. The Adaptive Structuration Theory (AST) that was used to guide the study was also presented and discussed.

Chapter 6: Case study exploration

Chapter 6 detailed the results from the case study exploration of Makana Municipality that was used to investigate the factors that impact the alignment of DCE projects such as, MobiSAM. The DCE projects used innovative tools to facilitate effective citizen engagement, which include a Website, social media applications (Facebook and Twitter), SMS and Email. It also provided the lessons derived from the implementation and adoption of a DCE in a real-life context.

Chapter 7: Proposed Framework

This chapter outlines the Digital Citizen Engagement framework that has been developed through the analysis of data and literature. It details keys factors to consider and how they impact the alignment process to produce positive outputs of engagement, cohesion, and responsiveness.

8.4 Contribution of the Research

The findings of this research study can inform and guide DCE initiatives of sustainability or resilience factors to consider when implementing in local government institutions. The application of innovative ICT tools can provide a platform where key stakeholders can effectively communicate service delivery issues. It will reduce the number of frustrated citizens who complain about lack of communication and trust in local government. Encouraging and facilitating an increase in citizen engagement can lead to increased awareness, trust, and sensitivity, which will

go a long way in impacting how they engage with local government. The research can be generalised to other similar resource constrained municipalities.

8.4.1 Contribution to research methodology

The pragmatist philosophy was applied in a resource-constrained context to develop a digital citizen engagement framework. The developing process relied on literature and the researcher's experience in the field and analysis of data collected. The process followed, drew on Vakolas process re-engineering and the Adaptive Structuration Theory to develop the framework in a resource-constrained municipality. Through the pragmatist approach the digital citizen engagement alignment framework was formulated from an analysis of a real-life resource-constrained context through a DCE project (MobiSAM). The researcher was immersed in the study and in turn assisted in the identification and explanation of alignment factors, and provided solutions to contribute to general practice (Patton, 1988; Bertilsson, 2004). This framework is applicable to resource-constrained municipalities at local government level.

8.4.2 Development of DCE alignment framework

This research contributes to new knowledge as there is no alignment framework in resource-constrained environments for DCE initiatives. Challenges faced by e-government have been well researched and solutions have been suggested on how to improve. However, Digital citizen engagement initiatives are still being researched and no recommendations have been documented on how to implement and align them in local municipalities that are resource constrained until now. This framework provides a lens of key inputs, processes and outputs that guide the alignment of DCE projects in resource-constrained municipalities at local government level.

8.5 Implications for practice

The main contribution of the research study is to provide digital citizen engagement initiatives with a guideline from empirical data on how to align their technologies within a resource-constrained environment. The findings of the framework are from real-life contexts that make them unique as they are tailored to a specific context that is resource constrained. The results state that the process will continually evolve and improve through a reflective nature of the appropriation. Due to the challenges DCE initiatives faced in facilitating communication, this framework will encourage them to have to reconsider how they operate. If they do not take this into account, the projects will keep facing the challenges that they have been facing. Local government and citizens through training and workshops will have the skill to adopt ICTs and effectively use them. A

significant number of researchers believe that the introduction of ICTs in the government is the solution to service delivery challenges, however, this research presents that service delivery can be improved through a more communication focused type of governance, Digital Citizen Engagement (Cordella and Tempini, 2015).

8.6 Limitation

Alignment in local municipalities is not a once off process due to the challenges that they encountered. Therefore, there was a need for a more extended investigation to identify more factors and for the ongoing sustainable operation of the project. The framework covers key factors that impact and are generated from the alignment process. The impact of these factors, however, differs depending on the local government context. Therefore, the extent to which an outcome is fulfilled also varies. Social cohesion and government responsiveness might not increase significantly. The organisational culture was a big hurdle in data collection as some municipal staff were not as forthcoming to participate in the research more so the project at large. There was resistance from the technicians that played a vital role in providing feedback, and this will take time to establish. The researchers view evolved as the project progressed. The initial investigator bias was due assumptions of government as a whole, based on negative past experiences. However, at the end of the research study, the researcher had a better understanding of the context that could impact the reliability of results. Though the researcher did not impose any of their limitations and assumptions on the data collected it was important to note their thoughts and feelings throughout the research.

8.7 Future research

The research study followed an exploratory approach which gives rise to opportunities for future research. There are two important beneficiaries to digital citizen engagement initiatives, which are the government and the citizens. The research focuses on the government side that is usually neglected in DCE contexts. Nonetheless, DCE, undertaking a focused study on citizens for future research will be valuable. As both stakeholders are important for alignment to be effective.

8.7.1 Implementation of framework

The Case study used had just implemented a DCE initiative and had not gone beyond two years which is relatively little time in a resource-constrained context. Evaluating a project that had gone beyond that would have risen from the alignment process which would contribute largely to the

framework. Also, as it is an iterative project, more factors would have been realised as time progressed through lessons from previous iterations.

8.7.2 Applying and adapting to other local government institutions

The digital citizen alignment framework was developed for resource-constrained for all levels of government. The framework can be applied to various municipalities, though impacting factors may change according to context. As the mere presence of new opportunities (or system inputs) does not necessarily generate the same result when applied in differing circumstances (Niederman, de Vreede, Briggs and Kolfschoten, 2008); it is important to investigate each context before introducing technology to identify its specific needs. This is emphasised in the alignment process as it encourages conducting investigations to understand the context that will enable developing the best solution (technology) that can support the process.

8.8 In closing

There is growing frustration from citizens caused by inadequate services delivery of basic services from local government. The local government has been facing various challenges that have impacted its capacity to provide basic services. The problems include dilapidated infrastructure, lack of capacity, power cuts and water outages (Farelo and Morris, 2006). The challenges being faced by most municipalities in providing services has led to the introduction of technology to enhance and support their processes. Recently with the rise in communication-related challenges, innovative ICTs have been implemented in order to try and facilitate communication. However, ICTs are merely enablers of change and not a solution for development (Gomez and Pather, 2012; Heeks and Molla, 2009; Toyama, 2011). DCE initiatives have failed to sustain their projects in local government due to lack of alignment guidelines at the local government level. Though critical, it is evident that such an alignment framework is impacting the success of DCE initiatives in the South African context, especially at the local municipal level (Naidoo, 2007; Krasner and Risse, 2014). Consequently, there is a need for a guiding framework to support the alignment of a municipal communication processes and service delivery operations with innovative ICTs to encourage citizen engagement in local municipalities that are resource-constra

References

2 Adams, J.A.R. and Van Rooyen, J.A.R., 2017. *An exploratory study of organisational culture and employee commitment: a case study at a local municipality* (Doctoral dissertation, Stellenbosch: Stellenbosch University).

3 Abelson, J., Forest, P.G., Eyles, J., Smith, P., Martin, E. and Gauvin, F.P., 2003. Deliberations about deliberative methods: issues in the design and evaluation of public participation processes. Social science & medicine, 57(2), pp.239-251.

4 Ajjan, H., Kumar, R. L. and Subramaniam, C., 2016. Information technology portfolio management implementation: a case study, Journal of Enterprise Information Management 29(6), pp.841–859.

5 Albizu, E. and Olazaran, M., 2004. Reengineering and organisational change. Prentice Hall, Madrid.

6 Aldrich, D., Bertot, J.C. and McClure, C.R., 2002. Egovernment: Initiatives, Developments and Issues. *Government information quarterly*, 19(1), pp.349-355.

7 Alamri, H.S., 2015. An integrated framework for a government organization's it solution based on a survey and case study in saudi arabia.

8 Alexander, P., 2010. Rebellion of the poor: South Africa's service delivery protests–a preliminary analysis. *Review of African Political Economy*, *37*(123), pp.25-40.

9 Alkadry, M.G., 2003 'Deliberative Discourse between Citizens and Administrators: If Citizens Talk, will the Administrators Listen?', 2003, Administration & Society, 35(2), pp. 184-209.

10 Alsmadi, I., 2011. Security Challenges For Expanding E-governments' Services. *International Journal of Advanced Science and Technology*, 1(37), pp.47-61.

11 Alsaeed, A., Adams, C. and Boakes, R., 2014. The need for policies to overcome eGov implementation challenges. *International Journal of Electronic Government Research (IJEGR)*, 10(3), pp.66-79.

12 Altschuller, D., Corrales, J. (2009) "The Spillover Effects of Participation in Development Projects: Evidence from Honduras and Guatemala." Working paper, CCEUP.

13 Andrade, D. A., 2009. Interpretive Research Aiming at Theory Building: Adopting and Adapting the Case Study Design. *The Qualitative Report*, 14(1), pp.42–60.

14 Aremu, M.A. and Saka, M.J., 2006. Marketing Communication Mix as Means of Enhancing HIV/AIDS Education in Nigeria. *Journal of Administration*, *3*(1), pp.14-24.

15 Arendse, H., Mohamed, G., Levy, A., Bevan, T., Wakeford, C., de Bruyn, E., Freitas, A., Jean, J., Mbhele, F., and Klaas, V., 2012. E-Government Strategy 2012-2019.

16 Arnstein, S.R., 1969. A ladder of citizen participation. Journal of the American Institute of planners, 35(4), pp.216-224.

17 Asmal, K., 1994. *Water and Sanitation: White paper.* [pdf] Capetown. Available at: <https://www.westerncape.gov.za/text/2004/3/wssp.pdf> [Accessed 1 March 2016].

18 Ashton, P., 2002. Avoiding conflicts over Africa's water resource. Ambio. *A Journal of the Human Environment*, 3(2), 236–42.

19 Attride-String, J., 2001. Thematic networks an analytic tool for quantitative research. *SAGE Publications,* 1(3), pp.385-405.

20 Attaran, M., 2003. Information technology and business-process redesign. *Business Process Management Journal*, *9*(4), pp.440-458.

21 Aulich, C., 2009. From citizen participation to participatory governance. Commonwealth Journal of Local Governance, (2).

22 Avritzer, L., 1999. "Public Deliberation at the Local Level: Participatory Budgeting in Brazil." Paper delivered at the Experiments for Deliberative Democracy Conference, Wisconsin January, 2000.

23 Backus, M., 2001. E-Governance in Developing Countries. *IICD Research Brief*, 1(1) pp.12-15.

24 Bandara, W., Indulska, M., Chong, S. and Sadiq, S., 2007. Major issues in business process management: an expert perspective.

25 Bakari, J.K., Tarimo, C.N., Yngström, L., Magnusson, C. and Kowalski, S., 2007. Bridging the gap between general management and technicians–A case study on ICT security in a developing country. *Computers & Security*, *26*(1), pp.44-55.

26 Batonon, I., 2015. Social Accountability: An Introduction to Civic Engagement for Improved Service Delivery. [pdf] New York: International Rescue Committee. Available at:

https://www.rescue.org/sites/default/files/document/565/ircsocialaccountabilitydiscussionpaper.pdf [Accesed 12 January 2017].

27 Bartlett, R., Milne, R. and Croucher, R., 2018. Strategies to improve recruitment of people with dementia to research studies. *Dementia*, p.1471301217748503.

28 Bardhan, P. and Mookherjee, D., 2006. Decentralisation and accountability in infrastructure delivery in developing countries. *The Economic Journal*, *116*(508), pp.101-127.

29 Benbasa, I., Goldstein, D.K. and Mead, M. 1987. The Case Research Strategy in Studies of Information Systems. *MIS Quarterly*, 11(3), pp. 369-386.

30 Benkler, Y., 2014. *Open development: Networked innovations in international development*. Mit Press.

31 Bertot, J.C., Jaeger, P.T. and Grimes, J.M., 2010. Using ICTs to create a culture of transparency: E-government and social media as openness and anti-corruption tools for societies. Government information quarterly, 27(3), pp.264-271.

32 Bertot, J.C., Jaeger, B.T. and Hansen, D., 2012. The impact of polices on government social media usage: Issues, challenges, and recommendations. *Government Information Quarterly*, 29(1), pp.30–40.

33 Bekker, K. 1996. Citizen Participation in Local Government. Pretoria: J.L. van Schaik (Pty

34 Betters-Reed, B.L., Nitkin, M.R. and Sampson, S.D., 2008. An assurance of learning success model: Toward closing the feedback loop. Organization Management Journal, 5(4), pp.224-240.

35 Bertilsson, T.M., 2004. The elementary forms of pragmatism: On different types of abduction. *European Journal of Social Theory*, *7*(3), pp.371-389.

36 Bhaskar, H.L. and Singh, R.P., 2014. Business process reengineering: a recent review. *Global Journal of Business Management*, *8*(2), pp.24-51.

37 Blore, I., Devas, N. and Staler., 2004. "Municipalities and Finance: a sourcebook for Capacity Building." Earthscan, London.

38 Blumberg, B., Cooper, D.R. and Schindler, P.S., 2008. Business research methods, Berkshire: McGraw-Hill.

39 Boenink, M., Van Lente, H. and Moors, E., 2016. Emerging Technologies for Diagnosing Alzheimer's Disease: Innovating with Care. In *Emerging Technologies for Diagnosing Alzheimer's Disease* (pp. 1-17). Palgrave Macmillan UK.

40 Braa, K. and Vidgen, R., 1999. Interpretation, intervention, and reduction in the organizational laboratory: a framework for in-context information system research. *Accounting, Management and Information Technologies*, *9*(1), pp.25-47.

41 Braun, V, and Clarke, V., 2006. Using Thematic Analysis in Psychology. *Qualitative Research in Psychology*, 3(2), pp.77–101.

42 Breakfast, N, Mekoa, I. and Maphazi, N., 2015. Participatory Democracy in Theory and Practice: A Case Study of Local Government in South Africa. Africa's Public Service Delivery and Performance Review, 3(3), pp.31-51.

43 Brehm, J and Rahn, W., 1997. 'Individual-level evidence for the causes and consequences of social capital' *American Journal of Political Science*, 41(3), pp. 999-1023.

44 Brinkmann, S., 2014. Interview. In *Encyclopedia of Critical Psychology* (pp. 1008-1010). Springer New York.

45 Buccus and Mathekga., 2007. Public Participation and Local Governance. Research Report. Durban: The Centre for Public Participation (CPP) in association with Human Science Research Council (HSRC) and the University of KwaZulu Natal.

46 Burn, J.M. and Szeto, C., 2000. A comparison of the views of business and IT management on success factors for strategic alignment. *Information & management*, *37*(4), pp.197-216.

47 Byrne, M.M., 2001. Evaluating the findings of qualitative research. *AORN journal*, *73*(3), p.706.

48 Calderwood, 2013. 13 municipalities under administration. http://www.news24.com/SouthAfrica/News/13-municipalities-under-administration-20131125

49 Cao, L., Mohan, K., Xu, P. and Ramesh, B. (2009), "A framework for adapting agile development methodologies", European Journal of Information Systems, Vol. 18 No. 4, pp. 332-343.

50 Carr, D.K., 1995. *Best practices in reengineering: what works and what doesn't in the reengineering process*. McGraw-Hill Companies.

51 Callahan, K., 2002. The utilization and effectiveness of citizen advisory committees in the budget process of local governments. Journal of Public Budgeting, Accounting & Financial Management, 14(2), 295-319.

52 Carothers, T. and Brechemacher, S., 2014. Accountability, Transparency, Participation and Inclusion: A New Development Consensus? *Carnegie Endowment for International Peace*, 1(1), pp.3-18.

53 Cecero, J.J., Nelson, J.D. and Gillie, J.M., 2004. Tools and tenets of schema therapy: toward the construct validity of the early maladaptive schema questionnaire–research version (EMSQ- R). *Clinical Psychology & Psychotherapy*, *11*(5), pp.344-357.

54 Chambers, R., 2010. Paradigms, Poverty and Adaptive Pluralism, IDS Working Papers 1(344) pp.01-57.

55 Champy, J., 2002. Seven steps to X-engineering. *Executive Excellence*, *19*(6), pp.15-15.

56 Chidi, R., 2017. Understanding the research onion: an illustration. [online] available at: <http://nairaproject.com/blog/understanding-the-research-onion-methodology.html [Accessed 28 August 2017].

57 Choi, T.Y., Dooley, K.J. and Rungtusanatham, M., 2001. Supply networks and complex adaptive systems: control versus emergence. *Journal of operations management*, *19*(3), pp.351-366.

58 Christopher, J., 2016. Insufficiency of Entitlement Criteria as Justification for Knowledge Claims in Narrative Research. *Philosophical Studies in Education*, *47*, pp.108-117.

59 Christensen, L.B., Johnson, B., Turner, L.A. and Christensen, L.B., 2011. Research methods, design, and analysis.

60 Chuene, T.B., 2012. *What are the challenges facing municipalities in financing their water services infrastructure?: a case study of water services authorities in the North West Province* (Doctoral dissertation, Stellenbosch: Stellenbosch University).

61 Ciborra, C., 1997. De Profundis? Deconstructing the concept of strategic alignment. IRIS conference (http://iris. informatik.gu.se/conference/iris20/60.htm).

62 Clifford-Holmes, J.K., 2015. Fire and water: a transdisciplinary investigation of water governance. PhD thesis, Rhodes University.

63 Constitution of the Republic of South Africa, 1996 (Act 108 of 1996). [pdf] Pretoria. Available at: https://www.google.com/search?espv=2&q=Constitution+of+the+Republic+of+South+Africa%2C+1996+%28Act+108+of+1996%29&oq=Constitution+of+the+Republic+of+South+Africa%2C+1996+%28Act+108+of+1996%29&gs_l=serp.3..0i30k1j0i8i30k1.62636.62636.0.6

3811.1.1.0.0.0.0.249.249.2-1.1.0....0...1c.2.64.serp..0.1.248.7uvDm5g9KZQ [Accessd 25 January 2017].

64 COGTA, 2009. *Local Government turnaround strategy*. [pdf] Pretoria: COGTA . Available at: <http://pmg-assets.s3-website-eu-west-1.amazonaws.com/docs/100728turn-around.pdf> [Accessed 12 November].

65 Constitution of the Republic of South Africa, 1996. NO. 108 OF 1996. [DATE OF promulgarton: 18 december, 1996

66 Corcoran, P.B., Walker, K.E. and Wals, A.E., 2004. Case studies, make- your- case studies, and case stories: a critique of case- study methodology in sustainability in higher education. *Environmental Education Research*, 10(1), pp.7-21.

67 Criado, J.I., Sandoval-Almazan, R. and Gil-Garcia, J.R., 2013. Government innovation through social media. *Government Information Quarterly*, 30 (1), pp. 319–326.

68 Creighton, J.L., 2005. The public participation handbook: Making better decisions through citizen involvement. John Wiley & Sons.

69 Creswell, J.W., 2014. *A concise introduction to mixed methods research*. Sage Publications.

70 Crous, M., 2004. Service delivery in the South African public service: implementation of the Batho Pele principles by Statistics South Africa. Journal of Public Administration, 39(Special issue 1), pp.574-589.

71 Crocker, J., Geremew, A., Atalie, F., Yetie, M. and Bartram, J., 2016. Teachers and sanitation promotion: an assessment of community-led total sanitation in Ethiopia. *Environmental science & technology*, *50*(12), pp.6517-6525.

72 Crozier, M. and Thoenig, J.C., 1976. The regulation of complex organized systems. Administrative Science Quarterly, pp.547-570.Klijn and Koppenjan, 2000

73 Crush, J., 2001. The dark side of democracy: migration, xenophobia and human rights in South Africa. International Migration, 38(6), pp.103-133.

74 Custer, S. and Zum Felde, J., 2012. Beneficiary Feedback Interviews and Snapshots. Washington, D. C.: Banco Mundial.

75 Curtain, R. 2003. 'How Citizens can take part in developing and implementing public policy –Part 2'. http://www apprn.org/pdf/curtain_citizenEngagementPart2.pdf (Original source: UK: Office of the Deputy Prime Minister, 2002, Public Participation in Local Government: A Survey of Local Authorities, December. Daily news (newspaper): Tuesday, March 30.

76 Cobo, C., 2012. Networks for citizen consultation and citizen sourcing of expertise. Contemporary Social Science, 7(3), pp. 283-304.

77 Dada, D., 2006. The Failure of e-Government in Developing Countries: A Literature Review. *Government Information Quarterly*, 32(1) pp. 279-286.

78 Dean, D.L., Lee, J.D., Pendergast, M.O., Hickey, A.M. and Nunamaker Jr, J.F., 1997. Enabling the effective involvement of multiple users: methods and tools for collaborative software engineering. *Journal of Management Information Systems*, *14*(3), pp.179-222.

79 Daly, J., Kellehar, A. and Gliksman, M., 1997. The *public health researcher: A methodological approach*. Oxford University Press: Melbourne.

80 Davies, G. and Dwyer, C., 2007. Qualitative methods: are you enchanted or are you alienated. *Progress in Human Geography*, 31(1), pp. 257-266.

81 Davies, A. and Simon, J., 2013. The value and role of citizen engagement in social innovation. Brussels: European Commission, DG Research.

82 Davenport, T.H. and Short, J.E., 1990. The new industrial engineering: information technology and business process redesign.

83 Daft, R. L. 2004. *Organisation theory and design*, 8, New York: Thomson South-Western.

84 Department of Water Affairs and Forestry, 1994. *A history of the first decade of Water Services delivery in South Africa*. [pdf] Pretoria: Department of Water Affairs and Forestry. Available at: <https://www.dwa.gov.za/documents/publications/firstdecade.pdf> [Accessed 1 March 2016].

85 Department of Water Affairs and Forestry, 2003. *Multi-year strategic plan*. [pdf] Pretoria: Department of Water Affairs and Forestry. Available at <http://www.gov.za/sites/www.gov.za/files/dwaf%20STRATEGIC%202003-4_0.pdf> [Accessed 1 March 2016].

86 Department of Water and Sanitation, 2015. Draft of reference for Water and Sanitation Community forums. [pdf] Eastern cape: Department of Water and Sanitation FORUM.

87 DeSanctis, G. and Poole, M.S., 1994. Capturing the complexity in advanced technology use: Adaptive structuration theory. *Organization science*, *5*(2), pp.121-147.

88 do Vale, H.F. and Cameron, R., 2017. The mosaic of local governments in post-apartheid South Africa: municipal asymmetries and spatial inequality. In *Inequality and Governance in the Metropolis* (pp. 165-182). Palgrave Macmillan UK.

89 Devenish, G.E., 1999. A commentary on the South African Bill of Rights. Butterworth-Heinemann.

90 de Visser, J., 2009. Developmental local government in South Africa: Institutional fault lines.

91 Dhillon, G.S., Weerakkody, V. and Dwivedi, Y.K., 2008. Realising transformational stage e-government: a UK local authority perspective. *Electronic Government, An International Journal*, *5*(2), pp.162-180.

92 Dodoo, R. 1997. Performance Standards and Measuring Performance in Ghana. Public Administration and Development. Vol. 17, No. 1, February 1997.

93 do Vale, H.F. and Cameron, R., 2017. The mosaic of local governments in post apartheid South Africa: municipal asymmetries and spatial inequality. In Inequality and Governance in the Metropolis (pp. 165-182). Palgrave Macmillan, London.

94 Department of Public Service and Administration (DPSA), 1997. Batho Pele - "People First" White Paper On Transforming Public Service Delivery. [pdf] Available at: http://www.dpsa.gov.za/dpsa2g/documents/acts&regulations/frameworks/white-papers/transform.pdf [Accessed 16 March 2018]

95 Drent, M. and Meelissen, M., 2008. Which factors obstruct or stimulate teacher educators to use ICT innovatively?. *Computers & Education*, *51*(1), pp.187-199.

96 Dror, Y., 1997. Delta-Type Senior Civil Service for the 21st Century. International Review of Administrative Sciences. Vol. 63, No. 1, March 1997.

97 Drury, J. and Reicher, S., 2009. Collective psychological empowerment as a model of social change: Researching crowds and power. *Journal of Social Issues*, *65*(4), pp.707-725.

98 Edokpayi, J.N., Odiyo, J.O. and Durowoju, O.S., 2017. Impact of Wastewater on Surface Water Quality in Developing Countries: A Case Study of South Africa. In *Water Quality*. InTech.

99 Edwards, M., 2005. Have NGOs ëMade a Difference?í [pdf] Biringham: From Manchester to Birmingham with an Elephant in the Room. Available at: http://www.gprg.org/pubs/workingpapers/pdfs/gprg-wps-028.pdf [Accesses 21 October 2017].

100 Einfeld, A. and Collins, D., 2008. The relationships between service-learning, social justice, multicultural competence, and civic engagement. *Journal of College Student Development*, *49*(2), pp.95-109.

101 Encyclopædia Britannica (2017) Definition of Socialisation. [online] Available at: <https://www.britannica.com/topic/socialization> [Accessed 31 January 2018].

102 Elbahnasawy, N. G. (2014). E-Government, Internet Adoption, and Corruption: An Empirical Investigation. World Development, 57(0), 114-126. doi: http://dx.doi.org/10.1016/j.worlddev.2013.12.005

103 Eldis 2015. *Challenges for e-government.* [online] Available at: <http://www.eldis.org/go/topics/resource-guides/governance/key-issues/e-government/challenges-for-e-government> [Accessed 26 October 2015].

104 Ezzy, D., 2013. *Qualitative analysis*. Routledge: London.

105 Falkenmark, M., 1994. Landscape as life support provider. Water-related limitations. *Royalty Society OF south africa*, 1(1). pp.103-116.

106 Fang, Z., 2002. E-government in digital era: concept, practice, and development. *International journal of the Computer, the Internet and management*, *10*(2), pp.1-22.

107 Farelo, M and Morris, C. 2006. Status of E-government in South Africa. *IST Africa Conference*, Pretoria, South Africa, 7-9 May 2006, pp 1-12.

108 Fleming, L. and Sorenson, O., 2001. Technology as a complex adaptive system: evidence from patent data. *Research policy*, *30*(7), pp.1019-1039.

109 Fragoso, J.T., 2015. Business Process Reengineering in Government Agencies: Lessons from an Experience in Mexico. *Journal of Service Science and Management*, *8*(3), p.382.

110 Frey, B.S. and Feld, L.P., 2002. Deterrence and morale in taxation: An empirical analysis.

111 Frey, H.U., Mende, S.B., Angelopoulos, V. and Donovan, E.F., 2004. Substorm onset observations by IMAGE- FUV. Journal of Geophysical Research: Space Physics, 109(A10).

112 Friese, S., 2014. *Qualitative data analysis with ATLAS. ti*. Sage: London.

113 Fox, W. and Meyer, I.H., 1995. Public administration dictionary. Juta and Company Ltd.

114 Fox, J., 2007. The uncertain relationship between transparency and accountability. *Development in practice*, *17*(4-5), pp.663-671.

115 Gagnon, M.A., Jansen, K.J. and Michael, J.H., 2008. Employee alignment with strategic change: A study of strategy-supportive behavior among blue-collar employees. *Journal of Managerial Issues*, pp.425-443.

116 Garrigues, J., 2017. What is the difference between citizen engagement and participation? [online]. Available at: <https://www.citizenlab.co/blog/civic-engagement/what-is-the-difference-between-citizen-engagement-and-

participation/?utm_content=buffer109d8&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer > [Accessed 23 January 2018].

117 Galliers, R.D., 1991. Strategic information systems planning: myths, reality and guidelines for successful implementation. European Journal of Information Systems 1 (1), 55–64.

118 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.

119 Gaventa, John and Gregory Barrett. 2011. "So What Difference Does it Make? Mapping the Outcomes of Citizen Engagement." London: Institute of Development Studies.

120 Gaventa, J. and Barrett, G., 2012. Mapping the Outcomes of Citizen Engagement. *World Development*, 40(12), pp.2399–2410.

121 Gaventa, J. and McGee, R., 2013. The impact of transparency and accountability initiatives. *Development Policy Review*, *31*(s1).

122 Gigler, B.S. and Bailur, S. eds., 2014. Closing the Feedback Loop: Can Technology Bridge the Accountability Gap?. World Bank Publications.

123 Gramberger, M.R., 2001. *Citizens as partners: OECD handbook on information, consultation and public participation in policy-making*. Publications de l'OCDE.

124 Grandvoinnet, H., Aslam, G. and Raha, S., 2015. *Opening the black box: The contextual drivers of social accountability. New Frontiers of Social Policy*. World Bank Publication: Washington, D.C.

125 Grossman, G., Humphreys, M., and Sacramone-Lutz, G. (2014). '"I Wld Like U Wmp to Extend Electricity 2 Our Village": On Information Technology and Interest Articulation.' American Political Science Review 108(03): 688-705.

126 Gigler, B.S., Custer, S., Bailur, S., Dodds, E., Asad, S. and Gagieva-Petrova, E., 2014. Closing the Feedback Loop: Can Technology Amplify Citizen Voices?

127 Gil-Garcı´a, J.R., and Luna-Reyes, L.F., 2003. Towards a definition of electronic government: A comparative review. A. Mendez-Vilas, J. A. Mesa-González, V. Guerrero-Bote, &B F. Zapico-Alonso (Eds.), Techno-legal aspects of information society and new economy: an Overview. Formatex, Badajoz.

128 Gil de Zúñiga, H., Jung, N. and Valenzuela, S., 2012. Social media use for news and individuals' social capital, civic engagement and political participation. *Journal of Computer‐Mediated Communication*, *17*(3), pp.319-336.

129 Gillham, B., 2000. Case study research methods. London: Continuum.

130 Gildenhuys, J.S.H. 2004. The Philosophy of Public Administration: A Holistic Approach: An introduction for undergraduate students. Stellenbosch: Sun Press.

131 Gnade, H., Blaauw, P.F. and Greyling, T., 2017. The impact of basic and social infrastructure investment on South African economic growth and development. Development Southern Africa, 34(3), pp.347-364.

132 Goldkuhl, G., 2008, December. What kind of pragmatism in information systems research. In *AIS SIG Prag inaugural meeting*.

133 Goldkuhl, G., 2012. Pragmatism vs interpretivism in qualitative information systems research. *European Journal of Information Systems*, *21*(2), pp.135-146.

134 Guan, L.S. 1997. Sustaining Excellence in Government: The Singapore Experience. Public Administration and Development. Vol. 17, No. 1, February 1997.

135 Grut, L., Mji, G., Braathen, S.H., Ingstad, B., 2012, 'Accessing community health services: challenges faced by poor people with disabilities in a rural community in South Africa', *African Journal of Disability* 1(1), Art. #19, 7

136 Hammer, M., 1990. Reengineering work: don't automate, obliterate. Harvard business review. P. 104–112.

137 Hammer, M. and Champy, J., 1993. *Reengeneering the corporation*.

138 Hammer, M. and Stanton, S., 1999. How process enterprises really work. *Harvard business review*, *77*, pp.108-120.

139 Haruta, C. and Bianca, R.A.D.U., 2010. Citizen Participation in the Decision Making Process at Local and County Levels in the Romanian Public Instituitons. Transylvanian Review of Administrative Sciences, 6(31), pp.76-92.

140 Harland, C., Brenchley, R. and Walker, H., 2003. Risk in supply networks. *Journal of Purchasing and Supply management*, *9*(2), pp.51-62.

141 Head, B.W., 2011. Australian experience: Civic engagement as symbol and substance. Public Administration and Development, 31(2), pp.102-112.

142 Hearn, S.N. and Choi, I., 2013. Creating a process and organization fit index: an approach toward optimal process and organization design. *Knowledge and Process Management*, *20*(1), pp.21-29.

143 Hearn, G., Collie, N., Lyle, P., Choi, J.H.J. and Foth, M., 2014. Using communicative ecology theory to scope the emerging role of social media in the evolution of urban food systems. Futures, 62, pp.202-212.

144 Heeks, R., 2006. Benchmarking egovernment: improving the national and international measurement, evaluation and comparison of egovernment. *Evaluating Information Systems*, 1(18), pp.1-257.

145 Heeks, R. and Molla, A., 2009. Impact Assessment of ICT-for-Development Projects: A Compendium of Approaches. Development Informatics working paper 36. [Online] Available at :<http://www.sed.manchester.ac.uk/idpm/research/publications/wp/di/documents/di_wp36.pdf> [Accessed 12 July 2017].

146 Hengst, M.D. and Vreede, G.J.D., 2004. Collaborative business engineering: a decade of lessons from the field. *Journal of Management Information Systems*, *20*(4), pp.85-114.

147 Hessler, M. 1991. 'Client Service as the Bottom Line'. In McDavid, J.C. & Marson, B. 1991. The Well-Performing Government Organisation. Victoria: The Institute of Public administration of Canada.

148 Ho, A.T.K. and Ni, A.Y., 2004. Explaining the adoption of e-government features a case study of Iowa county treasurers' offices. The American Review of Public Administration, 34(2), pp.164-180.

149 Hockey, J. and Ley, I., 2010. Leading for engagement: how senior leaders engage their people. *Report for National School of Government*.

150 Holmes, B., 2011. Citizens' engagement in policymaking and the design of public services. Parliamentary Library.

151 Holzer, M., Melitskin, J., Rho, S.Y. and Schwester, R., 2004. Restoring Trust in Government: The Potential of Digital Citizen Participaton. Frontiers of Public Administration, 6.

152 Houtzager, P.P., Gurza Lavalle, A. and Acharya, A., 2003. Who participates?: Civil society and the new democratic politics in São Paulo, Brazil.

153 Hrynick, T. and Waldman, L., 2017. ICT-facilitated accountability and engagement in health systems: a review of Making All Voices Count mHealth for accountability projects.

154 Hummel, R., 1994. The Bureaucratic Experience: A Critique of Life in the Modern Organization, 1994,

155 Hutton, G. and Chase, C., 2017. Water Supply, Sanitation, and Hygiene. *Injury Prevention and Environmental Health*, p.171.

156 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.

157 International Association for Public Participation (IAP2) 2006 Conference "Decision Montreal".[pdf] Canada: Public Involvement Network. Available at: <http://www.cprn.org/documents/46410_en.pdf> [Accessed 4 January 2017].

158 Janmaat, J.G., 2011, 'Social cohesion as real-life phenomenon: Assessing the explanatory power of the universalist and particularist perspectives', Social Indicators Research 100, 61–83. http://dx.doi.org/10.1007/s11205-010-9604-9.

159 Jaeger, P.T. and Matteson, M., 2009. e-government and technology acceptance: The case of the implementation of section 508 guidelines for websites. Electronic Journal of e-Government, 7(1), pp.87-98.

160 Jaeger, B.A.S., Jueckstock, J., Andergassen, U., Salmen, J., Schochter, F., Fink, V., Alunni-Fabbroni, M., Rezai, M., Beck, T., Beckmann, M.W. and Friese, K., 2014. Evaluation of two different analytical methods for circulating tumor cell detection in peripheral blood of patients with primary breast cancer. *BioMed research international*, *2014*.

161 Johnson, R.B. and Onwuegbuzie, A.J., 2004. Mixed methods research: A research paradigm whose time has come. *Educational researcher*, *33*(7), pp.14-26.

162 Jones, M.R. and Karsten, H., 2008. Giddens's structuration theory and information systems research. *MIS quarterly*, *32*(1), pp.127-157.

163 Joseph, A.B., 2016. Refresher Course for Secretaries, Protocol Officers, Court Registrars, Process Clerks and Bailiffs At National Judicial Institute, Abuja. [pdf] Available at: http://nji.gov.ng/images/Workshop_Papers/2016/Refresher_Sec/s06.pdf [Accessed 17 March 2018]

164 Kahane, D., Loptson, K., Herriman, J. and Hardy, M., 2013. Stakeholder and citizen roles in public deliberation. Journal of Public Deliberation, 9(2).

165 Kabane, N. 2014. Active Citizen Participation through Ward Committees. http:// www.afesis.org.za/local-governance/local-governance-articles/125-active-citizen-participation-through-ward-committees. html (Accessed: October 09, 2016).

166 Kaisara, G. and Pather, S., 2011. The e-Government evaluation challenge: A South African Batho Pele-aligned service quality approach. Government information quarterly, 28(2), pp.211-221.

167 Kakumba, U., 2010. Local government citizen participation and rural development: reflections on Uganda's decentralization system. *International Review of Administrative Sciences*, 76(1), pp.171-186.

168 Kanyane, M., 2014. Exploring challenges of municipal service delivery in South Africa (1994-2013). Africa's Public Service Delivery and Performance Review, 2(1).

169 Kasemsap, K., 2016. The roles of business process modeling and business process reengineering in e-government. In *Handbook of research on innovations in information retrieval, analysis, and management* (pp. 401-430). IGI Global.

170 Kaul, M., 1996. Civil Service Reforms: Learning from Commonwealth Experiences. *Public Administration and Development*. 16(2).

171 Keele, L., 2007. Social capital and the dynamics of trust in government. *American Journal of Political Science*, 51(2), pp.241-254.

172 Kelbert, F. and Pretschner, A., 2013, February. Data usage control enforcement in distributed systems. In Proceedings of the third ACM conference on Data and application security and privacy (pp. 71-82). ACM.

173 Kettinger, W.J., Teng, J.T. and Guha, S., 1997. Business process change: a study of methodologies, techniques, and tools. *MIS quarterly*, pp.55-80.

174 Khan, G. F., Moon, J., Rho, J. J., and Zo, H., 2010. Civil conflict, digital divide, and e-government service adoption: *A Conflict Theory Approach. Paper presented at e-Democracy, e-Government and e-Society Conference*, June, 28–30, Paris, WASET.

175 Khumalo, B.M.H., 2016. An evaluation of police service delivery to the Mamotintane Community (Doctoral dissertation).

176 Klenke, K. ed., 2016. *Qualitative research in the study of leadership*. Emerald Group Publishing Limited.

177 Kroes, N. 2010. European Commissioner for Digital agenda, The critical role of cities in making the Digital Agenda a reality. Closing speech to Global Cities Dialogue Spring Summit of Mayors Brussels.

178 Kukah, M.H., 2002. Democracy and civil society in Nigeria. Nigeria: Spectrum Books.

179 Kumar, S.A., Lo, P.H. and Chen, S.M., 2008. Electrochemical selective determination of ascorbic acid at redox active polymer modified electrode derived from direct blue 71. *Biosensors and Bioelectronics*, *24*(4), pp.518-523.

180 Krasner, S.D. and Risse, T., 2014. External actors, state- building, and service provision in areas of limited statehood: Introduction. *Governance*, *27*(4), pp.545-567.

181 Kimmel, A.J., 1988. *Ethics and values in Applied Social Research. Applied Social Research Methods Series*. Sage Publications: Newbury Park, CA.

182 Lewis, C., 2017. Universal Access and Service in South Africa: Policy Success, Policy Failure and Policy Impact.

183 Liang, H., Peng, Z., Xue, Y., Guo, X. and Wang, N. (2015), "Employees' exploration of complex systems: an integrative view", Journal of Management Information Systems, Vol. 32 No. 1, pp. 322-357.

184 Lin, N., 2002. Social capital: A theory of social structure and action (Vol. 19). Cambridge university press.

185 Lin, F.R., Yang, M.C. and Pai, Y.H., 2002. A generic structure for business process modeling. *Business Process Management Journal*, *8*(1), pp.19-41.

186 Lourenço, R.P., 2015. An analysis of open government portals: A perspective of transparency for accountability. *Government information quarterly*, *32*(3), pp.323-332.

187 Local Government: Municipal Systems Act, 2000 Section 57(6)

188 Lofstedt, U., 2012. E-government-assesment of current research and some proposals for future directions. *International journal of public information systems*, *1*(1).

189 Loukis, E., Charalabidis, Y. and Androutsopoulou, A., 2014. An analysis of multiple social media consultations in the European parliament from a public policy perspective.

190 Macintosh, A. and Coleman, S., 2003. Promise and problems of e-democracy: Challenges of online citizen engagement. Organisation for Economic Co-operation and Development.

191 Mackinnon, M. P 2004. Public Dialogue and other Tools for Citizen Engagement, Public Involvement Network, CPRN/RCRPP. [pdf] Vancouver. Available at:

http://www.regionalization.org/conf_04/conf_04pdfs/Mackinnnon.pdf [Accessed 31 January].

192 Mac Kay. J., 2004. Public Participation in the Integrated Developmental Local Government: A Study of Public participation of the Integrated Development Planning Process of the City of Cape Town. M.Admin. thesis. Bellvile: University of Western Cape.

193 Madon, S., 2014. 'Information Tools for Improving Accountability in Primary Health Care: Learning from the Case of Karnataka', in B-S. Gigler and S. Bailur (eds), Closing the Feedback Loop: Can Technology Bridge the Accountability Gap? Washington DC: The World Bank

194 Madon, S. and Krishna, S., 2017. Socializing Accountability for Improving Primary Healthcare: An Action Research Program in Rural Karnataka. In *International Conference on Social Implications of Computers in Developing Countries* (pp. 307-320).

195 Madumo, O.S., 2015. Developmental local government challenges and progress in South Africa.

196 Mahler, J. and Regan, P.M., 2002. Learning to govern online: Federal agency Internet use. The American Review of Public Administration, 32(3), pp.326-349.

197 Mahabir, J. and Mabena, N., 2015. Identifying The Funding Constraints In Municipal Capital Investments. [online]. Available at: file:///C:/Users/machiri.m/Downloads/2015-2016_TR_Chapter_9_Identifying_the_funding_constraints_in_municipal_capital_investment.pdf [Accessed 17 March 2018].

198 Mafunisa, M.J., 2001. Professionalism: the ethical challenge for municipal employees. Journal of public administration, 36(4), pp.324-339.

199 Mansbridge, J., 1997. Social and cultural causes of dissatisfaction with US government. Why people don't trust government, pp.133-153.

200 Manase, G., Nkuna, Z. and Ngorima, E., 2009. Using water and sanitation as an entry point to fight poverty and respond to HIV/AIDS: The case of Isulabasha Small Medium Enterprise. *Physics and Chemistry of the Earth, Parts A/B/C*, 34(13), pp.866-873.

201 Marais, H., David, E. and Dube, N. 2007. The Depth and Quality of Public Participation in the Integrated Development Planning Process in Gauteng. Research Report. [pdf] Gauteng Provincial Department of Local Government. http://www.afrimap.org/english/documents/IDPs_public_participation_Gauteng_October2007.pdf [Accessed 07 January 2017].

202 Marshall, C. and Rossman, G.B., 2014. *Designing qualitative research*. Sage publications.

203 Matavire, R., Chigona, W., Roode, D., Sewchurran, E., Davids, Z., Mukudu, A., & Boamahabu, C. (2010). Challenges of eGovernment Project Implementation in a South African Context. *Electronic Journal Information Systems Evaluation*, 13(2), pp.153–164.

204 Matola, M., 2015. Active Citizenship and its Role in Changing the South African Brand Realityhttp://www.sanews.gov.za/features/active-citizenship-and-its-role-changing-south-african-brand-reality

205 Maxwell, J.A. and Chmiel, M., 2014. Generalization in and from Qualitative Analysis. Pp. 540-553 in The SAGE Handbook of Qualitative Data Analysis (Uwe Flick, Ed.), London, 2014.

206 McGee, R. and Carlitz, R., 2013. Learning Study on'The Users' in Technology for Transparency and Accountability Initiatives: Assumptions and Realities.

207 Mdlongwa, T.E., 2014. Adavancing your right to social accountability: Makana Budget analysis [pdf] Grahamstown Available at: <http://psam.org.za/wp-content/uploads/2016/11/Budget-Analysis-1-7-2014-15.pdf> [Accessed 28 August 2017].

208 Menard, S. ed., 2007. *Handbook of longitudinal research: design, measurement, and analysis*. Elsevier.

209 Mensah, I.K., 2016. Overview of e-government adoption and implementation in Ghana. *World Academy of Science, Engineering and Technology, International Science Index 109, International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering*, 10(1), 61–72.

210 Mensah, I.K., 2017. Citizens' Readiness to Adopt and Use E-government Services in the City of Harbin, China. *International Journal of Public Administration*, pp.1-11.

211 Merriam, S.B., 1998. *Qualitative Research and Case Study Applications in Education. Revised and Expanded from" Case Study Research in Education."*. Jossey-Bass Publishers, 350 Sansome St, San Francisco, CA 94104.

212 Meyer, I.H. and Theron, F., 2000. Workbook: Public participation in local government: A framework for action. School of Public Management and Planning, University of Stellenbosch.

213 Mini, P. (2011a, 25 July). Bad leadership drains municpal coffers, Grocott's News. Retrieved from http://ghtnow.co.za/stories/view/bad-leadership-drains-municipal-coffers

214 Mini, P. (2011b, 27 January). Makana Municipality in a mess, says report, Grocott's Mail. Retrieved from http://www.ghtnow.co.za/stories/view/makana-municipality-in-a-mess-says-report

215 Misuraca, G., Alfano, G. and Viscusi, G., 2011. Interoperability challenges for ICT-enabled governance: towards a pan-European conceptual framework. Journal of theoretical and applied electronic commerce research, 6(1), pp.95-111.

216 Misuraca, G., 2012. e-Governance: Past, present and future: A theoretical framework for prospective policy analysis. September 2012. In M. Finger, & F. Sultana (Eds.), eGovernance, a global journey, Volume 4. (pp. 185–199) Amsterdam: IOS Press, BV

217 Misuraca, G.C., 2009. e-Government 2015: exploring m-government scenarios, between ICT-driven experiments and citizen-centric implications. *Technology Analysis & Strategic Management*, *21*(3), pp.407-424.

218 Mogale, T.M., 2005. Local governance and poverty reduction in South Africa (I). *Progress in development studies*, *5*(2), pp.135-143.

219 Monkam, N.F., 2014. Local municipality productive efficiency and its determinants in South Africa. Development Southern Africa, 31(2), pp.275-298.

220 Moore, L. and Savage, J., 2002. Participant observation, informed consent and ethical approval. *Nurse Researcher*, *9*(4), pp.58-69.

221 Morrison, E.D., Ghose, A.K., Dam, H.K., Hinge, K.G. and Hoesch-Klohe, K., 2011, December. Strategic alignment of business processes. In *International Conference on Service-Oriented Computing* (pp. 9-21). Springer, Berlin, Heidelberg.

222 Mossberger, K., Wu, Y. and Crawford, J., 2013. Connecting citizens and local governments? Social media and interactivity in major US cities. *Government Information Quarterly*, *30*(4), pp.351-358.

223 Municipal Structures Act 117 of 1998. (c.2) South Africa.

224 Municipal Systems Act, 2000 (Act 32 of 2000). LOCAL GOVERNMENT: MUNICIPAL STRUCTURES ACT 117 OF 1998.

225 Munyoka, W. and Manzira, F.M., 2013. E-Government Adoption in Developing Countries: The Case of South Africa. In Proc. International Conference on Cloud Computing and eGovernance (pp. 53-58).

226 Murt, J.V.R., Agarwal, S. and Shah, P., 2007. Improving Panchayata Service Delivery Through Community Score Cards. South Asia Accountability Network, 1(1), pp.1-18.

227 Murphy, J., 2005. Beyond e-government-the world's most successful technology-enabled transformations, Executive Summary, MP Parliamentary Secretary Cabinet Office Report.

228 Naidoo, G. 2007. *An overview of eGovernment Policy Initiatives in the South African Government: Foundations of e-Government*. University of Cape Town Available at: <http://www.csi-sigegov.org/1/34_322.pdf> [Accessed 18 February 2016].

229 Narayan-Parker, D. ed., 2002. Empowerment and poverty reduction: A sourcebook. World Bank Publications.

230 Navarro, Z., 2001. "Decentralization, Participation and Social Control of Public Resources: "Participatory Budgeting" In Porto Alegre (Brazil)." Development, 41(3), 68–71.

231 Noveck, S.B., 2009. Wiki Government: How Technology Can Make Government Better, Democracy Stronger, and Citizens More Powerful. [online] Available at: http://thegovlab.org/the-single-point-of-failure/ [Accessed 28 February 2016].

232 Nielsen, K. and Randall, R., 2012. The importance of employee participation and perceptions of changes in procedures in a teamworking intervention. *Work & Stress*, *26*(2), pp.91-111.

233 Ngubane, M.B., 2005. An evaluation of service delivery at eNdondakusuka Local Municipality (Doctoral dissertation).

234 Nkohkwo, Q.N. and Islam, M.S., 2013. Challenges to the Successful Implementation of eGovernment Initiatives in Sub-Saharan Africa: A Literature Review. *Electronic Journal*

235 *of E-Government,* 11(2), pp.253–267.

236 Nfuka, E.N. and Rusu, L., 2010, June. Critical Success Factors for Effective IT Governance in the Public-Sector Organizations in a Developing Country: The Case of Tanzania. In *ECIS* (p. 128).

237 Nnadozie, R. C., 2013. Access to basic services in post-apartheid South Africa: What has changed? Measuring on a relative basis. *The African Statistical Journal*, 16(1), pp.81–103.

238 Noveck, S.B., 2009. Wiki Government: How Technology Can Make Government Better, Democracy Stronger, and Citizens More Powerful. [online] Available at: <https://www.amazon.com/Wiki-Government-Technology-Democracy-Stronger/dp/0815705107> [Accessed 28 February 2016].

239 Obasi, I.N. and Lekorwe, M.H., 2014. Citizen engagement in public policy making process in Africa: the case of Botswana. leadership, 3(4).

240 Ochara-Muganda, N. and Van Belle, J.P., 2010. A proposed framework for E-Government knowledge infrastructures for Africa's transition economies. *Journal of e-Government Studies and Best Practices*, *2*(1), pp.70-79.

241 Olphert, W. and Damodaran, L., 2007. Citizen participation and engagement in the design of e-government services: The missing link in effective ICT design and delivery. *Journal of the Association for Information Systems*, *8*(9), p.491.

242 Ojo, R.B. and Twinomurinzi, H., 2010. M-government and service delivery: a case study on the pension system in South Africa. *Journal of e-Government Studies and Best Practices, 2010*, pp.1-8.

243 Organisation for Economic Co-operation and Development (OECD), 2001. Citizens as partners: Information, consultation and public participation in policy-making. Organisation for Economic Co-operation and Development.

244 Organisation for Economic Co-operation and Development, 2003. Promise and problems of e-democracy: Challenges of online citizen engagement. OECD Publishing.

245 Organisation for Economic Co-operation and Development, 2004. Promise and problems of e-democracy: Challenges of online citizen engagement. OECD Publishing.

246 Osah, J., 2017. A Systems Thinking Approach to e-Government Strategy Formulation for Water Service Delivery in South African Local Municipalities. Phd. Rhodes University.

247 O'Neill, P. and Sohal, A.S., 1999. Business Process Reengineering A review of recent literature. *Technovation*, *19*(9), pp.571-581.

248 Olphert, W. and Damodaran, L., 2007. Citizen participation and engagement in the design of e-government services: The missing link in effective ICT design and delivery. Journal of the Association for Information Systems, 8(9), p.491.

249 Owais, S.T., Khanna, S. and Mani, R.S., 2017, March. Building Multi-Channel e-Service Delivery Platform: Opportunities and Challenges. In *Proceedings of the Special Collection on eGovernment Innovations in India* (pp. 58-63). ACM.

250 Pade-Khene, C., Thinyane, H. and Machiri, M., 2017, June. Building Foundations before Technology: An Operation Model for Digital Citizen Engagement in Resource Constrained Contexts. In *17th European Conference on Digital Government (ECDG 2017)*. Academic Conferences and Publishing International Limited.

251 Paffenholz, T. and Spurk, C., 2006. Civil society, civic engagement, and peacebuilding. Social Development Papers: Conflict Prevention and Reconstruction, 36.

252 Palmer, I., Graham, N., Swilling, M., Robinson, B., Eales, K., Fisher-Jeffes, L., Kasner, S. AND Skeen, J., 2011. Contribution to the Integrated Urban Development Framework South Africa's Urban Infrastructure Challenge. CoGTA.

253 Park, H.M., 2015. Should E-government Be Transformational and Participatory? An Essay on E-government in the Utilitarian Mode of Information Technology Use. In *System Sciences (HICSS), 2015 48th Hawaii International Conference on* (pp. 2476-2485). IEEE.

254 Patton, M.Q., 1988. Paradigms and pragmatism. *Qualitative approaches to evaluation in education: The silent scientific revolution*, pp.116-137.

255 Patton, M.Q., 2005. *Qualitative research*. John Wiley & Sons, Ltd.

256 Patten, M.L., 2016. *Questionnaire research: A practical guide*. Routledge.

257 Pandeya, G.P., 2015. Citizen participation. *International Public Management Review*, 16(1), pp.1-23.

258 Pateman, C., 1970. Participation and democratic theory. Cambridge University Press.

259 Peixoto, T., 2012. The benefits of citizen engagement: A (brief) review of the evidence. Democracy Spot.

260 Peixoto, T., 2013. The Uncertain Relationship between Open Data and Accountability: A Response to Yu and Robinson's' The New Ambiguity of Open Government'. *Rev. Disc*, *200*.

261 Peixoto, T. and Fox, J., 2016. When Does ICT-enabled Citizen Voice Lead to Government Responsiveness? [pdf] America: World Bank Group. Available at: <.https://openknowledge.worldbank.org/bitstream/handle/10986/23650/WDR16-BP-When-Does-ICT-Enabled-Citizen-Voice-Peixoto-Fox.pdf> [Accessed 30 October 2015].

262 Petterson, D., 2016. Service delivery protests – Zuma says government is delivering, Infrastructure News,[online] Available at: http://www.infrastructurene.ws/2016/05/25/service-delivery-protests-zuma-saysgovernment-is-delivering/ [Accessed 27 September 2016].

263 Pilay, N., 2012. Born free and equal: Sexual orientation and gender identity in international human rights law. United Nation Human Rights office of the High commissioner. NewYork & Geneva.

264 Pharr, S.J. and Putnam, R.D., 2000. Disaffected democracies: what's troubling the trilateral countries?. Princeton University Press.

265 Poon, P. and Wagner, C., 2001. Critical success factors revisited: success and failure cases of information systems for senior executives. *Decision support systems*, *30*(4), pp.393-418.

266 Porter, M.E., 1987. From competitive advantage to corporate strategy. Harvard Business Review 1987; 15–31.

267 Power, A., 2010. EU legitimacy and new forms of citizen engagement. *Electronic Journal of e-Government*, 8(1), pp.45-54.

268 Powe, N.A., Garrod, G.D. and McMahon, P.L., 2005. Mixing methods within stated preference environmental valuation: choice experiments and post-questionnaire qualitative analysis. *Ecological Economics*, *52*(4), pp.513-526.

269 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.

270 Pozzebon, M. and Pinsonneault, A., 2005. Challenges in conducting empirical work using structuration theory: Learning from IT research. *Organization studies*, *26*(9), pp.1353-1376.

271 Putnam, R.D., 2001. Bowling alone: The collapse and revival of American community. Simon and Schuster.

272 Pina, V. and Accerete, B., 2005. E-Government Developments on Delivering Public Services among EU Cities. *Government Information Quarterly*, 22(2), pp.217-238.

273 Pretorius and Schurink, 2007. Enhancing service delivery in local government: the case of a district municipality. SA Journal of Human Resource Management, 5(3), pp. 19 – 29.

274 Rains, S.A. and Bonito, J.A., 2017. Adaptive Structuration Theory. *The International Encyclopedia of Organizational Communication*.

275 Ramberg, B., 2004. Naturalizing Idealizations: Pragmatism and the Interpretive Strategy. *Contemporary Pragmatism*, *1*(2), pp.1-63.

276 Rapporteurs' Report, 2009. The Contribution of Government Communication Capacity to Achieving Good Governance Outcomes. The George Washington University's Elliott School for International Affairs Linder Commons Room.

277 Reuben, R.C., 2004. Democracy and Dispute Resolution: The Problem of Arbitration. *Law and contemporary problems*, *67*(1/2), pp.279-320.

278 Rivoir, A. and Landinelli, J., 2017, March. ICT-mediated Citizen Engagement-Case Study: Open Government National Action Plan in Uruguay. In *Proceedings of the 10th International Conference on Theory and Practice of Electronic Governance* (pp. 214-217). ACM

279 RuhodeI, E., Owei, V. and Maumbe, B.M., 2008. Arguing for the enhancement of public service efficiency and effectiveness through e-government: the case of Zimbabwe.

280 Reynolds, J.E., 1982. *Martindale: the extra pharmacopoeia*. London, UK; The Pharmaceutical Press.

281 Rose, J. and Scheepers, R., 2001. Structuration theory and information system development-frameworks for practice. *ECIS 2001 Proceedings*, p.80.

282 Ross, J., 2012. The radiation regime and architecture of plant stands (Vol. 3). Springer Science & Business Media.

283 Rusconi, G., 2006. Stakeholders and documents of the direct accountability of companies. The corporate social responsibility. Scientific development and implementation, pp.235-255.

284 Saha, P., Jaramillo, M.I.M., Loi, H.S., Alshanfari, O., Qian, H. and Zoughbi, S., 2010. Understanding the Impact of Enterprise Architecture on Connected Government. NUS Institute of Systems Science.

285 Saunders, S., Lewis, P., & Thornhill, A., 2003. Research methods for business students. Essex, England: Pearson Education.

286 Saunders, M., Lewis, P., Thornhill, A. and Wang, C.L., 2009. Analysing quantitative data. *Research Methods for Business Students, Prentice Hall, UK*.

287 SA Statistics, 2011. **Makana** Local Municipality 264 from Census 2011. [online] Available at <https://census2011.adrianfrith.com/place/264> [Accessed 20 August 2017]

288 Schaffers, H., Komninos, N., Pallot, M., Trousse, B., Nilsson, M. and Oliveira, A., 2011, May. Smart cities and the future internet: Towards cooperation frameworks for open innovation. In *The Future Internet Assembly* (pp. 431-446). Springer Berlin Heidelberg.

289 Schellack, N., Meyer, J.C., Gous, A.G.S. and Winters, C., 2011. Part II. Health and economic context. *SAMJ: South African Medical Journal*, 101(8), pp.558-561.

290 Sedera, D. and Zakaria, N.H., 2008. Adaptive structuration theory view of post implementation knowledge management for enterprise systems. *PACIS 2008 Proceedings*, p.179.

291 Sekgala, M.P., 2016. Ward committee challenges in south africa's local municipalities: functions and dysfunctions. Journal of Public Administration and Development Alternatives Vol. 1, No.1.1 September 2016

292 Seltzer, E. and Mahmoudi, D., 2013. Citizen participation, open innovation, and crowdsourcing: Challenges and opportunities for planning. CPL bibliography, 28(1), pp.3-18.

293 Siemens, G., 2014. Connectivism: A learning theory for the digital age.

294 Silverman, D. ed., 2016. *Qualitative research*. Sage.

295 Simon, J., Bass, T., Boelman, V. and Mulgan, G., 2017. Digital Democracy.

296 Sithole, S. and Mathonsi, N., 2015. Local Governance Service Delivery Issues during Apartheid and Post-Apartheid South Africa. *Africa's PublicService Delivery and Performance Review*, 3(3) p.5.

297 Sharma, B., 2008. Voice, accountability and civic engagement: A conceptual overview. *Paper commissioned by Oslo Governance Centre, Bureau for Development Policy, United Nations Development Programme. Overseas Development Institute, London*.

298 Sharp, D. and Salomon, M., 2008. User Led Innovation a New Framework for Co-Creating Business and Social Value. Published by CRC & Swinburne University of Technology.

299 Showell, C.M., 2011. Citizens, patients and policy: a challenge for Australia's national electronic health record. Health Information Management Journal, 40(2), pp.39-43.

Smith, T. & De Visser, J. 2009. The Role Ward Committees in South Africa: Evidence from Six Case Studies. Cape Town: Community Law Centre.

300

301 Sharma, N. and Patterson, P.G., 1999. The impact of communication effectiveness and service quality on relationship commitment in consumer, professional services. Journal of services marketing, 13(2), pp.151-170.

302 Smith, L., 2004. The murky waters of the second wave of neoliberalism: corporatization as a service delivery model in Cape Town. Geoforum, 35(3), pp.375-393.

303 South African Government, 2015. *E-government and ICT summit.* [online] Available at: http://www.gov.za/speeches/minister-jeff-radebe-gauteng-e-government-and-ict-summit-2015-2-nov-2015-0000> [Accessed 1 March 2016].

304 The White Paper., 1998. The White Paper on Local Government Act of 1998 Pretoria: Government Printers.

305 South African Government, 2016. Batho pele principles [online] Available at: https://www.gov.za/ [Accessed 6 September 2016].

306 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.

307 Staber, U. and Sydow, J., 2002. Organizational adaptive capacity: A structuration perspective. Journal of Management Inquiry, 11(4), pp.408-424.

308 Statistics SA. 2001c. Service Delivery Improvement Programme for the 2002/2003 Planning Period. January 2002.

309 Stewart, J., 2003. Participatory governance, power, and public management [Edited version of paper presented at the National Institute for Governance Conference, Facing the Future: Engaging Stakeholders and Citizens in Developing Public Policy (2003: Canberra)]. Canberra Bulletin of Public Administration, (110), p.64.

310 Stilgoe, J., Owen, R. and Macnaghten, P., 2013. Developing a framework for responsible innovation. *Research Policy*, *42*(9), pp.1568-1580.

311 Stirling, A., 2006. Analysis, participation and power: justification and closure in participatory multi-criteria analysis. Land Use Policy 23, pp.95–107.

312 Tampubolon, G., 2010. Social stratification and cultures hierarchy among the omnivores: Evidence from the Arts Council England surveys. The Sociological Review, 58(1), pp.1-25.

313 Tarling, R., 2006. *Managing Social Research. A Practical Guide*. Routledge: Milton Park.

314 Telecommunication Union, 2008. Electronic Government for Developing Countries. [pdf] Switzerland. Available at: <https://www.itu.int/ITU-D/cyb/app/docs/e-gov_for_dev_countries-report.pdf> [Accessed 26 October 2015].

315 Teo, T.S. and Ang, J.S., 1999. Critical success factors in the alignment of IS plans with business plans. *International Journal of Information Management*, *19*(2), pp.173-185.

316 Tissington, K., Dettmann, M., Langford, M., Dugard, J., Conteh, S., 2008. Water Services

317 Fault Lines: An assessment of South Africa's water and sanitation provision across 15

318 municipalities. Centre for Applied Legal Studies (CALS), University of the Witwatersrand, Johannesburg, South Africa.

319 Thompson, M., 2008. ICT and development studies: Towards development 2.0. Journal of International Development, 20(6), pp.821-835.

320 Tôrres, A.R., Grangeiro, S. and Fragoso, W.D., 2015. Multivariate control charts for monitoring captopril stability. *Microchemical Journal*, *118*, pp.259-265.

321 Toyama, K., 2011, February. Technology as amplifier in international development. In *Proceedings of the 2011 iConference* (pp. 75-82). ACM.

322 Trkman, P., 2010. The critical success factors of business process management. *International journal of information management*, *30*(2), pp.125-134.

323 Thinyane, H., 2013. Stumbling at the start line: an analysis of factors affecting participation with local government in South Africa. In *Proceedings of the 6th Annual SIG Globdev Workshop, Milano, Italy*.

324 Torgler, B., 2005. Tax Morale in Latin America, Public Choice. 122, pp.133-157.

325 Torgler, B. and Schneider, F., 2009. The impact of tax morale and institutional quality on the shadow economy. Journal of Economic Psychology, 30(2), pp.228-245.

326 Tsalgatidou, 2003. reengineering and automation of business process. *ScanGIS* (Vol. 2003, pp. 1-14).

327 Twinomurinzi, H. and Phahlamohlaka, J., 2005. Enhancing procedural fairness in administrative action of the Administrative Justice Act of South African using web-based Group Support Systems.

328 Twinomurinzi, H. and Phahlamohlaka, J., 2005. Using web based Group Support Systems to enhance procedural fairness in administrative decision making in South Africa

329 United States' e-Government Strategy, 2003. E-Government Strategies in Developed and Developing Countries: An Implementation Framework and Case Study. *Journal of Global Information Management*, 14(1), pp.23-46.

330 UN (2008). United Nations E-Government survey 2008: From e-Government to connected governance. New York: Author.

331 United States Environmental Protection Agency (USEPA), 2013. *The Importance of Water to The U.S Economy.* [pdf] USEPA: USA. Available at: <http://bafuture.org/sites/default/files/key-topics/attachments/Importance-of-water-synthesis-report.pdf> [Accessed 14 May 2016]

332 UNDP, 2016. Citizen Engagement in Public Service Delivery The Critical Role of Public Officials. [pdf] Singapore. Available at: <http://www.undp.org/content/dam/undp/library/capacitydevelopment/English/Singapore%20Centre/GCPSE_CitizenEngagement_2016.pdf> [Accessed 5 February 2017].

333 Vakola, M., Rezgui, Y., Thompson, J. and Mitev, N., 1998. D3100 business process re-engineering strategy. *CONDOR ESPRIT*, *23105*.

334 Van Belle, J.P. and Cupido, K., 2013. Increasing public participation in local government by means of mobile phones: What do South African youth think?. The Journal of Community Informatics, 9(4).

335 Van Der Schyff, K. and Krauss, K., 2014. Higher education cloud computing in South Africa: Towards understanding trust and adoption issues. *South African Computer Journal*, [pdf] Available at: <file:///C:/Users/Administrator/Downloads/254-1197-1-PB.pdf> [Accessed 17 May 2015].

336 Visser, W. and Twinomurinzi, H., 2009. E-Government & Public Service Delivery: Enabling ICT to put "People First"–A Case Study from South Africa. *Journal of Systemics, Cybernetics & Informatics*, *6*(6), pp.36-41.

337 Wang, W.Y., Chan, H.K. and Pauleen, D.J., 2010. Aligning business process reengineering in implementing global supply chain systems by the SCOR model. *International Journal of Production Research*, *48*(19), pp.5647-5669.

338 Wang, Z. and Lim, N., 2011. The use of Official and Unofficial Channels in Government Citizen Communication in China. *EJEG*, 9(1), pp.1-13.

339 Warren, A.M., Sulaiman, A. and Jaafar, N.I., 2014. Social media effects on fostering online civic engagement and building citizen trust and trust in institutions. *Government Information Quarterly*, *31*(2), pp.291-301.

340 Warren, H., 2016. Middle-Range Theories: Frameworks for Examining a Nonsurgical Cosmetic Problem. Plastic Surgical Nursing, 36(1), pp.9-11.

341 Wastell, D.G., White, P. and Kawalek, P., 1994. A methodology for business process redesign: experiences and issues. *The Journal of Strategic Information Systems*, *3*(1), pp.23-40.

342 Weeks, E.C., 2000. The practice of deliberative democracy: Results from four large- scale trials. Public Administration Review, 60(4), pp.360-372.

343 Weerakkody, V. and Hinton, C.M., 1999. Exploiting information systems and technology through business process improvement. *Knowledge and Process Management*, *6*(1), p.17.

344 Weerakkody, V., Janssen, M. and Hjort-Madsen, K., 2007. Integration and enterprise architecture challenges in e-government: A European perspective. *International Journal of Cases on Electronic Commerce (IJCEC)*, *3*(2), pp.13-35.

345 Weerakkody, Janssen, and Dwivedi., 2011. "Transformational change and business process reengineering (BPR): Lessons from the British and Dutch public sector," Gov. Inf. 28, pp. 320–328, 2011.

346 Wilsdon, J., Willis, R., 2004. See-Through Science. Demos, London.

347 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', in B-S.

348 White Paper, 2010. Alignment and Engagement framework http://www.insyncsurveys.com.au/media/14404/white-paper-alignment-and-engagement-framework.pdf

349 Wouters, M., Hrdie-Boys, N., Wilson, C., 2011. Evaluating public inputs in National Park Management Plan reviews Benefits and disadvantages of public participation. [online] Available at: http://www.doc.govt.nz/Documents/science-and-technical/sfc308a.pdf [Acceses 12 February 2017]

350 World Bank, 1997. Helping countries combat corruption: the role of the World Bank. Report of the Corruption Action Plan Working Group, 1997, Author, Washington DC

351 World Bank, 2004. Making services work for the poor: World Development Report, 2004, Author, Washington DC.

352 World Bank, 2009. The South African Urban Agenda: Municipal Infrastructure Finance Synthesis Report. May 2009. [pdf] Available at: http://www.btrust.org.za/library/assets/uploads/documents/1_Resource%20docs_World%20Bank%20MIIF%20Synthesis%20Report_20 09.pdf [Accessed 02 July 2017].

353 World Bank, 2016. The South African Urban Agenda: Municipal Infrastructure Finance Synthesis Report, May 2009.

354 World Bank, 2014a. Strategic Framework for Mainstreaming Citizen Engagement in World Bank Group Operations. [Online] Available at: https://consultations.worldbank.org/Data/hub/ files/consultation-template/engaging-citizens-improved-resultsopenconsultationtemplate/materials/finalstrategicframeworkforce.pdf [Accessed 3 June 2017]

355 Water services act no. 108 of 1997- department of water affairs

356 Yin, R.K. ed., 2009. Case Study Research: *Design and Methods*. Los Angeles, California: Sage Publications.

357 Yin, R.K., 2013. *Case study research: Design and meabizuthods*. Sage publications.

358 Yin, H., Kanasty, R.L., Eltoukhy, A.A., Vegas, A.J., Dorkin, J.R. and Anderson, D.G., 2014. Non-viral vectors for gene-based therapy. *Nature Reviews Genetics*, *15*(8), p.541.

359 Zamboni, Y., 2007. Participatory budgeting and local governance: an evidence-based evaluation of participatory budgeting experiences in Brazil. *Unpublished manuscript. University of Bristol*.

360 Zairi, M. and Sinclair, D., 1995. Business process re-engineering and process management: a survey of current practice and future trends in integrated management. *Management decision*, *33*(3), pp.3-16.

361 Zygiaris, S., 2000. **Business process reengineering bpr**: report produced for the ec funded project, innoregio: dissemination of innovation and knowledge management techniques, hellas sa.