FACTORS INFLUENCING THE SUCCESS OF AN E-PARTICIPATION PROJECT IN SOUTH AFRICA

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Abstract

Dissatisfaction with service delivery is an enormous challenge for the current government of South Africa, as protests about service delivery are frequent and often violent and disruptive. E-participation could provide a means for dissatisfied citizens to voice their grievances, but it has not been duly exploited in South Africa.

The purpose of this research is to contribute to knowledge of e-participation in developing countries, and specifically to identify the factors that influence the success of service delivery e-participation initiatives. A case study was conducted of an e-participation project – Project Lungisa – and qualitative data, in the form of interviews, documents and field notes, was collected and analysed in order to identify these influencing factors.

As predicted in the literature review, citizens' trust in government, stakeholder management, ICT infrastructure and project leadership were factors that influenced Lungisa's success. Political consensus and inclusion did not influence success, and as a result two of the study's propositions could not be confirmed. Unanticipated factors that emerged as influential include local government support, independence from government and political parties, the use of mobile phone technology, marketing and advertising and community integration.

A revised conceptual model is presented in the conclusion of this study, which could be tested in future research. Recommendations for practitioners are also given based on the nine influencing factors, and it is hoped that these will be of value to implementers of future e-participation projects.

Keywords: e-participation, public participation, influencing factors, e-government, South Africa

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List of Acronyms

C2G	Citizen to Government
DPME	Department of Performance Monitoring and Evaluation
G2B	Government to Business
G2C	Government to Citizen
G2G	Government to Government
ICT	Information and Communication Technology
IS	Information Systems
IT	Information Technology
MMA	Mobile Marketing Association of South Africa
MoU	Memorandum of Understanding
PAT	Principal-Agent Theory
SJC	Social Justice Coalition
SMS	Short Message Service
USSD	Unstructured Supplementary Service Data

1 INTRODUCTION

1.1 Background and Problem Description

One of the biggest problems faced by the South African government is a steadily increasing number of violent protests, many of which are related to service delivery. Over 2000 protests have been recorded since 2004, 287 of which occurred in 2013 and 487 in 2012 (Alexander, Runciman, & Ngwane, 2013). The primary grievance raised by protesters was service delivery, and the main target of protests was local government (Alexander et al., 2013). In 2013, 40% of protests involved barricading roads and burning tyres, whilst 17% included attacks on property and vehicles (Alexander et al., 2013).

E-participation is the use of information and communication technologies (ICTs) to enable citizens to incorporate their concerns, needs and values in government decision-making. Ochara (2012) argues that e-participation is key to the sustaining of e-government in South Africa. Cupido and Van Belle (2012) suggest that e-participation could help solve the problem of service delivery protests, providing a platform for dissatisfied citizens to report grievances. They show that youth in South Africa are interested in using mobile technology to participate in local government, especially to report corruption and service delivery failure.

The South African government is committed to implementing effective e-government, which includes e-participation. Its e-government objectives explicitly include both service delivery and feedback regarding services (DPSA, 2001). The Department of Performance Monitoring and Evaluation (DPME) likewise advocates active citizenry and has declared that citizens cannot be passive recipients, they need to produce information on service delivery to relay back to the government (DPME, 2013).

E-participation in South Africa is not well utilised (UNDESA, 2014), despite the fact that citizens are expressing frustration with service delivery and that the South African government has expressed a willingness to implement platforms for citizens to report

these frustrations. The 2014 United Nations E-government Survey (UNDESA, 2014) found e-participation in South Africa to be at 31.03% utilisation, with transactional e-participation being at 0% utilization. Bagui, Sigwejo and Bytheway (2011) likewise found that e-participation was not widely adopted in South Africa.

This study aims to contribute by adding to the body of knowledge on e-participation in developing countries and, specifically, by examining factors influencing the success of service delivery e-participation projects in South Africa.

1.2 Research Questions and Objectives

The main question this research aims to address is: What are the factors influencing the success of service delivery e-participation projects in South Africa? E-participation is here defined as the use of ICTs for citizens to incorporate their concerns, needs and values into government decision-making. This is based on Creighton's (2005) definition of public participation. Service delivery is defined as the delivery of basic services specified in the Constitution of the Republic of South Africa and the Municipal Systems Act of 2000. These services include, but are not limited to, clean water, electricity, health care and sanitation. A service delivery e-participation project is thus a project that uses ICT to enable citizens to voice their concerns, needs and values regarding basic services delivered by government.

To answer the research question, a case study was conducted of a particular service delivery e-participation project in Khayelitsha, South Africa, called Project Lungisa. Four questions were asked of the case in order to address the main research question: 1) What are the dimensions of success for Project Lungisa? 2) To what extent is Project Lungisa a success? 3) What are the factors contributing to the success of the project? 4) What are the factors limiting or constraining the success of the project?

The objectives of this study are: 1) To identify the dimensions of success of a service delivery e-participation project in South Africa; and, 2) To identify the factors that influence the success of such projects.

1.3 Outline of the Case

The project selected for this case study is Project Lungisa,[1] a civil society initiative funded by Indigo Trust and implemented by Cell Life. Lungisa means "fix it" in isiXhosa, and the Lungisa system allows citizens to report their service delivery concerns via a variety of channels – SMS, USSD, Mxit, Facebook, e-mail or a web portal. Once an issue has been reported, the Lungisa team ensures that it is passed on to the relevant department at the City of Cape Town. They also follow up until there has been a resolution regarding the issue.

The system has been in the pilot phase since October 2012 in Khayelitsha, a large township (or informal settlement) on the outskirts of Cape Town, which is home to about 400 000 people (City of Cape Town, 2013). Indigo Trust representative Dr Loren Treisman commented: "Lungisa has proved to be one of the most successful service delivery reporting mechanisms that we have ever seen" (Treisman, 2014, p1). The project implementers state that 70% of reports have been resolved (Treisman, 2013a).

The researcher recognises that e-participation most commonly deals with public input into laws and government policy. However, after much deliberation, it was decided that Project Lungisa can be classified as an e-participation project for a number of reasons. Lungisa enables citizens to communicate their needs and concerns to the government, and thus fits the definition of e-participation in Section 1.2. Although there may not be an immediate effect on policy and decision-making, the implementers are working to ensure that data gathered by Lungisa is to be taken into account during service delivery policy-making (Treisman, 2014). Lungisa and other civil society organisations can also use the data for evidence-based campaigning around service delivery.

1.4 Relevance and Contribution

Service delivery e-participation is highly relevant at the moment – especially in the South African context – for a number of reasons. First, dissatisfaction with service delivery is currently a problem in South Africa (Alexander et al., 2013). Second, although

[1] The project website can be found at http://www.lungisa.org/

much has been written about public participation, e-participation is a new research field that is still relatively poorly understood (Macintosh, Coleman, & Schneeberger, 2009; Susha & Grönlund, 2012), even more so in developing country contexts. Third, not many e-participation initiatives exist in South Africa, and e-participation is not being adequately utilized for citizen interaction with government (Bagui et al., 2011; UNDESA, 2014).

This study aims to contribute by giving some insight into what causes service delivery e-participation projects to fail or succeed, and how. The study further aims to draw attention to the possibilities offered by e-participation in South Africa, and to give valuable recommendations to future implementers of service delivery e-participation systems.

2 LITERATURE REVIEW

This section reviews the existing literature on e-participation and its parent research field, e-government, with a particular focus on literature relevant to e-participation in developing countries. The section first presents a discussion on the relationship between e-government and e-participation, followed by a review of evaluation frameworks. Since this study focuses on factors influencing e-participation success, factors mentioned in other studies are described in Section 2.3. The chapter ends with a conceptual model and research propositions.

2.1 E-government and E-participation

The study is here positioned within the field of information systems and, specifically, e-government. The current landscapes of both the e-government and e-participation fields are also discussed.

2.1.1 Definitions and Categories of E-government

E-government as a research field is relatively new (Heeks & Bailur, 2007) and very broadly defined (Yildiz, 2007). The World Bank defines e-government as "the use by government agencies of information technologies that have the ability to transform relations with citizens, businesses, and other arms of government" (Grönlund & Horan, 2004, p. 718).

Yildiz (2007) argues that there are three categories of e-government initiatives – Government to Government (G2G), Government to Citizen (G2C) and Government to Business (G2B). Others have built on this, suggesting that the e-government categories present in a country depend on the stage of e-government development. Hence, various stage models of e-government have been put forward.

A frequently cited model is Layne and Lee's (2001) stage model, which consists of four stages of e-government evolution. Stage one involves cataloguing, or providing

information by creating government agency websites. At this stage there is only one-way communication from government to citizens or businesses (G2C or G2B). Stage two involves digital transaction between government and citizens. Here, two-way communication is present (G2C, B2G and G2B). Stage three, vertical integration, involves the transformation and integration of government services (G2G), as opposed to simply automating existing services. Finally stage four, horizontal integration, addresses the integration of separate systems and services to provide citizens with a "one stop" unified point of service.

2.1.2 E-Participation in the E-Government Landscape

Around 2004, papers on the topic of digital public participation (or e-participation) began emerging, and certain schools have since advocated that e-participation should be recognised as a research field of its own (Sæbø, Rose, & Flak, 2008; Sanford & Rose, 2007). Although it is considered a branch of e-government (Sanford & Rose, 2007), it is not always clear exactly what e-participation includes, as authors either invent their own definitions or use no definition at all (Van Belle & Cupido, 2013). For the purpose of this research, e-participation is defined as the use of ICTs for citizens to incorporate their concerns, needs and values in government decision-making. This is based on Creighton's (2005) definition of public participation.

It is also unclear where e-participation falls within the e-government landscape. It could be seen as falling under the Citizen-to-Government (C2G) category of e-government, but researchers generally see G2C and C2G as merely consisting of electronic service transactions (Alsaghier, Ford, Nguyen, & Hexel, 2009). Older e-government models, such as Layne and Lee's (2001) e-government model, do not address e-participation specifically, as it is a new development.

Siau and Long (2005) argue that Layne and Lee's e-government model is outdated since it does not incorporate participation. They present a new five-stage e-government model with a fifth stage, e-democracy, which involves "offering tools such as online voting, polling and surveys . . . to improve political participation and citizen

involvement" (p. 455). This stage would include e-participation as it is defined in this study.

In summary, e-participation is a new area of e-government research, and its scope and definition are not always clear. For the purpose of this literature review e-participation is treated as a sub-category of e-government under Siau and Long's (2005) fifth stage.

2.2 Evaluating E-participation Projects

There are various reasons for evaluating information systems. Common reasons are the assessment of value, to measure the success of a system or to determine its benefits (Stockdale & Standing, 2006).

Some researchers have used traditional information system evaluation methods, such as SERVQUAL or the Delone-Mclean success model, to evaluate e-government and e-participation projects (Chee-Wee, Benbasat, & Cenfetelli, 2008; Chiabai, Paskaleva, & Lombardi, 2013; Wang & Liao, 2008; Wisniewski, 2001). However, since e-government systems are considered to have different goals to commercial information systems (Grimsley & Meehan, 2007), new evaluation frameworks specific to e-government and e-participation have been proposed.

Most of these evaluation frameworks focus on e-government and e-participation solely from the citizen's point of view. Some evaluate the quality of e-government websites and the services they offer (Garcia, Maciel, & Pinto, 2005; Henriksson, Yi, Frost, & Middleton, 2007; Kaisara & Pather, 2011; Maumbe, Owei, & Alexander, 2008), while others focus on evaluating services from a user satisfaction point of view (Alshawi & Alalwany, 2009; Grimsley & Meehan, 2007; Oguto & Irungu, 2013; Verdegem & Verleye, 2009).

A number of evaluation methods and frameworks, however, move away from user-centric evaluation. Heeks (2002a) posits that information systems projects in developing countries fail because there is a gap between the project design and reality. He therefore advocates that projects be evaluated based on the seven dimensions of his design-reality gap framework. This design-reality gap framework has been used

numerous times to evaluate e-government systems (Bhuiyan, 2011; Dada, 2006; Matavire et al., 2010).

Shan, Wang, Wang, Hao and Hua (2011) developed an evaluation model for e-government based on the socio-technical model and stakeholder theory. Their model has five dimensions: project construction, information security management, special construction, transparency of government affairs and informationised ability.

Macintosh and Whyte (2008) published an evaluation framework specific to e-participation projects. They propose that projects be evaluated according to three perspectives: a project perspective, a tool oriented socio-technical perspective and a democracy perspective. Scherer and Wimmer (2010) use this framework to evaluate an e-participation project called VoicE.

Aichholzer and Westholm (2009) propose their own e-participation evaluation framework based on that of Macintosh and Whyte (2008). They use the same three perspectives, but propose slightly different criteria for each. Sæbø, Rose and Molka-Danielsen (2009) in turn list a number of evaluation criteria in their e-participation evaluation framework: contextual factors, quantity measurements, content analysis, demographics of participators and tone and style.

2.2.1 Evaluation through Stakeholder Analysis

The difficulty with evaluating e-government and e-participation projects is that, unlike private sector information systems, there is no single criterion for success, such as revenue or cost-benefit. Different stakeholders will have different criteria for success (Rowley, 2011). Heeks defines a successful ICT project in a developing country as one "in which most stakeholder groups attain their major goals and do not experience significant undesirable outcomes" (Heeks, 2002b, p. 107). Others correspondingly argue that the best way to evaluate e-government and e-participation projects is through stakeholder analysis.

Heeks and Stanforth (2007) analyse an e-government project from an actor-network perspective and argue that no single actor controls the trajectory of an e-government project. They explain that it is thus necessary to understand and consider the way in which different stakeholders in an e-government project relate to one another.

Scholl (2001) argues that stakeholder theory not only applies to the private sector, but is also useful in the public sector. He demonstrates how a stakeholder analysis of an e-government project – the Central Accounting System of the State of New York – was useful in determining the needs of various stakeholder groups, and also served to engage and garner their support.

Sæbø, Flak and Sein (2011) argue that evaluating an e-participation project from the users' point of view will not provide a true reflection of the project. They hold that e-participation projects need to be understood in terms of the key stakeholders, their needs and their types of communication.

2.3 Factors Influencing the Success of E-participation Projects in Developing Countries

This section reviews the literature on factors influencing e-government and e-participation success. Literature concerning challenges to e-government and e-participation is also included, as it is fair to assume that challenges or obstacles can be considered factors that influence project success.

Published research focusing on factors influencing e-participation success is limited, and the researcher could find no study addressing influencing factors for e-participation in developing countries. Some studies examine factors influencing e-government and e-participation adoption (Carter & Bélanger, 2005; Lee & Kim, 2012). These studies view success as the successful adoption of initiatives by citizens. Other studies consider the perspective of e-government and e-participation practitioners exclusively (Al-khamayseh, Lawrence, & Zmijewska, 2006; Matavire et al., 2010; Pokwana & Kyobe, 2013; Sandy & McMillan, 2005).

Other studies yet take a more holistic approach. Cecchini and Raina (2004) conducted a case study of an e-government project in a poor rural area of India. They interviewed a number of stakeholders and list some factors they believe could ensure that these kinds of initiatives reach the poor – appropriate technology, community participation and ownership, intermediaries and incentives, clear and realistic goals and campaigns to raise awareness.

Krishna and Walsham (2005) examine a series of successful e-government projects in India by conducting interviews with various stakeholders. They list four factors they believe contributed to the success of the projects: involvement of multiple groups, innovative organisational structures, people orientation in project selection and persistence over time, backed by committed and knowledgeable leadership.

In a literature review, Bhuiyan (2011) finds five main challenges faced by e-government in Bangladesh: social and cultural constraints, political consensus constraints, human resources constraints, digital divide constraints and infrastructural development constraints.

Since none of these factor models address e-participation in a developing country specifically or incorporate the definition of success established in Section 2.2.1, the six influencing factors from the literature that the researcher considered most relevant to a service delivery e-participation project in South Africa are highlighted. These factors are discussed and motivated below.

2.3.1 ICT Infrastructure

It is no surprise that many studies list insufficient ICT infrastructure as a major obstacle to e-government and e-participation in developing countries. Conversely, some list ICT infrastructure as a success factor. ICT infrastructure includes, but is not limited to, telephone networks, cellular phone infrastructure, broadband internet networks and electricity (Heeks, 2002a).

Governments have been cautioned against focusing too heavily on ICT infrastructure, especially when developing countries have many other needs. Bollou and Ngwenyama

(2008) analyse productivity growth of the ICT sector in six West African countries. They find that total factor productivity (TFP) growth in the ICT sector was declining in these countries, despite the significant expansion of ICT infrastructure, and conclude that investment in ICT infrastructure should be balanced with investments in other infrastructure, such as health, education and civil infrastructure.

Nevertheless, sufficient evidence exists to suggest that ICT infrastructure indeed influences the success of e-participation projects. Bhuiyan (2011), in a case study of Bangladesh, posits that adequate technological infrastructure is a requirement for e-government. He points to a lack of sufficient ICT infrastructure in Bangladesh as a major challenge to the success of e-government projects. Schware and Deane (2003) argue that governments should take an "I before E" approach – ICT before e-government – for e-government to succeed. If this is true for e-government, the same is likely to be true for e-participation, as it is considered a subset of e-government.

Cloete (2012) argues that, while the biggest challenges to South African e-government are a lack of leadership and inconsistent policy, a strong focus on information technology (IT) infrastructure is also necessary so that e-government initiatives can be widely utilised. Mutula and Mostert (2010) find that, while South Africa has the necessary e-government policy in place and IT infrastructure in urban areas is adequate, around 45% of the population live in rural areas where ICT infrastructure is often inadequate or non-existent. This inhibits the success of e-government initiatives.

2.3.2 Political Consensus on E-participation

A number of studies argue that political consensus regarding the importance of e-government and e-participation influences the success of these projects. Some of these studies are discussed below.

Bhuiyan (2011) argues that political consensus on the issue of e-government is needed so that the government can support e-government initiatives. He explains that e-government in Bangladesh has become politicised, and argues that the ensuing non-consensus between the ruling party and the opposition was a major inhibitor of e-government in Bangladesh. Cloete (2012) likewise finds that there is a lack of political

support for e-government in South Africa, as well as continued political infighting, which are causing e-government initiatives to fail.

Singh (2010) shows that political disagreement in South Africa led to the unclear Telecommunications Act of 1996. The duties of the Department of Communications, SATRA, USAASA and telecommunication operators overlapped and were vague. This led to time delays in ICT rollout, because ministers had to backtrack and redefine certain roles. It also led to counterproductive competition between various government departments to champion the initiative, further slowing the infrastructure rollout process and hindering the success of e-government and other ICT projects.

Heeks (2006) builds on the theory of public value, and more specifically the strategic triangle (Moore, 2000), which shows that legitimacy and support for an organisation affects the value created by the organisation, and vice versa. Heeks proposes that, for e-government to create public value, it needs political legitimacy and support.

2.3.3 Inclusion – Bridging the Digital Divide

Several studies find that one of the main challenges for e-government and e-participation in Africa and the developing world is bridging the so-called digital divide and ensuring that all citizens have access to these services.

Bhuiyan (2011) explains that in Bangladesh a substantial gap exists between access to technology in rural and urban households, and argues that this digital divide is a critical challenge for e-government in Bangladesh. Geness (2004) finds that e-government initiatives in South Africa were hampered by a "lack of equal access to all citizens especially with regard to rural-urban divide in the distribution of national resources" (as cited in Mutula & Mostert, 2010, p. 45).

Sæbø, Rose, and Molka-Danielsen (2009) present a model for e-participation in which they hypothesise that access to technology (or accessibility) influences e-participation activities. They caution that e-participation services could be dominated by privileged citizen groups with access to technology, and exclude less privileged groups. Aichholzer

and Westholm (2009) likewise present an e-participation framework that proposes accessibility as an evaluation criterion. They recommend that alternate access should be provided, such as public access points or mobile platforms, for users who cannot otherwise access the Internet.

The simplest definition of the digital divide is a common one – it is the gap between the "haves" and "have-nots" with respect to ICTs. This definition is rooted in technological determinism, a theory which holds that technological development determines social change (Gunkel, 2003). The definition implies that all one has to do is to make technology physically available to people, and the problem of the digital divide will disappear.

However, the problem of access is not simply a matter of "have" or "have not" – there are many human and social factors also at play. First, people may have access to technology, but that does not mean they can afford the cost of using it (Singh, 2010). Second, people with access to technology may not have the skills to use it, or they may not understand the content (Meyer, 2007). A third possibility is that people may simply lack the desire to use technologies available to them. Gunkel (2003) points out that it is not just a case of "haves" and "have-nots"; there are also "information want-nots."

This implies that the digital divide is not merely an issue of physical access. Perhaps a more appropriate theory to explain the digital divide is soft determinism. Soft determinism "understands technology to be a key factor that *may facilitate* change" (Gunkel, 2003, p. 510). Soft determinism acknowledges that social, cultural, economic and other factors also play a part in the way people use technology, and whether they use it at all. Overcoming the various technological, social and other factors that cause the unequal access of the digital divide is thus crucial in ensuring that e-participation succeeds.

2.3.4 Project Leadership

Another recurring factor thought to influence the success of e-government and e-participation initiatives is sustained and effective project leadership. A workgroup at the Pacific Council for International Policy concluded that an e-champion is a critical pre-

condition for successful e-government, and that of all e-readiness issues, this is the most critical (as cited in Heeks, 2002a).

Krishna and Walsham (2005), studying e-government in the state of Andhra Pradesh in India, state that "the leadership of the Chief Minister Naidu has in our view been the most important factor in the successful implementation of IT projects in Andhra Pradesh" (p. 136). They suggest that the combination of skills possessed by the minister is rarely found in one person, and that the leadership of such a person contributed greatly to the success of e-government in Andhra Pradesh.

Cloete (2012) writes that a lack of strong and consistent leadership is constraining South Africa's e-government development. He argues that management failures in the State Information and Technology Agency (SITA) and the e-government ministerial portfolio are causing the failure of e-government in South Africa. Similarly, Matavire et al. (2010) find that various aspects of leadership posed a challenge for e-government implementation in South Africa. Notably, they conclude that leaders exhibit a lack of sustained interest in e-government – they may start out energetic and enthusiastic, but this is difficult to sustain in the long term.

The effect of leadership on firm performance in the private sector has been the subject of some debate. Lieberson and O'Connor (1972) conducted a well-known study of 167 corporations over 20 years, and conclude that the effects of CEOs and their leadership on company performance are marginal. Hall (1977) argues that leadership is important during periods of organisational growth or crisis, but that, in general, leaders do little to affect performance outcomes of organisations (as cited in Weiner and Mahoney, 2013).

Later schools of thought, however, find that leadership *does* affect organisational performance. Strategic leadership theory indicates that leaders' decisions directly affect firm performance (Boal & Hooijberg, 2000; Hambrick, 2007). Limited research exists regarding leadership in the public sector, but Nutt and Backoff (1993) maintain that leadership does affect the performance of public organisations, as in the private sector, and that strategic leadership must be tailored to fit the public sector.

2.3.5 Stakeholder Management

A number of studies conclude that stakeholder management is essential for e-government and e-participation initiatives to succeed. Freeman (1984) defines a stakeholder as "any group or individual who can affect or is affected by the achievement of the organization's objective" (as cited in Scholl, 2001, p. 737). Stakeholder management refers to the process of identifying stakeholders and considering these stakeholders' interests when making policies or decisions (Donaldson & Preston, 1995).

Dada (2006) notes that implementers of e-government should be aware of the vested interests of stakeholders. For example, some stakeholders may be averse to sharing certain knowledge and information, as this may lead to altered power structures and diminish their authority.

Cecchini and Raina (2004), while studying a C2G e-government project in rural India, conclude that it was vital to involve various stakeholders in the implementation of the project, instead of simply taking a top-down approach to the project. They argue that engaging with stakeholders can foster participation and local ownership of a project, thereby increasing the long-term resilience of the project.

Sæbø et al. (2011) likewise argue that the success of e-participation projects depends not on conventional measures of attracting users, but rather on the support of all stakeholders. Thus, it is important to manage these stakeholders to ensure the success of an e-participation project.

Donaldson and Preston (1995) question the applicability of stakeholder theory to the public sector, as they argue that principles governing the public sector are completely different to those governing the private sector. But Scholl (2001) argues that stakeholder management is indeed very valuable in public organisations. He uses a case study of a project, the Central Accounting System of New York, to illustrate its usefulness.

Scholl (2001) finds that stakeholder workshops yield relevant and useful information and that stakeholder support furthers the project process and aids the discontinuation of redundant efforts. Sæbø et al. (2011) likewise find that stakeholder theory is useful in e-government initiatives, as stakeholder analysis can reveal the agendas of citizens, government entities, administrators and politicians.

2.3.6 Citizens' Trust in Government

A number of studies identify a link between citizens' trust in government and their level of engagement with e-government and e-participation services.

Carter and Bélanger (2005) studied users' acceptance of e-government, and found that greater levels of perceived trustworthiness are positively related to citizens' intentions to use e-government services. Their results show that citizens must have confidence in both the government and the enabling technology before they will use e-government services.

Carter and Weerakkody (2008) build on this, showing that adoption of e-government in the United Kingdom is affected by both trust and relative advantage, and that trust is thus an integral part of e-government adoption. By contrast, unkept promises and deceitful behaviour by government employees will negatively influence e-government adoption.

El-kiki and Lawrence (2006) note that trust has been a critical success factor in e-commerce and posit that it is likely to be the same for mobile e-government. They argue that citizens must trust their governments for e-government to succeed.

Hellström and Karefelt (2012) find that privacy and security was a concern for Ugandan citizens when deciding whether to use the UgandaWatch platform. Citizens feared that their identities might be exposed, putting them in danger. This highlights a specific area where trustworthiness is critical for e-government and e-participation – privacy and security of digital information. It is essential that users trust that their privacy and personal information will be secure (Aichholzer & Westholm, 2009; Kaisara & Pather, 2011; Kushchu & Kuscu, 2003; Sandy & McMillan, 2005).

The importance of trust can be explained by principal-agent theory (PAT). This economic theory was developed to understand the difficulties that occur when a principal, who is unable to perform certain tasks, hires an agent to do the work. The government and the citizen can be seen as an example of such a principal-agent relationship.

The citizen (principal) essentially hires the government (agent) to perform certain duties. PAT posits that the agent now has an informational advantage over the principal, and thus the principal is placing fiduciary trust in the agent (Thomas, 1998). Fiduciary trust is the trust the principal puts in an agent, believing that the agent will act in the principal's best interest, despite the fact that the principal has minimal control over the agent's actions (Thomas, 1998). For the government-citizen relationship to work, particularly in the domain of e-government and e-participation, a trust relationship must exist.

2.4 Conceptual Model and Propositions

Yin (2009) recommends theory development and stating theoretical propositions in the design phase of a case study. Thus, a conceptual model was drawn up using the factors discussed in the literature review, as shown in Figure 1. The model shows various factors that influence the success of e-participation projects. The constructs in the model are summarised in this section.

Based on Heeks's (2002b) definition*, e-participation success* is defined in this study as a situation where all stakeholders are accomplishing their major goals. A situation where only some stakeholders are attaining their goals is therefore a partial success.

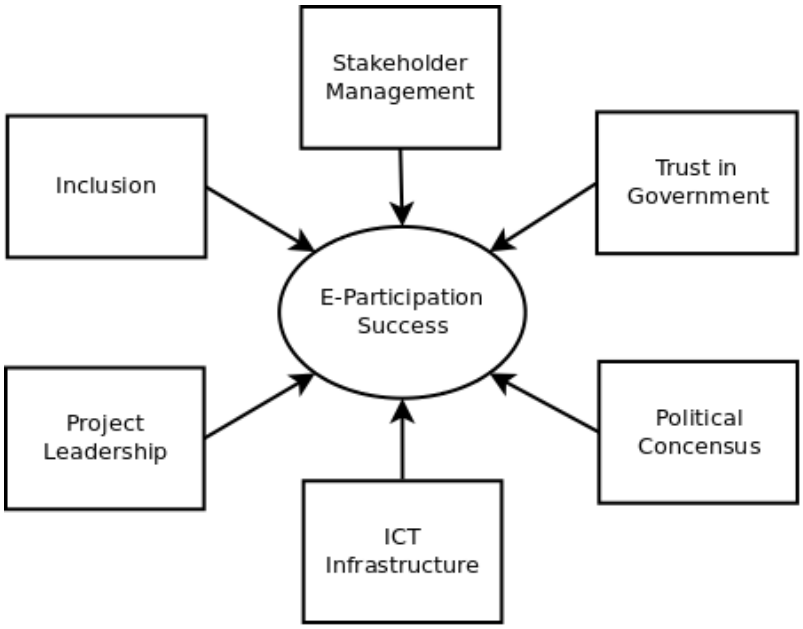

Figure 1: Factors influencing the success of e-participation projects in a developing country

The first factor identified as influencing e-participation success in a developing country is the *quality and coverage of ICT infrastructure* (Bhuiyan, 2011; Cloete, 2012; Mutula & Mostert, 2010; Schware & Deane, 2003). Here, ICT infrastructure is defined as telephone networks, cellular networks, broadband internet networks and electricity (Heeks, 2002a). Quality refers to reliability and speed, while coverage refers to the percentage of the surface area of the country that has access to ICT infrastructure.

The second factor identified in the literature as influencing e-participation success in a developing country is *political consensus* (Bhuiyan, 2011; Cloete, 2012; Heeks, 2006; Singh, 2010). Political consensus can be defined as the consensus, or agreement, of politicians and government officials on the importance of e-participation.

The third factor in the model is inclusion (Aichholzer & Westholm, 2009; Bhuiyan, 2011; Mutula & Mostert, 2010; Sæbø et al., 2009). Inclusion is defined as ensuring that all citizens have equal access to e-participation services, not just from a technological point of view, but also ensuring that socio-economic factors that prevent inclusion are overcome.

Fourth, the factor of *sustained and effective project leadership* was established as affecting the success of e-participation projects in a developing country (Cloete, 2012; Krishna & Walsham, 2005; Matavire et al., 2010). Sustained leadership refers to leadership over an extended period of time, whilst effective project leadership refers to leadership that produces the desired result from a project or initiative.

The fifth factor identified as influential is *stakeholder management* (Cecchini & Raina, 2004; Dada, 2006; Sæbø et al., 2011; Scholl, 2001). Stakeholder management refers to the process of identifying stakeholders and considering these stakeholders' interests when making policies or decisions (Donaldson & Preston, 1995).

The final factor identified in the literature review as influencing the success of e-participation projects in a developing country is *citizens' trust in government* (Carter & Bélanger, 2005; Carter & Weerakkody, 2008; El-kiki & Lawrence, 2006; Hellström & Karefelt, 2012). This trust refers to fiduciary trust, which is the trust the principal puts in an agent, believing that the agent will act in the principal's best interest, even though the principal has minimal control over the agent's actions (Thomas, 1998).

2.4.1 Propositions

Yin (2009) recommends stating propositions prior to data collection and analysis. The following research propositions were thus derived from the literature review and conceptual model.

Proposition 1: The quality and coverage of a country's ICT infrastructure influences the success of service delivery e-participation projects in a developing country.

Proposition 2: Political consensus on the importance of e-participation influences the success of service delivery e-participation projects in a developing country.

Proposition 3: A direct relationship exists between the degree of inclusion achieved by a service delivery e-participation project in a developing country and the success of the project.

Proposition 4: Sustained and effective project leadership positively influences service delivery e-participation project success in a developing country.

Proposition 5: Effective stakeholder management positively influences service delivery e-participation project success in a developing country.

Proposition 6: A direct relationship exists between citizens' trust in government and the success of service delivery e-participation projects in a developing country.

Having reviewed the literature and having developed a conceptual model with propositions, Chapter 3 addresses the research design – the strategy for collecting and analysing data to answer the research questions and test the conceptual model.

3 RESEARCH DESIGN

According to Yin (2009), research design is a sequence that connects a study's research questions, empirical data and conclusions. Nachmias and Nachmias define the research design as "a plan that guides the investigator in the process of collecting, analysing, and interpreting observations" (as cited in Yin, 2009, p. 105). This section thus deals with the research approach, data collection, data analysis and measures to ensure reliability and validity. Finally, access and ethics are also discussed.

3.1 Research Philosophy and Approach

This section covers the research philosophy and approach, including the ontology and epistemology of the chosen approach.

3.1.1 Research Philosophy and Approach

The three most common research approaches applied to information systems are the positivist, interpretive and critical approaches (Orlikowski & Baroudi, 1991). Positivist studies assume that universal laws and principles govern the world, and these studies serve to develop theories that increase our predictive understanding of the world. Interpretive studies, on the other hand, do not consider universal laws but rather assume that people create their own subjective meanings of phenomena. Generalisation is thus not an objective, but researchers seek to gain deeper insight into a phenomenon (Orlikowski & Baroudi, 1991). Critical research takes a critical stance towards taken-for-granted assumptions about information systems (Orlikowski & Baroudi, 1991).

It was decided that a positivist approach is best suited to this research, for the reasons discussed below.

Ontology: Realism

This study aims to uncover the real, objective factors that influence the success of service delivery e-participation projects. Although some of these factors may be social,

they exist in a real and physical world outside of the mind. The researcher believes that real relationships exist between these factors and the construct of e-participation success, and that these relationships are valid even though they may not be visible to the naked eye.

Taking this into account, ontological realism is best suited to this research, as it holds to "an objective physical and social world that exists independent of humans, and whose nature can be relatively unproblematically apprehended, characterized and measured" (Orlikowski & Baroudi, 1991, p. 9). Thus, ontological realism enables a search for *real* factors influencing service delivery e-participation success, which exist in the objective physical and social world.

Epistemology: Positivism

This study aims to make propositions regarding the factors influencing service delivery e-participation success, test these propositions and generalise the findings. The researcher aims to test the conceptual model devised in the literature review, because she holds that universal principles and theories exist.

The study therefore adopts epistemological positivism, which holds that knowledge exists in the form of universal laws and principles (Orlikowski & Baroudi, 1991). This epistemological approach allows the researcher to look for such universal principles in the form of factors that affect the success of service delivery e-participation in South Africa.

Positivism also enables the generalisation of findings. Although one case study does not permit generalisation to a population (statistical generalisation), it does allow for generalising to theoretical propositions (analytic generalisation), according to Yin (2009). Future studies can then attempt to test the conceptual model produced by a study.

3.1.2 Approach to Theory: Hypothetic-Deductive

The hypothetic-deductive approach to theory was used, meaning that the research starts with hypotheses or propositions derived from theory, followed by research that is conducted to test these (Patton, 2002). Another option was to use an inductive approach, where the research does not start with hypotheses or propositions, but rather lets the data "speak for itself", only forming propositions and theory after data analysis (Patton, 2002).

The hypothetic-inductive approach was chosen because it is in keeping with the positivist research philosophy, and also because Yin (2009) recommends that case studies start with theory building. The researcher wanted to use existing theory and knowledge to find causal relationships between various factors and the success or failure of service delivery e-participation. A conceptual model of factors was developed, and hypotheses were drawn up based on existing literature and knowledge as a starting point for the research.

3.1.3 Purpose of Research: Explanatory

Case studies can be conducted for descriptive, exploratory or explanatory purposes (Paré, 2004; Yin, 2009). The purpose of descriptive research is not to link findings to theory, or to address theoretical interpretation of findings. The intent is simply to present an objective account of a phenomenon (Dubé & Paré, 2003). Exploratory research starts with a clean theoretical slate, and is aimed at discovering and building new theories (Dubé & Paré, 2003). Conversely, explanatory research aims to test theories (Dubé & Paré, 2003).

Explanatory studies are also called causal studies, because they examine causal links to prove or disprove theories (Yin, 2009). The case study in this research is explanatory, as it starts with a conceptual model and attempts to explain why the selected e-participation project is a success or failure.

3.1.4 Research Methodology: Case Study

The research methodology best suited to this study is the case study method. A case study can be defined as "an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context" (Yin, 2009, p. 85). Case studies can be used with any philosophical perspective, including that of positivism (Dubé & Paré, 2003). The case study research method is appropriate here because it allows for the study of a complex phenomenon – the Lungisa service delivery e-participation project – holistically and in great depth (Dubé & Paré, 2003).

To identify the factors influencing the success of the Lungisa e-participation project, the entire project needed to be studied as a unit, in great depth. The project is complex and multi-faceted, and there was a need to look at different types of data relating to the project to discover the factors influencing its success.

A disadvantage of the case study research method is that it does not take place in a controlled environment, in the same way as a laboratory experiment or survey questionnaire (Yin, 2009). Because the researcher did not have complete control over the data collection environment, extra care was taken to ensure reliable and valid results. The measures taken to ensure reliability and validity are discussed in Section 3.4.

3.1.5 Type of Data: Qualitative

Though qualitative data is most often associated with the interpretive paradigm, it can also be used in positivist studies, as motivated by Eisenhardt (2002) and Maxwell (2004) amongst others.

This study uses qualitative data sources, as described in Section 3.2.1. A benefit of qualitative data is that it can provide "rich descriptions and explanations of processes in identifiable local contexts" (Miles & Huberman, 1994, p. 1) and can help to generate conceptual frameworks. A relatively small but diverse group of people are involved in the implementation of Project Lungisa, making the case ideal for the collection of rich qualitative data.

Miles and Huberman (1994) warn that qualitative research is prone to bias, and that the credibility of qualitative studies is often questioned. Measures were taken to ensure that the findings are valid and reliable, as discussed in Section 3.4. Reflective remarks were also used (see Section 3.2.1) to remain mindful and vigilant of bias.

3.1.6 Time Frame

With regards to the time frame, the options available were a cross-sectional time frame or a longitudinal time frame. A cross sectional time frame was chosen, as the researcher collected data between January and May 2014. A cross-sectional "snapshot" of the e-participation project provided sufficient insight into the project to identify factors influencing the success of the project. Longitudinal studies allow researchers to show how certain conditions change with time (Yin, 2009). However, change over time is not a concern of this study, hence a cross-sectional timeframe is sufficient.

3.2 Data Collection

This section discusses the data collection procedure in detail, including the various types of data collected, the case protocol and the research instrument.

3.2.1 Data Collection

Case study research typically combines various qualitative and quantitative data collection techniques (Dubé & Paré, 2003). Although it is possible to use quantitative data in a case study, only qualitative data was collected in this study (see Section 3.1.5).

According to Yin (2009), six types of data can be used in case study research: documentation, archival records, interviews, direct observation, participant observation and physical artefacts. Yin recommends using as many sources as possible, to ensure reliability and validity. This study used three qualitative sources of data (or evidence): interviews, participant observation and documentation.

Interviews

The interviews were semi-structured, giving the interviewer freedom to prompt interviewees further, depending on their answers (Paré, 2004). Although questions were prepared in advance, the stream of questions during interviews was fluid rather than rigid, as recommended by Yin (2009). The interview questions are further discussed in Section 3.2.3 and presented in Appendix A.

The interviewees, or participants, are all stakeholders in the Lungisa project. Freeman defines a stakeholder as "any group or individual who can affect or is affected by the achievement of the organization's objective" (as cited in Scholl, 2001, p. 737).

After conducting interviews, reflective remarks were written down. Reflective remarks include notes on 1) what the interactions with interviewees or participants felt like, 2) observations made by reading "between the lines" during interviews, 3) doubts about interview data quality, 4) mental notes about issues that need further investigation, and 5) personal reactions or potential biases on the side of the researcher (Miles & Huberman, 1994). These reflective remarks helped the researcher to be aware of her own feelings, insights and reactions and helped guard against bias.

Participant Observation

Data was also collected by participant observation, as the researcher had a minor role in the project herself. She took notes describing significant events and information related to the project. As with the interviews, she also wrote down reflective remarks, in order to increase her awareness and guard against bias.

The advantage of participant observation is that a researcher is able to gain access to information, events and groups that may have otherwise been inaccessible (Yin, 2009). Yin (2009) also argues that the opportunity to observe the reality from "inside" the case is extremely valuable.

One of the disadvantages of participant observation is potential bias, as the investigator is now no longer an external observer (Yin, 2009). The researcher is also more likely to adopt the position of supporter of the particular phenomenon to be studied (Yin, 2009). Thus, care was taken to ensure reliability and validity of findings and guard against bias.

Documentation

Where possible, documentation was collected and added to the case study database. According to Yin (2009), documentation can include the following: memoranda, e-mail correspondence, agendas, announcements, minutes of meetings, written reports of events, proposals and media articles.

Many scholars are critical of overreliance on documentation. Yin (2009) cautions that case study researchers should understand that documentation is often communication written for a specific audience, and should be treated as such. Documents should be used carefully, and not accepted as literal recordings of events or facts. In light of the above, documents in this study were primarily used to corroborate information from other sources.

3.2.2 Sample and Unit of Analysis

According to Yin (2009), because case studies are not intended for statistical generalisation (only analytic generalisation), one case does not represent a "sample". Rather, a case study can be likened to an experiment. The researcher should therefore avoid thinking in terms of samples and populations, but rather consider one case study to be one experiment.

Yin also stresses, however, that the case must be clearly defined. It must be "a concrete entity, event, occurrence, action, but not an abstract topic such as a concept, argument, hypothesis, or theory" (Yin, 2009, p. x). The case in this study is the Lungisa e-participation project, as explained in Section 1.3, and this project is the unit of analysis.

3.2.3 Case Protocol and Research Instrument

Since the case study approach uses a combination of data sources and data collection methods, and since case study research usually takes place in the real world and not in the confines of a laboratory, it is important to carefully document data collection procedures to ensure reliability.

Yin (2009) recommends that this be achieved through a case protocol. The case protocol is a document containing all procedures and rules to be followed when conducting the case study, including the research questionnaire or instrument. It is a guide to the researcher when collecting data for a single case, and it is a vital way of increasing the reliability of case study research (Yin, 2009). However, since the research procedures are carefully documented in this chapter, an additional protocol was not drawn up. Instead, this research design chapter was treated as the equivalent of Yin's case protocol.

3.3 Data Analysis

This section discusses the analysis phase in terms of data capture, coding and analysis.

3.3.1 Data Capture and Preparation

All the data collected during this study was added to the case study database. This database is analogous to the "raw data" that would be collected in a laboratory study or survey (Paré, 2004). The case study database was kept independent from the analysis and conclusions, so that findings and conclusions can be traced back to this raw data.

All data was captured in textual format, to allow for manageable coding and analysis, as recommended by Miles and Huberman (1994). Interviews were transcribed from audio recordings. The case study database thus consists of: 1) interview transcripts, 2) case study notes and reflective remarks resulting from interviews, observations and document analysis, and 3) documentation.

3.3.2 Data Analysis Method: Thematic Analysis

The case study methodology does not prescribe a single method for analysing data. Yin (2009) likens the case study researcher to a detective. A detective arrives on the scene after a crime has been committed and has to look at the evidence and make inferences based on what he or she finds. Similarly, the case study researcher has to examine and analyse case study data (or evidence) in order to arrive at certain findings, and ultimately, conclusions.

The “evidence” in this study consists of interviews, documents and notes. Like Yin’s detective, the researcher needed to examine all of this data to address the four research questions. Since a large amount of data was collected, an analysis technique for reducing the amount of data was needed.

Two commonly used data analysis methodologies were considered – content analysis and thematic analysis. Content analysis is used to convert large amounts of qualitative data into quantitative data by counting the number of times themes or categories occur (Joffe & Yardly, 2004). Thematic analysis is similar to content analysis, but does not look exclusively at the quantitative frequency of themes. It focuses rather on the qualitative aspects of the data analysed (Joffe & Yardly, 2004).

Silverman (2006) critiques content analysis, saying that conclusions drawn purely from frequency data are trite. Joffe and Yardly (2004) elaborate on this, explaining that a word or theme may occur more often because it is more important, but it may also occur more often simply because a participant enjoys talking about the subject. It may also result in the themes voiced by more talkative participants carrying more weight, when in reality that is not the case. For these reasons, the researcher decided to use thematic analysis. It has the systematic elements of content analysis, but allows the researcher to focus on the rich qualitative content of the themes in the data, and not just on their frequency (Joffe & Yardly, 2004).

The thematic analysis guidelines set out by Braun and Clarke (2006) were used in this study. They prescribe six stages of thematic analysis: 1) familiarising oneself with the data, 2) generating initial codes, 3) searching for themes, 4) reviewing themes, 5) defining and naming themes, and 6) producing the report. These stages are discussed in more detail below. A seventh stage – pattern matching – was added to determine whether the theoretical propositions stated at the start of the research can be confirmed or not.

Data Familiarisation

This stage of analysis involves reading and re-reading the data to become familiar with it (Braun & Clarke, 2006). Researchers should, as far as possible, transcribe interviews themselves to become familiar with the data. The case database (interview transcripts, documents and notes) can also be printed, making it easier to read repeatedly and think it over continuously.

Generating Initial Codes

This phase of analysis, according to Braun and Clarke (2006) involves two tasks – generating a code list and subsequently coding the data. Miles and Huberman (1994) and Yin (2009) also recommend coding to organise and make sense of large amounts of data.

Codes are essentially "tags or labels for assigning units of meaning" to the data (Miles & Huberman, 1994, p. 246). Initial codes depend on whether the researcher is performing inductive, or deductive or theoretical analysis. With inductive analysis, codes are not linked to the research question (Braun & Clarke, 2006; Dubé & Paré, 2003). In this case, since the approach is deductive, initial codes should be drawn up with the research questions and propositions in mind. Once the researcher has become familiar with the data, a number of extra codes can be added (Braun & Clarke, 2006; Dubé & Paré, 2003).

Miles and Huberman (1994) state that clear definitions of codes are essential for codes to be used consistently. Hence a list of codes and their definitions should be compiled. Finally, the data must be coded with the codes in the list. The researcher should work through the data in the case study database, and manually assign codes to chunks of data, where a chunk can consist of words, phrases, sentences or whole paragraphs.

Marginal remarks should be used while coding, in order to remain mindful and alert throughout the coding process (Miles & Huberman, 1994). Marginal remarks are remarks written, by the researcher, in the margins of the raw data and include thoughts, ideas and reactions. Miles and Huberman advocate that these marginal remarks can lead to new interpretations and connections with other parts of the data. They are also

helpful in uncovering questions and issues that need to be addressed during the next wave of data collection.

A researcher should not wait until the end of data collection to start coding, as Miles and Huberman (1994) recommend that ongoing coding can help to uncover potential bias, and can also reveal incomplete or unclear data that needs to be clarified by further investigation.

Searching for Themes and Reviewing Themes

These two phases involve organising codes into themes, and subsequently reviewing these themes (Braun & Clarke, 2006). A theme can be defined as a core meaning (Patton, 2002), a pattern of meaning that occurs in the data (Braun & Clarke, 2006; Joffe, 2012) or as a way to link several meanings together in categories (Graneheim & Lundman, 2004).

In this phase of analysis, themes are established. Individual codes are combined to form one theme, or in some instances, one code translates into one theme (Braun & Clarke, 2006). This results in a list of candidate themes, as well as the collation of all coded data relevant to each theme.

Once a list of candidate themes has been established, these themes can be reviewed and categorised. Some candidate themes may not contain enough data and may be discarded, while others could be combined into new themes. In this case, the themes were categorised according to the research questions, namely: 1) success dimensions, 2) the extent to which the dimensions had been met, 3) factors contributing to the success of the project, and 4) factors limiting or constraining the success of the project. Themes that did not fit into these categories were discarded for the purposes of this study.

Naming the Themes and Producing the Report

During these two phases, the themes should be defined and named, and a report drawn up. Clear definitions and names must be generated for each theme (Braun & Clarke, 2006). This can be done by going back to the collated coded data for each theme, and asking what name and definition best suits the core meaning present in the data.

Themes should not be too complex or diverse, and they should not overlap, as recommended by Braun and Clarke (2006).

Finally, the report, or findings chapter, can be written up. Each theme must be described, along with the codes that comprise it. Braun and Clarke (2006) explain that this write-up needs to tell the story of the data and convince the reader of the merit of the themes. Evidence, in the form of data extracts, should be provided for each theme. These should capture the essence of the theme, and they should be vivid and compelling (Braun & Clarke, 2006).

Pattern Matching

Pattern matching is used to confirm or not confirm a study's propositions. Pattern matching is the practice of comparing an empirical pattern with a theoretical one, and determining whether they match (Yin, 2009). In this study, empirical patterns refer to the patterns, or themes, identified during the analysis described above. The theoretical patterns refer to the patterns, or relationships, shown in the conceptual model in Section 2.4 and stated in the propositions.

A researcher should look at the empirical or observed patterns that emerge during analysis, and examine whether they match the theoretical relationships (or propositions). If an empirical pattern (or relationship) and proposition match, the proposition is confirmed. Where a mismatch occurs, the proposition is not confirmed.

The conceptual model consists of six independent variables and one dependant variable. Since the only dependant variable in the model is e-participation success, any other variables can be removed (if a proposition is not confirmed) without influencing the rest of the model (Yin, 2009).

3.4 Reliability and Validity

Kidder and Judd state that four tests are commonly used to establish the reliability and validity of social science research: construct validity, internal validity, external validity and reliability (as cited in Yin, 2009). These tests are discussed in more detail below.

3.4.1 Construct Validity

This test asks whether the research has identified the correct operational measures for the concepts or constructs being studied (Yin, 2009). In quantitative research, constructs are operationalised, meaning that various operational measures (or variables) are identified with which to measure the characteristics of a construct. Constructs can be abstract, while variables must be concrete and measurable. Factor analysis is then used to verify that the operational measures used for each construct are correct.

In qualitative research, however, this method is not applicable, and other ways to prove construct validity must be relied upon (Eisenhardt, 2002). A concerted effort should be made to illustrate the validity of the constructs used. A number of steps were taken to ensure construct validity. These are discussed in Section 4.2.1.

3.4.2 Internal Validity

In experimental research, internal validity is about proving that a change in variable *x* (the independent variable) causes a change in variable *y* (the dependant variable). In case study research, a researcher is not typically attempting to manipulate variables, but the test of internal validity still asks whether causal relationships in the study are valid, as opposed to simply being spurious relationships (Yin, 2009). The researcher needs to show proof that *x* does indeed influence *y*, and that it is not merely a spurious relationship.

While it has been argued that qualitative data cannot be used to determine causality, Maxwell (2004) makes a convincing argument for drawing causal explanation from qualitative data. According to Yin (2009), the case study investigator may infer that one event results from another, based on evidence from interviews and documents. Eisenhardt (2002) contends that qualitative data can be extremely useful in studying causal relationships, because this kind of data can determine the relationships that exist, and also *why* they exist and *how* they operate. A number of steps were taken to ensure internal validity. These are discussed in detail in Section 4.2.2.

3.4.3 External Validity

This test asks whether the findings can be generalised to a wider domain, and whether the domain to which a study's findings can be generalised has been defined (Joffe & Yardly, 2004; Yin, 2009).

Single case studies have been criticised for providing poor grounds for generalisation (Yin, 2009). But others argue that, while these single case studies cannot be generalised to a larger population (statistical generalisation), as in survey research, findings from a single case study can be generalised to theory (analytical generalisation) (Eisenhardt, 2002; Joffe, 2012; Yin, 2009).

With statistical generalisation, inferences are made about a population based on data from a sample of that population. This is a common method of generalising when conducting survey research. With analytical generalisation, generalisation occurs from the results of a study to a broader theory (Yin, 2009). The theory can then be tested in subsequent studies by attempting to replicate the same results where the theory has predicted that these results will occur. In other words, a single case study can be likened to a single experiment with a single set of empirical circumstances. The findings of such an experiment can be generalised to theory and tested in other empirical settings or experiments (Darke, Shanks & Broadbent, 1998).

Three steps were taken to ensure the external validity of this study. These are discussed in Section 4.2.3.

3.4.4 Reliability

This test asks whether the research demonstrates that the processes and procedures of a study can be repeated, producing the same results (Yin, 2009). That is, another investigator should be able to follow the same procedures and arrive at the same findings and conclusion. Steps were taken to ensure reliability, as discussed in Section 4.2.4.

3.5 Access and Ethics

Access to interviewees, documents and participant observation was gained through Cell Life, the non-profit organisation implementing the Lungisa e-participation system. Consent for gathering information and interviewing Cell Life employees was obtained from the CEO of Cell Life. The letter of request for organisational permission can be found in Appendix B.

Care was taken to avoid any deception, and to protect the privacy and confidentiality of the study participants, as Yin (2009) advises. The purpose of the research was explained to all interviewees, and their consent was obtained, before interviews were conducted. They were also informed of their right to terminate the interview at any time, and withdraw from the study.

Participants remain anonymous, although their roles in the various organisations may be stated. Personal information was not gathered or published and racial variables were not used. The participants are not in any way dependent on the researcher and they were not offered payment or any other compensation. No minors were involved in the study.

4 RESEARCH FINDINGS

This chapter is devoted to the results, or findings, of the case study. First, some points about the data collection and analysis process are mentioned, followed by a discussion of the reliability and validity of the findings. Finally, the actual findings are stated and explained by category. These findings are discussed in Chapter 5.

4.1 Actual Data Collection and Analysis

The research design, including data collection and analysis, is discussed in detail in Chapter 3. A few points regarding the actual data collection and analysis are mentioned here for completeness.

Data was collected from February to May 2014, primarily in the form of interviews, but also in the form of documents and notes taken during participant observation. After organisational permission was granted, the interviewees were contacted directly to arrange interview times and places. As far as possible, interviews were conducted face-to-face, in person. Where this was not possible, Skype or telephonic interviews were done instead. One hour was allocated to each interview.

Eleven project stakeholders were interviewed. The interviewees' profiles are listed in Table 1. Pseudonyms have been used to protect the identity of the interviewees, and for the same reason aliases were used for two of the organisations involved. The interviews lasted 40 minutes each, on average. They were transcribed into textual format, resulting in transcripts that consisted of 67 465 words in total (an average of 6 133 words per interview).

Documentation concerning Project Lungisa was collected from the interviewees. The documents collected include e-mail correspondence, press articles, funding proposals, funding reports, technical documentation, project management documentation and printouts from the report management software, JIRA. All of the documentation makes up 339 printed pages. Since the researcher was involved in the execution of the project,

her case notes (or field notes) taken during participant observation were also added to the case database.

To better make sense of the textual data, thematic analysis was carried out. The reasons for choosing this type of analysis are discussed in Section 3.3.2.

Table 1: Interviewee details

Interviewee	Project Involvement	Location
Participant A	Initiator of Project Lungisa, Policy Advisor for the United Nations Development Programme	Ethiopia, interview conducted via Skype.
Participant B	Former CEO of Cell Life, Co-initiator of Project Lungisa	West Lake Business Park, Cape Town
Participant C	Current Project Leader of Project Lungisa	Cell Life Offices, Cape Town
Participant D	Operations Manager at Cell Life	Cell Life Offices, Cape Town
Participant E	Employee at Cell Life, works full time on Project Lungisa	Cell Life Offices, Cape Town
Participant F	Project Coordinator and Monitoring and Evaluation Expert at Cell Life	Cell Life Offices, Cape Town
Participant G	Head of ICT at Organisation Y, a prominent civil society organisation in Khayelitsha.	Cape Town CBD
Participant H	Project Manager at Organisation X, a prominent civil society organisation in Khayelitsha.	Cape Town CBD
Participant J	Monitoring and Evaluations Expert and former Cell Life employee who worked on Project Lungisa	Gardens, Cape Town
Participant K	Executive at Indigo Trust (funders of Project Lungisa)	Bo Kaap, Cape Town
Participant L	Manager of Customer Relations, City of Cape Town	Civic Centre, Cape Town

4.2 Reliability and Validity

Kidder and Judd advise that four tests are commonly used to establish the reliability and validity of social science research: construct validity, internal validity, external validity and reliability (as cited in Yin, 2009). These are discussed in detail in Chapter 3. This

section aims to show that the research findings do exhibit a high degree of validity and reliability by presenting the measures taken to guarantee validity and reliability.

4.2.1 Construct Validity

This test asks whether the researcher has identified the correct operational measures for the concepts or constructs being studied (Yin, 2009). A concerted effort should be made to illustrate the validity of the constructs used. Three things were done to ensure construct validity. First, the constructs being studied are clearly defined in the literature review (see Section 2.4) as Yin (2009) recommends. The constructs are e-participation success, ICT infrastructure, political consensus, inclusion, project leadership, stakeholder management and citizens' trust in government.

Second, the constructs (or themes) found in the data are also clearly defined in this chapter, in accordance with Eisenhardt's (2002) recommendations. The definitions were sharpened throughout the data analysis process by constantly comparing the data with constructs. Each success dimension and each influencing factor found in the data is defined and discussed in this chapter. Eisenhardt explains that this process of constant comparison leads to "evidence from diverse sources [converging] on a single, well-defined construct" (2002, p. 20).

Third, multiple sources of evidence for each construct theme are described in this chapter, as both Yin (2009) and Eisenhardt (2002) recommend. Evidence from the thematic analysis of the interviews, as well as evidence from documents and case notes, is shown in tabular format for each theme. This process of using multiple data sources to clarify meaning is also known as triangulation (Dubé & Paré, 2003; Paré, 2004; Yin, 2009), and is used to show that the findings have been triangulated and not just drawn from a single source.

Fourth, in accordance with Eisenhardt (2002), tables are used to display the evidence underlying the constructs. This can help to show that the constructs and their definitions are well supported by the data. It also allows the reader to follow the chain of evidence (Yin, 2009) and draw the findings back to the evidence, and all the way back to the research questions.

4.2.2 Internal Validity

This test asks whether causal relationships in a study are valid, as opposed to simply spurious relationships (Yin, 2009). A study needs to demonstrate that *x* does indeed influence *y*, and that it is not merely a spurious relationship. A number of steps were taken to ensure the internal validity of the findings.

First, in accordance with Maxwell (2004), an effort was made to collect rich data, in other words data "that are detailed and varied enough that they provide a full and revealing picture of what is going on and of the processes involved" (Maxwell, 2004, p. 254). The research makes use of three different sources of data – interviews, documents and research notes. Detailed, in-depth interviews were conducted with the stakeholders to gain a full understanding of Project Lungisa. This enabled the researcher to understand causal relationships and make reliable inferences.

Second, also in accordance with Maxwell (2004), a conscious effort was made to search for discrepant evidence in the data. In other words, the researcher did not only search for data that supports her propositions, but also for data that opposes it. Where applicable, this opposing evidence is stated in the findings chapter, and serves to further strengthen the validity of the inferences made.

Third, data triangulation was also used to reduce bias (Maxwell, 2004). Triangulation has already been discussed in Section 4.2.1. It involves using data from multiple sources, not just from a single source, to increase internal validity.

Finally, Maxwell (2004) and Miles and Huberman (1994) maintain that in the final analysis, methods alone cannot ensure internal validity. It is vital that evidence is shown for any inferences made about causality. Evidence for success dimensions and for factors influencing project Lungisa's success are described in this chapter, so that readers can see that inferences were supported by evidence.

4.2.3 External Validity

This test asks whether the findings can be generalised to a wider domain, and whether the domain to which a study's findings can be generalised has been defined (Joffe & Yardly, 2004; Yin, 2009).

Three things were done to achieve external validity. First, a conceptual model was carefully constructed at the beginning of the study, describing the theory to be tested by this study and future studies. The conceptual model shows the relationship between e-participation success and the factors influencing it.

Second, the case was carefully selected to test the theory. The conceptual model illustrates various propositions about a service delivery e-participation project and the factors influencing its success. A service delivery e-participation project – Project Lungisa – was selected as a case study to test this conceptual model. Project Lungisa fits the definition of an e-participation project, as stated in the literature review, because it is an electronic system that enables citizens to make their needs and concerns regarding service delivery known to the government (see Chapter 2 for a more detailed argument in this regard). It was therefore deemed an appropriate case.

Third, the study is repeatable in other settings, so that further studies can also test the conceptual model. The following section further discusses the reliability, or repeatability, of the study.

4.2.4 Reliability

This test asks whether the research demonstrates that the processes and procedures of a study can be repeated with the same results (Yin, 2009). Put another way, a later investigator should be able to follow the same procedures and arrive at the same findings and conclusion.

Two things were done to ensure reliability. First, a case protocol (or research design, in this case) was drawn up and adhered to, as recommended by Yin (2009). The research

design chapter contains vital information about data collection, such as the process of obtaining organisational permission, as well as practical advice on how to carry out data collection. This enables another researcher to follow exactly the same procedure with the same case, or perhaps a different case, using the same instrumentation and field practices (Dubé & Paré, 2003).

Second, a case study database was kept, as recommended by Yin (2009). This case database contains transcripts of all interviews, documentation and case study notes. It allows subsequent investigators and readers to follow the chain of evidence all the way from the study's conclusions back to the research questions. Should there be discrepancies in the results of subsequent studies, the case study database and the chain of evidence can be used to investigate and establish why the results are different.

The rest of this chapter is devoted to showing the themes that were found in the data. The themes are organised by category. Each theme refers to evidence in the case study database.

4.3 Category 1: Dimensions of Success for Project Lungisa

The first research question posed in this dissertation is: "What are the dimensions of success for Project Lungisa?" The findings have been organised in such a way that this first theme category – dimensions of project success – relates to the first research question. Five themes were identified and categorised as dimensions of project success. These themes, as well as the related codes and data samples, are shown in Table 2.

Table 2: Dimensions of success for Project Lungisa

Theme	Code	Evidence	Interviewee
Improving service delivery by resolving service delivery reports	Resolving reports	"I think probably the most important thing . . . is making sure that the reports are resolved and that the council is listening to the reports."	Participant K
		"One of our goals is that of receiving reports, and channelling them and making	Participant C

n=5		sure the issues that are reported are being resolved."	
	Improving service delivery	"The goal of the project, ultimately, was to improve service delivery conditions of the people involved."	Participant B
	Fixing service delivery problems	"For example if they can show that Lungisa has actually managed to fix a lot of . . . the service delivery problems, that would make it a success."	Participant J
		"I think the most important thing is, if these 60 to 80 requests per month are making a difference to the community… Is it fixing their taps and their toilets, their blocked drains etc.?"	Participant L
Empowering citizens **n=5**	Giving citizens agency	"Giving citizens that agency and sense of belief that actually something they do can actually lead to change is really important."	Participant K
		"Lungisa is there to . . . educate citizens so that they can actually report . . . So they can come back to say, 'we report and the issues get resolved, we report and the issues get resolved'."	Participant E
	Empowering citizens	"[Our goal is] to improve service delivery and empower people."	Participant C
		"And also another goal would be to empower people to . . . develop that culture of reporting. To me that is important. They need to see the link between reporting and fixing, and link the dots."	Participant L
	Educating citizens about their rights	"The second [goal] . . . is to say that issues around sanitation, electricity, water etc. are basic human rights . . . and to get people to think of them as that."	Participant F
Holding government accountable **n=5**	Collecting data regarding service delivery concerns	"The information that we would get from [Lungisa] . . . is information that people need to have [to hold government accountable]."	Participant H
		"We need to be able to generate the kind of information which can be used at higher levels to ensure commitment at lower levels of government . . . Senior levels of government should hold lower levels [of government] accountable."	Participant D

	Putting pressure on government	"Lungisa is there to put a pressure [on government]."	Participant E
	Holding government accountable	"If Lungisa is able to hold government accountable, that is the most important thing."	Participant C
		"What Lungisa's doing, to my mind, is we're trying to get government involved before [service delivery protests] and hold them to what they're supposed to do."	Participant F
Achieving extensive awareness and use of the system **n=4**	Receiving large numbers of reports	"I think for it to be really successful you'd want to be looking at, ideally hundreds of thousands of reports coming into the platform."	Participant K
	Achieving extensive awareness	"I think the major goal that needs to be achieved for any project like that to work is actual awareness – a) that the facility exists, and how citizens can access the facility."	Participant D
		"A broad, long-term achieving goal is, I would say, for it to be *the* reporting system, you know, in every single municipality in the entire country . . . It needs to be a household name."	Participant G
		"For me the main thing is to get the word across to people that there is a platform they can use to have their issues resolved at a lower cost."	Participant E
Demonstrating proof of concept **n=2**	Demonstrating proof of concept	"I guess I phrased it as, 'let's see if this can work', and then . . . maybe we'd be more successful to get it going on the basis of a concept having been shown."	Participant A
		"We are here . . . to introduce this innovative type of a way of reporting to see if we can see if it is working . . . the end goal of course is to say, look this thing is working, we have checked it and people can report."	Participant E
	Introducing the concept	"Basically, we were entering unchartered space in South Africa . . . I recognised that part of our objective – and for me that was a criteria for making this project successful – is trying to open up this space."	Participant A

4.3.1 Dimension 1: Improving Service Delivery by Resolving Service Delivery Reports

Five stakeholders mentioned resolving reports, improving service delivery, and fixing service delivery problems as dimensions of project success. These codes were grouped together under the broader theme of "improving service delivery by resolving service delivery reports", as shown in Table 2.

These stakeholders, in other words, measure the success of Project Lungisa by the extent to which it has improved service delivery to citizens by resolving their service delivery reports. The current project leader – Participant C – stated simply, "[Our goal is] to improve service delivery and empower people." For him, one of the ultimate marks of Lungisa's success would be to actually improve service delivery in Khayelitsha. Four other stakeholders also mentioned that improving service delivery by resolving service delivery reports is an important dimension of success.

Triangulatory evidence for Dimension 1, from documentation, is listed in Table 3.

Table 3: Triangulatory evidence for Dimension 1

Code	Evidence	Documentary Source
Improving service delivery	"We are writing to request a meeting with you this week to inform you about a project we are launching aimed at enhancing further service delivery and transparency."	E-mail communication (Participant A, personal communication, 2012)
Fixing service delivery problems	"In doing so, we aim to empower ordinary people living in South Africa to have their voices heard; to try to get fixed service delivery problems they face; and to improve the quality of life for those receiving poor or unequal services."	("Lungisa Website: Information," 2014)

4.3.2 Dimension 2: Empowering Citizens

Two stakeholders felt that an important dimension of success was giving citizens agency, whilst another three felt it was important to empower people, as shown in Table 2. One stakeholder also felt it was important to educate citizens about their rights. These three codes were grouped together under the theme of empowering citizens. Agency refers to a person's capacity to act and effect change in their world. These stakeholders

believed that, to be successful, Project Lungisa should empower citizens and give them a sense that their actions can improve the service delivery they receive.

Participant L from the City of Cape Town stated, "And also another goal would be to empower people to . . . develop that culture of reporting. To me that is important. They need to see the link between reporting and fixing, and link the dots." She highlights the importance of people realising that by reporting service delivery failure, they can effect change and have those failures repaired.

Triangulatory evidence for this theme is shown in Table 4.

Table 4: Triangulatory evidence for Dimension 2

Code	Evidence	Source
Giving citizens agency	"People who otherwise might not be able to have their voices heard . . . will be able to do so very easily."	Sizwe Proposal (Participant A, personal communication, 2012)
Empowering people	"[Lungisa] would do this by empowering and encouraging ordinary citizens to monitor and report on social issues which affect their daily lives."	Sizwe Proposal (Participant A, personal communication, 2012)

4.3.3 Dimension 3: Holding Government Accountable

Five stakeholders mentioned that holding government accountable is a dimension of success for Project Lungisa. This includes stakeholders who listed collecting data about service delivery reports, as stakeholders saw the data as a tool for holding government accountable. They felt that groups like the SJC (Social Justice Coalition, an activist organisation) could use the data for evidence-based campaigning (Treisman, 2014).

Participant C, the current project leader, said in his interview, "If Lungisa is able to hold government accountable, that is the most important thing." Participant H added that "The information we would get from [Lungisa] . . . is information that people need [to hold government accountable]."

Triangulatory evidence for this success dimension, from documentation in the case study database, is shown in Table 5.

Table 5: Triangulatory evidence for Dimension 3

Codes	Evidence	Source
Collecting data regarding service delivery reports.	"The resulting information we receive will map problem area "hot spots", both geographically and in different areas of service delivery, and serve as an early warning system for you and your administration."	E-mail communication (Participant A, personal communication, 2012)
Putting pressure on government	"An ambitious new venture has set out to . . . put pressure on service providers to deliver."	(Pickard, 2013)
Holding government accountable	"All these interventions have a part to play in bringing citizens and governments closer together, giving once marginalized citizens a voice and in ensuring that citizens are able to hold governments and corporations to account."	(Treisman, 2013c)

4.3.4 Dimension 4: Achieving Extensive Awareness and Use of the System

Three stakeholders stated that achieving extensive awareness of Project Lungisa was important, while one stakeholder felt that receiving large numbers of reports was an important success dimension. These two codes were grouped into one theme – achieving extensive awareness and use of the system. Evidence from their interviews is shown in Table 4. It should be noted that one stakeholder disagreed with this success dimension.

Participant K from Indigo Trust felt that ideally there should be "hundreds of thousands of reports coming into the platform," while Participant G thought that Lungisa should become the go-to reporting system for all citizens throughout South Africa, and that it should be a "household name". Participants D and E both mentioned that major goals for them were to achieve extensive awareness of the project and what it does.

Participant A, however, disagreed with this success dimension. He felt that engaging citizens who, prior to using Lungisa, had not been reporting to the City was far more important than sheer numbers (Participant A, personal communication, 18 January

2015). He also pointed out that the project's budget was too small to reach larger numbers of people.

There was, however, evidence from documentation to support this success dimension, as shown in Table 6.

Table 6: Triangulatory evidence for Dimension 4

Code	Evidence	Source
Receiving large numbers of reports	Listed under 'Objectively verifiable indicators of achievement': "Number of genuine reports received."	Proposal for Freedom House (Participant C, personal communication, 2013)
Achieving extensive awareness	Listed under 'Expected Outcomes': "Sizwe widely used as a platform . . . for getting service delivery issues fixed".	Sizwe Proposal (Participant A, personal communication, 2012)

4.3.5 Dimension 5: Demonstrating Proof of Concept

Two out of 11 stakeholders felt that a dimension of success of Project Lungisa was to successfully demonstrate proof of concept, as shown in Table 4.

The project initiator, Participant A, stated, "I guess I phrased it as, 'let's see if this can work', and then . . . maybe we'd be more successful to get it going on the basis of a concept having been shown." He also spoke about opening up a new space in South Africa. At the time of launch there were few, if any, such systems operating in Africa and he felt that by introducing the Lungisa system, people could begin to think in a new way and see e-participation as a possibility in South Africa going forward.

4.4 Category 2: Assessment of the Success of Project Lungisa

The second research question asks whether or not Project Lungisa has been a success according to the dimensions stated in Section 4.3. Three themes were identified from the interview data that pertain to this theme category. They are shown in Table 7, and are discussed below.

Table 7: The degree to which Project Lungisa is a success

Theme	Codes	Evidence	Interviewee
Service delivery has been improved and service delivery reports have been resolved **n=6**	Service delivery reports successfully resolved	"Towards the end of November, Participant C, the statistics he was reporting, said that somewhere between 60% and 70% percent of the reported [issues] got resolved. And that's actually, that's wonderful."	Participant K
		"So for me I thought we were really successful in doing all of those things – getting something off the ground, opening up a space, and then actually having reports responded to."	Participant A
	Positive effect on service delivery	"There's no doubt it's had a positive effect on [service delivery in Khayelitsha]."	Participant D
		"I think it is making some impact [on service delivery], I guess, based on . . . anecdotal evidence."	Participant J
	Service delivery improved	"[Lungisa is meeting its goal of improving service delivery] reasonably well, but in a fairly small way."	Participant B
		"There have been minor improvements in some of the services, in sanitation facilities, partly because of janitorial services and maybe partly because of Lungisa."	Participant H
Extensive use of the system has not been achieved **n=6**	Not enough users	"I think where they do need to be working now is expanding and scaling so that lots of people are using it."	Participant K
		"I think they could be doing better . . . I don't know from Khayelitsha, I don't know many people who have said they use Lungisa . . . So I think they could do more."	Participant H
	Only focused on one suburb	"I mean, they can't be [meeting their goals], they're only in Khayelitsha at the moment."	Participant G
	Not enough reports	"I think I would like to see it more – the visibility of the project. And also, I would like to see it being used more frequently, because there are lots of service delivery problems in Khayelitsha."	Participant J
		"We are talking Project Lungisa sending 60	Participant L

		to 80 [emails] per month, so I don't want to be rude, but it is, it is less than a drop in the ocean."	
		"Lungisa is making a good impact because . . . once people report, the issues get resolved . . . My concern is more issues should come . . . If they don't come, then why am I here?"	Participant E
Proof of concept has been demonstrated successfully **n=1**	Demonstrated proof of concept successfully	"For me the success was, can we get this going, can we have proof of concept demonstrated. I think on all those matrices we were pretty successful."	Participant A
	Introducing the concept	"So Jonathan Timm and I were in touch . . . He drafted – and cabinet approved – a citizen-based monitoring framework . . . I did influence it, because he told me as much. I think that was also a really important contribution that we made to this National Policy Framework."	Participant A

4.4.1 Service delivery Has Been Improved and Reports Have Been Resolved

Six stakeholders indicated that they thought Lungisa was successful in resolving service delivery reports and improving service delivery in Khayelitsha, as shown in Table 7. None of the stakeholders contested this view, although some pointed out that ideally the improvement should be on a larger scale.

The current project leader, Participant C, said, "[Lungisa's influence on service delivery] is positive . . . People call into the radio and thank Lungisa . . . and a few of them have sent me SMSs: 'thank you, the issue was resolved'." However, Participant H and Participant B felt that the improvements were "small" and "minor", and needed to happen on a larger scale in future.

Participant F pointed out that the resolution of service delivery failures by Lungisa does not necessarily mean an overall increase in the resolution of service delivery failures in the area, as it is possible that the City would have fixed these failures regardless. She points to the need for baseline data to reliably establish that Lungisa has improved service delivery.

4.4.2 Extensive Use of the System Has Not Been Achieved

Six out of 11 stakeholders mentioned that they don't think Lungisa has achieved the extensive awareness and system use that would make it truly successful (see Table 7).

Participants K and H felt that not enough people were using Lungisa. Participants G and L thought that they were not reaching a wide enough user base by only focusing on Khayelitsha. They felt that Lungisa needed to make an effort to receive more reports from more areas to be a success.

Participants J, L and E said that not enough reports were being logged through Lungisa. Participant L was the most critical on this point. She said, "We are talking Project Lungisa sending 60 to 80 [emails] per month, so I don't want to be rude, but it is, it is less than a drop in the ocean." She felt that, compared to the many calls they handle at the City of Cape Town's call centre, Lungisa's contribution was almost negligible.

4.4.3 Proof of Concept Has Been Successfully Demonstrated

The project initiator of Project Lungisa, Participant A, thought that the project had indeed been successful in demonstrating proof of concept. He mentioned that the project had caught the attention of the head of the citizen-based monitoring unit – Jonathan Timm – in the office of the presidency, and he was able to consult Participant A while writing his framework for citizen-based monitoring.

Participant A also felt it was important to stress that this pilot project, or proof of concept, had been conducted on a shoe-string budget. He explained, "A similar project in Kenya I was told had a budget of $1 million and 13 staff. We had $53,000 and we received more reports than Kenya as far as I could tell" (Participant A, personal communication, 19 January 2015).

Table 8: Factors contributing to the success of Project Lungisa

Theme	Codes	Evidence	Interviewee
Support of the City of Cape Town n=8	Good relationship with the City of Cape Town	"A really important factor, and something that Lungisa is doing well and some of the other projects I know haven't, is to build a relationship with government so that they are part of the solution to the responses."	Participant K
		"I think we need to have . . . a relationship with the City [of Cape Town], a meaningful engagement."	Participant C
		"The relationships that [Lungisa has] set up, the kind of channels between themselves and the city have been very good and valuable."	Participant G
		"We are working quite well with another lady in the city of Cape Town who is also in management. [She has been] very helpful. And she knows about us and what we are doing . . . When she gets our emails, she just responds."	Participant E
	Support of the mayor	"[A key success factor was] the political support from Patricia de Lille, which sort of let us into the city. And having the officials not treat us as hostile."	Participant B
	Support of government	"I think it's important whether government thinks [this kind of project is] important, so that they can actually support it."	Participant J
		"I mean of course you need buy-in from government."	Participant H
		"We really need the government involved in this . . . if the government wasn't listening, Lungisa wouldn't work."	Participant F
Independence from government and political parties n=6	Independence from political parties	**"I**t can be great if you partner and work with the DA and ANC at the same time . . . so that when they are voting in the council there are no objections that this is an issue that needs to be supported."	Participant C
		"I think that was a really important thing, having positioned ourselves as [politically] neutral, both with the government – the City of Cape Town in this case – and also with the people of Khayelitsha where we were working."	Participant A
	Independence from the City of Cape Town	"I think it's quite useful that we're not the local authority . . . We are to a degree seen as an NGO working with [government], rather than just being perceived as part of the	Participant B

		monolithic block."	
	Independence from government	"I think it's better that [Lungisa is] not funded by government."	Participant G
		"You don't want a project like this to get adopted by government. Because the whole idea is, you're actually trying to be a watchdog of government . . . so it's good for it to be independent."	Participant J
		"That for me has always been a problem that Lungisa has to be careful of. It doesn't want to . . . be seen as part of government."	Participant F
The use of mobile phone technology **n=8**	Basic mobile phone technology is more affordable than other platforms	"It should also be at very little, or no cost, to the person reporting, because in most cases the people who need to report service problems are not in a position where they have boundless amounts of cash."	Participant D
		"People don't report because it is expensive, so that's why they don't bother about the pothole . . . Then, Lungisa comes to say 'report to us just by SMS'."	Participant E
		"[What is happening currently] with the City of Cape Town, there is the technical operation centre which people have to call, but it costs money. That is one of the disadvantages."	Participant H
	Pervasiveness of mobile phones	"Everyone has got a cellphone, and because Lungisa was designed to be used on various platforms on cellphones . . . I think that's a critical success factor because of the high penetration rate of mobile."	Participant J
		"Some people are not computer [literate] . . . But when they use cellphones, like SMSs, they are comfortable with it, and most of our reports come from SMSs."	Participant C
		"You know, if this project was like most, maybe in America where everybody has got a laptop in his house with wireless connections, it could be something different. But now we are in Khayelitsha – ten houses, no computer inside. Forty houses, no computer inside. So for me, cellphones are best, and they are using them."	Participant E
	Multiple mobile phone channels for reporting	"It's great that we had all these channels to report."	Participant A

	Using basic mobile phone technology is important	"I think it's very important, the more basic you can make the platform the better. So I think it's really good if you use basic feature phones, voice messages, SMS – things like this."	Participant K
Effective and sustained project leadership **n=7**	Effective leadership	"I think [effective leadership] is incredibly important [in the success of the project]. I think people sometimes really underestimate *how* important… And actually when we look at our projects broadly, often it can kind of be one passionate leader behind a project that is actually driving it."	Participant K
		"[Effective project leadership is] vital. It's absolutely vital. I think that it's one of the reasons this project has been successful."	Participant D
		"[One of the key success factors was] Participant C and Participant A being good in their roles."	Participant B
		"Definitely." (When asked whether effective project leadership is an important factor in the success of the project.)	Participant J
		"I think that [having effective project leaders] is always important [for project success]."	Participant H
		"Leadership is important."	Participant G
		"It is." (When asked whether leadership is an important factor for project success.) "As natural leaders they've done very well."	Participant F
Stakeholder management **n=8**	Management of stakeholders	"You will need *some* sort of technology available… but I think ultimately it's the programmatic stuff – the management of the stakeholders and what happens once the reports come in – that I think will determine the success of the project more."	Participant K
		"Definitely." (When asked whether managing all the different stakeholders is important for the success of Project Lungisa.)	Participant G
		"I think [managing the stakeholders is] a very important factor [in the success of Project Lungisa]." "You don't want to seem like you're a watchdog of government, because they will kick you out. And you don't want to seem like you are undermining some of the community projects that are happening because they won't, you know, accept you. So	Participant J

		I think it it's important to always have everyone's interests in mind and find a good compromise in position."	
		"Ja, mainly the success [of the project] depends on that." (When asked whether stakeholder management is important.)	Participant C
		"For any project, that is crucial . . . once [the stakeholders] are not well managed, it becomes a problem."	Participant E
		"Yes." (When asked whether the management of all the different project stakeholders was an important part in making Project Lungisa work.)	Participant A
		"Oh ja. Participant C . . . knows a lot of people in different groups and organisations in Khayelitsha, and the media and community groups, and the political groups and whatever. And he's got a good relationship with the authorities, with the city council people". (When asked whether the effective management of all the project stakeholders is a success factor for Project Lungisa.)	Participant B
		"Yes it is." (When asked whether effectively managing stakeholders is important for project success.)	Participant F
Having adequate ICT infrastructure n=8	ICT infrastructure	"It definitely does." (When asked whether the quality of ICT infrastructure influences the success of the project.)	Participant G
		"I think it is a huge factor." (When asked whether ICT infrastructure is an important factor in the project's success.)	Participant J
	Adequate cellular network coverage	"The fact that Khayelitsha isn't particularly remote, and there is reasonable cellphone coverage [is a factor in the success of Project Lungisa]."	Participant B
		"Broadband and so on is very important, even 3G, because if the cellphone sends a message and it doesn't go through, they will assume that Lungisa has gotten it. And a non-response from Lungisa is poor service."	Participant J
		"Most of the reports that we are receiving . . . come from cellphones. I think [the success] depends on networks."	Participant C
		"Absolutely, but the network coverage is fine." (When asked whether the quality and	Participant E

		coverage of ICT infrastructure has been important for the success of the project.)	
		"You need proper coverage [for the project to succeed]."	Participant L
		"Yes it's a factor . . . But perfect and constant network coverage and perfect and constant electricity supply is not a contributing factor to the success of the project."	Participant D
		"I would say yes." (When asked whether ICT infrastructure has been a factor influencing the project's success.) "[Network coverage] too, because people are only going to try a certain number of times."	Participant F

4.5 Category 3: Factors Contributing to the Success of Project Lungisa

During thematic analysis, six themes were identified in the data that fit this theme category, namely factors contributing to the success of Project Lungisa. These are shown in Table 8. This theme category corresponds to the third research question.

4.5.1 Factor 1: Support of the City of Cape Town

Table 8 shows that four stakeholders felt that Lungisa's positive relationship with the City of Cape Town contributed to its success. One stakeholder felt that the support of the mayor had contributed, while three more said that having the support of the government was vital to success. All three of these codes were grouped together under the theme of support of the City of Cape Town – the local government institution.

Participant E, an employee of Project Lungisa, explained that having someone at the City of Cape Town who responded to his e-mails and to whom he could report was vital to the project's success. Participant B, one of the project initiators, explained that having the approval and support of the mayor of Cape Town also contributed to the project's success, as it put Project Lungisa in good standing with officials at the City of Cape Town.

On the contrary, Participant D, the operations manager at Cell Life, did not think that government support was a major factor in project success. He felt that, as long as politicians and government were *aware* of the project, the project could succeed.

Table 9: Triangulatory evidence for Factor 1

Codes	Evidence	Source
Good relationship with the City of Cape Town	"Public response to Lungisa has been good . . . This is a direct result of the team's strong relationship with the City, and the City's commitment to resolving service delivery problems, Cell Life says."	(Jenkin, 2013)
Support of government	"It is clear from this research that the software/technology side of the equation is only 10% of the work, and that getting the right partnerships lined up on the response side is crucial."	Sizwe Proposal (Participant A, personal communication, 2012)

4.5.2 Factor 2: Independence from Government and Political Parties

This theme – independence from government and political parties – was mentioned by six of 11 stakeholders, as shown in Table 8. Although the support of the mayor and the City of Cape Town was considered to be an influencing factor, stakeholders explained that it was nevertheless important to be seen as independent of government and political parties.

Participant A felt that the apolitical nature of Project Lungisa enabled it to work well with both citizens and government. Participant C and Participant B mentioned that they were weary of being associated with government and political parties. Participant C explained, "Once I was confused with government. That is where political interference comes in . . . So, that is why I am saying we need to maintain our independence. That this project is non-political."

Stakeholders gave various reasons for this factor. Participant J, a Cell Life staff member, pointed out that if the project aligned itself with the party in power, they might not be supported by future opposition parties that come into power. Participant C, the current project leader, felt that to have the support of the City Council, it was important to remain politically neutral. A number of stakeholders also made inferences that citizens are more likely to trust an independent organisation, whereas many citizens may not currently have much trust in government.

4.5.3 Factor 3: The use of Mobile Phone Technology

The third theme identified in the data is the use of accessible and affordable mobile phone technology, as shown in Table 8. Three stakeholders highlighted the importance of Lungisa being more affordable than other platforms. Another four pointed out that the pervasiveness of mobile technology contributed to Lungisa's success. One stakeholder felt that having multiples mobile channels for reporting was important, as it increased accessibility. In sum, these stakeholders felt that the use of basic mobile phone technology (i.e., SMS, USSD and Mxit) was important in getting Project Lungisa to succeed, because it made the service accessible and affordable to citizens.

However, Participant L disagreed on this point, saying that using mobile phones was not necessarily an advantage, because many free call lines – phones that can be used to call the City of Cape Town free of charge – were available in poor areas in the City (Majiet, 2012). She felt that these free call lines gave people sufficient access to the City.

Participant J and Participant A expressed concern that even the cost of an SMS or USSD might still be unaffordable for some citizens, and felt that this might hamper the project's success. However, Participant A subsequently countered this concern, saying that if citizens felt strongly enough about an issue, the cost wouldn't put them off.

Evidence from documentation, shown in Table 10, triangulates this finding.

Table 10: Triangulatory evidence for Factor 3

Codes	Evidence	Source
Basic mobile phone technology is more affordable than other platforms	"Lungisa has been very useful and effective . . . it cost them less to report an issue to Lungisa than if they reported an issue directly to the City by themselves, which can cost them more and is time consuming."	(Salter, Nyumbeka, & Magangane, 2013)
Pervasiveness of mobile phones	"Lungisa aims to make it simple and easy for everyone, especially the marginalized and poor, to monitor and send reports . . . Report generation will be done through cellphone-based technologies which are affordable and widely used."	Proposal for Freedom House (Participant C, personal communication, 2013)

4.5.4 Factor 4: Effective and Sustained Project Leadership

The fourth theme identified during thematic analysis was that effective and sustained project leadership positively influenced the success of project Lungisa. Evidence for this is shown in Table 8. Seven stakeholders felt that effective project leadership was vital to the success of the project, while one also pointed out that two leaders leaving the project had been detrimental to the project.

Participant B and D, who worked closely with the project leaders, both felt that the project leadership had been a key success factor. Participant D said in his interview, "I

think that [Participant C's leadership] is one of the reasons this project has been successful."

Participant J also thought that project leadership influenced the project's success. However, she felt the fact that two key figures had left the project over the course of its two-year lifespan might have hampered project success, despite the leaders' effectiveness. One of the project initiators resigned from Cell Life at the end of 2012, shortly after Lungisa launched, and thus was no longer involved. The remaining project initiator left South Africa around March 2013 and ceased operating as a project leader.

The researcher also noted in her field notes that this transition was difficult at times. She recorded the following: "Around March 2013, Participant A left the project to go abroad. Participant B had already left Cell Life, and so Participant C and Participant E were now on their own. They were told that, although Cell Life employed them, they were effectively to run Lungisa as an independent organization. Several problems occurred in the months to follow." (Field notes, 25 July 2014).

Four stakeholders mentioned that the combination of Participant A and Participant C's leadership was important to the project's success. Participant K explained, "I think *ideally* you almost need two types of leadership. You need kind of community mobilising leadership – people that represent the community. And then you also need leadership in terms of the kind of strategic side of things, people who can think about where the project will expand and scale and where the funding will come from, that kind of thing."

4.5.5 Factor 5: Stakeholder Management

Another theme that was identified during thematic analysis was that effective stakeholder management positively influenced the success of Project Lungisa. Eight out of 11 interviewees agreed that effective stakeholder management was a factor contributing to the project's success, as shown in Table 8. These people felt that Lungisa's success, in part, could be attributed to the project leaders' efforts to take into account the various stakeholder groups' interests.

Participant J pointed out that it is important for project leaders to engage with the City management, as well as various community groups, and take into account how Project Lungisa might affect them. She explained, "You don't want to seem like you're a watchdog of government, because they will kick you out. And you don't want to seem like you are undermining some of the community projects that are happening because they won't, you know, accept you. So I think it's important to always have everyone's interests in mind and find a good compromise in position."

One interviewee – Participant D – disagreed, saying that the focus should be on the citizens and the government stakeholders, and that other stakeholders were not important to project success.

Triangulating evidence indicating that stakeholder management influenced project success is shown in Table 11.

Table 11: Triangulating evidence for Factor 5

Codes	Evidence	Source
Management of stakeholders	Listed under 'Objectively verifiable indicators of achievement': "Number of key stakeholders satisfied with the Lungisa model."	Proposal for Freedom House (Participant C, personal communication, 2013)
	"There are many important and tricky relationships that Participant C is maintaining with various stakeholders. Maintaining a positive relationship with funders, and keeping them happy, is very important and time consuming."	(Field notes, 25 July 2014)

4.5.6 Factor 6: ICT Infrastructure

The last theme in this category was adequate ICT infrastructure in Khayelitsha. Evidence for this theme from stakeholder interviews is shown in Table 8. ICT infrastructure was named by eight of 11 stakeholders as a factor that positively influenced Project Lungisa's success.

Participant B stated in his interview, "The fact that Khayelitsha isn't particularly remote, and there is reasonable cellphone coverage [is a factor in the success of Project

Lungisa].” Participant J felt that it was important to have good cellular network coverage, as messages that were not delivered to the Lungisa platform could be perceived as being ignored, from the user’s perspective. This could affect the user’s likelihood of using the system in future. Participant F echoed this.

Interestingly, Participant D felt that the project could have succeeded even in an area with less adequate infrastructure. He explained as follows: “You see, people will find a way. And if they don’t happen to have cellphone coverage in their area, they’ll walk to the top of the hill to get coverage to do the report. If there’s a . . . trust that if I put in a report it’s going to get attended to . . . the user will take the necessary trouble.” He did however concede that having adequate infrastructure in place does play a role in the success of the project.

Table 12: Factors constraining the project's success

Theme	Codes	Evidence	Interviewee
Citizens' lack of trust in government **n=7**	Fear of non-response from the government	"The challenge can be that if people don't believe the government is going to act, often you'll find the citizens won't bother reporting, because they'll think, 'well, I can't be an agent of change'."	Participant K
		"If people do report using some of these through the Lungisa system, it doesn't guarantee that the City is coming to come and fix . . . Those people will not use that system again, because nothing changed."	Participant H
		"But let's say I'm spending R2, and there's a 90% chance that nothing is actually going to happen . . . You've got to know that if you spend that money, you're going to get what you paid for."	Participant G
	Lack of trust in government	"I don't think the government… I don't think they are trusted and I think part of it is a DA thing, part of it is a historical thing, partly it's a South African apartheid-legacy thing."	Participant A
	Trust is important	"I think that [trust] is an absolutely critical a factor because if you think that you are going to report something, no one is going listen to you, you're not going to bother."	Participant L
		"You need to actually create a system that people can trust . . . Trust in that, when I send a query, or report a problem, that someone's going to do something about it."	Participant J
		"I would say the trustworthiness of government is implicit, I mean, for the project to work . . . if government doesn't do things, people don't trust them, so they don't see any point in using Lungisa."	Participant F
Limited marketing and advertising **n=7**	Marketing is important	"I think the biggest component, really, is the effective marketing of the . . . system, so that people know how to report [and] where to report."	Participant D
		"The first important part is the marketing of the system, getting people to know what the system is about and what the system can achieve."	Participant H

	Limited marketing and advertising	"I think Lungisa is doing fantastically well, but to get it to a scale where hundreds of thousands of citizens are listening, I think marketing is very important."	Participant K
		"Even when Lungisa was around, we still had the toilet demonstrations happening. That kind of felt like not everyone is aware of it. It needs to be publicised on a bigger scale, or a different way of publicising it. And branding maybe, to get it more visible."	Participant J
		"Not a lot of people know about it. There needs to be a massive awareness campaign."	Participant G
		"For me the main thing is to get the word across to people that there is a better platform they can use to have their issues resolved at less cost. So now that is the main thing, how we achieve that."	Participant E
		"The project would have gone a lot further and faster if it had more coherent media [coverage]. That is, I'd say the main thing that limits the project is awareness."	Participant B
Lack of community integration n=9	Integration with other community projects and campaigns is important	"If for example there's a community and they're already mobilising around water and sanitation or around education or something, I think that it could be really powerful if this platform is used as part of that."	Participant K
		"I think for any project to be successful, which is community based, it needs to also speak to the community and those around it, and other projects that are happening in the community, so that it kind of becomes integrated in the community."	Participant J
	Limited relationships with community groups	"I was pushing [Participant C] to work through more of the community structures in Khayelitsha . . . I was pushing him to spend more time actually with the churches and some of the wider community groups . . . to get the word out."	Participant B
		"I think [building relationships with community structures is] our main challenge in the mean time because we need to be on the ground . . . it is mainly dependent on [those NGOs], not only on our advertising."	Participant C

	Strained relationship with Organisation X	"[Organisation X] had some idea of launching a similar project years before, but hadn't done anything about it . . . it was very explicit that they wanted this project to be run by them."	Participant A
		"At one point, when we were trying to work out an MoU (memorandum of understanding), [Organisation X] were basically saying 'this is our project', and so there was definitely some sort of contestation going on."	Participant B
		"The second challenge is the relationships with people like Organisation X."	Participant F
	Geographic non-proximity to the community	"The problem . . . is that they are working in a community, but they're not working in that community . . . Their office is here in town. What history do any of the people who are leading that project, what history do they have in Khayelitsha? How many of them have had to walk 500m at night to go to a porter potty? Do they actually understand the project that they are trying to lead?"	Participant G
		"You cannot work with the community if you are sitting in the office . . . Any project for me that wants to solve issues – community issues – you must spend more than 70% of your time there."	Participant E
		"If they are in Gardens, and they are taking calls for Khayelitsha . . . it doesn't actually make sense, you know . . . They just can't grow if they aren't out there."	Participant L

4.6 Category 4: Factors Limiting the Project's Success

Three factors related to this theme category were identified during data analysis, as shown below. The category is related to the fourth research question, namely "What are the factors limiting or constraining the success of Project Lungisa?"

4.6.1 Factor 7: Citizens' Lack of Trust in Government

Five stakeholders mentioned that citizens' fear of non-response was negatively influencing project success, while another two stakeholders stated overtly that they thought trust in government was important for project success, as shown in Table 12.

Some stakeholders expressed concern that citizens are reluctant to use systems such as Lungisa, because they don't believe and trust that government will respond to their reports. Participant A explained, "There's a genuine fear that if they're going to spend money which they don't have to send an SMS . . . there's a genuine concern that . . . nothing would happen on the other side."

Although the City of Cape Town has been cooperative and has worked with Lungisa, Participant C was nervous that in future the City may not be as willing and able respond to reports, in which case citizens will lose their trust in the government and stop reporting their concerns through Lungisa. He stated: "If the issues are not being resolved, it will become a problem for the project itself . . . Once a person, for instance, reports three times and the issue is not resolved, I don't think the fourth time he will be able to report it."

Notably, Participant D felt that trust was not a requirement for project success, but that it could be the result of a successful project and that Project Lungisa could actually contribute towards increased levels of trust in government. Participant J said that because Lungisa was independent from government, levels of trust would not affect it.

Triangulating evidence for Factor 7 from the documentation is shown in Table 13.

Table 13: Triangulating evidence for Factor 7

Codes	Evidence	Source
Fear of non-response from the government	"Lungisa is opening up a new space in South Africa, and it will take time to develop a culture in township communities where people are motivated to report a problem and believe they will get a robust response."	Proposal for Freedom House (Participant C, personal communication, 2013)
Trust is important	"Protecting privacy is very important – if we don't have trust of users, this won't work I don't think."	E-mail (Participant A, personal communication, 24 October 2012)

4.6.2 Factor 8: Limited Marketing and Advertising

Five stakeholders mentioned that the limited marketing of Project Lungisa restricted project success, while three stakeholders overtly said that marketing influences project success. Evidence for this is shown in Table 12.

The project has made good use of social media, simple PR campaigns, radio interviews and other low-budget forms of marketing and advertising. However, some stakeholders thought that more traditional marketing – like leaflets, newspaper adverts, billboards and radio adverts – was necessary to create broader awareness of the project and increase its user base.

In the initial phase of the project only 50 posters were printed and put up around Khayelitsha (Choritz, Benjamin, & Nyumbeka, 2013). During the next phase 3000 leaflets were printed along with another 1000 posters, and these were distributed around clinics, train stations, taxi ranks, libraries, bus stations and in community halls and shopping malls in Khayelitsha (Salter et al., 2013).

Participant B said in his interview that he felt the main limiting factor of Lungisa was awareness of the project and the lack of a coherent media strategy. Participant G echoed this by saying, "Not a lot of people know about it. There needs to be a massive awareness campaign." Participant D, operations manager at Cell Life, highlighted that he thinks marketing is the most important factor influencing project success.

4.6.3 Factor 9: Lack of Community Integration

Three stakeholders felt that Lungisa's limited relationships with community groups was negatively influencing project success, whilst three stakeholders said the project's strained relationships with Organisation X – a prominent civil society organisation in Khayeltisha – was likewise limiting its success. Another three stakeholders that the staff's geographic non-proximity to Khayelitsha was a problem, whilst two stakeholders stressed that they felt integration with community projects was important. All these codes were grouped into one theme – lack of community integration.

Participant K said that Project Lungisa should attempt to collaborate with other organisations in the community. She felt that this would increase the user base, and also allow the data collected by Lungisa to be used by activist organisations in Khayelitsha. Participant J of Cell Life echoed this, as she also thought the project would be more successful if it was connected to other projects in the community. Participant B also pointed out that collaborating with other organizations in the community could increase Lungisa's user base. However, he explained that there had been tension between Project Lungisa and Organisation X, and that Organisation X had been reluctant to collaborate with the project.

Participant A explained that Cell Life had taken steps to build a relationship with Organisation X, such as hiring the current project leader specifically because he was, at the time, the General Secretary of Organisation X. However, members of Organisation X had expressed concerns about Project Lungisa and, according to Participant A, had not been willing to collaborate unless they were actually given the role of running the project. Participants A and B felt this had negatively affected the success of Project Lungisa.

Participant G of Organisation Y, a sister organisation of Organisation X, felt that it may be difficult for Cell Life's management to understand the community of Khayelitsha as they do not have a history with the community. Participants E and L echoed this view, and said that the staff needed to spend more time in Khayelitsha to better integrate with the community and build relationships with key organisations and citizens in the community.

It must be noted that the decision regarding Organisation X's collaboration with Cell Life was not made by Participants G or H, but by more senior members of both Organisation X and Organisation Y. The researcher contacted the individual whom Participant A had named as a key decision-maker, but he was unfortunately unwilling to be interviewed or to comment on the matter.

Table 14 shows triangulating evidence from documentation supporting the fact that a lack of community integration negatively influenced project success.

Table 14: Triangulating evidence for Factor 9

Codes	Evidence	Source
Relationships with community groups is a challenge	"Challenges remain including . . . challenges involved in working with the NGO community, which can be highly politicised and fragmented at times."	(Treisman, 2013b)
Strained relationship with Organisation X	"Organisation X, however, backed out at the last minute pending the finalisation of and MoU between Cell Life and Organisation X about Lungisa. Unfortunately, we never heard back from Organisation X for some months in response to our first draft proposed MoU."	(Choritz et al., 2013)

5 DISCUSSION

This chapter presents a discussion of the research findings, particularly with respect to the propositions and conceptual model in Chapter 2. The findings are compared to those published by other studies in the field. Limitations of the study are also covered.

5.1 Dimensions of Success for Project Lungisa

To better understand the factors influencing Project Lungisa's success, the study first asked: "What are the dimensions of success for Project Lungisa?" Here, success is defined as a situation where all stakeholders are accomplishing their major goals. In the data analysis, the following five dimensions of success were identified (see Section 4.3): Dimension 1 – Improving service delivery by resolving service delivery reports; Dimension 2 – Empowering citizens; Dimension 3 – Holding government accountable; Dimension 4 – Achieving extensive awareness and use of the system; and Dimension 5 – Demonstrating proof of concept.

These results are not surprising. Rowe and Frewer (2000), in their well-known paper on public participation evaluation, list *influence* as a criterion for e-participation success and define it as the output of a public participation procedure having a genuine impact on policy. Dimension 1 – improving service delivery – also reflects stakeholders' desire for Project Lungisa to have a genuine impact, echoing Rowe and Frewer's influence criterion.

Macintosh and Whyte (2008) list *community control* as an e-participation evaluation criterion, which is defined as citizens collectively controlling those who take decisions on their behalf (i.e., government). This is similar to Dimension 2 – empowering citizens – because citizens are empowered by being given control in political processes.

Macintosh and Whyte (2008) also list the criterion of *transparency*, defined as making government decision-making more transparent. Transparency is closely related to

Dimension 3 – holding government accountable – as transparency is generally seen as a mechanism to improve government accountability.

Sæbø et al. (2009) define *quantity measurements* – counting the number of contributions – as an evaluation criterion for e-participation projects. This reflects Dimension 4 – achieving extensive awareness and use of the system. Aichholzer and Westholm (2009) also include *engaging with a wider audience* as an evaluation criterion, which involves inclusiveness and promotion measures. This indicates that their evaluation framework likewise values extensive awareness as a dimension of success.

The only success dimension not found in the existing literature is Dimension 5 – demonstrating proof of concept. This dimension may be specific to developing countries, as e-participation experience and resources are both limited in these countries, and organisations are often required to prove that something works before more funds and resources are allocated. Thus, proving a concept becomes a major project goal.

Some stakeholders emphasised the democratic, participatory dimensions of success, whilst others merely saw success as improved service delivery from government. It is not clear which type of stakeholders favoured which, but there could be value in doing further research into different types of e-participation stakeholders and their respective vested interests in e-participation in the South African context.

The success dimensions found in this study and the dimensions mentioned by Macintosh and Whyte (2008), Aichholzer and Westholm (2009) and Sæbø et al. (2009) only overlap somewhat. This suggests that there is more work to be done in determining exactly what the dimensions of success of e-participation projects in developing countries are. However, this is not the primary focus of this study, and will not be further examined here.

5.2 Assessment of the Success of Project Lungisa

Stakeholders did not comment on whether Dimension 2 (empowering citizens) and Dimension 3 (holding government accountable) had been achieved, possibly because of

the difficulty in measuring such outcomes. Stakeholders felt that Dimension 1 (improvement of service delivery) had been achieved, albeit in a relatively small way, but many also highlighted the fact that extensive use of the system (Dimension 4) had not been accomplished. Lastly, the goal of successfully proving the concept (Dimension 5) was also also deemed to have been fulfilled. Since some of the success dimensions were met, this project can be considered a partial success.

On the whole, stakeholders felt that Lungisa was at least a partial success because it was meeting certain goals. It is perhaps important to note that that some of the success dimensions named in the preceding section are not easily measurable. It would be extremely complex (and costly) to measure, for example, the level that citizen empowerment increased by, or the level to which government is being held accountable.

This highlights an important issue around the measuring of success. Donors and funders often require that projects use logical frameworks (log frames) to set goals and measure success. Indeed, the documentation shows that at least one such log frame exists for Lungisa (Participant C, personal communication, 2013) but none of the stakeholders – not even the authors of the document – referred to this log frame when asked about project goals and success dimensions. One explanation for this could be that some goals and success dimensions, such as citizen empowerment, may be extremely important, but are also very difficult to measure. Thus they cannot be entered into the log frame, and consequently, the log frame may not accurately reflect the project's core goals.

Many have criticised the log frame for its narrow focus on quantitatively measurable outcomes (Dale, 2003; Earle, 2002; Gasper, 2000). However, it is still the predominant planning and reporting framework prescribed by donors and funders worldwide. Harley (2005), studying education development, argues that while the log frame has many benefits, it is flawed in the way it disregards unintended consequences and only measures what can be quantified. The case of Project Lungisa once again shows that the log frame needs to be altered to allow for goals and success dimensions that are not necessarily quantifiable, thus make itself more relevant to implementers of development projects.

5.3 Factors influencing the Success of Project Lungisa

This section discusses the findings regarding the factors influencing the success of Project Lungisa. The confirmation (or non-confirmation) of the propositions made in Section 2.4.1 is also discussed here.

5.3.1 Support of the City of Cape Town

The support of the City of Cape Town was found to be a factor that positively influenced the success of Project Lungisa. Stakeholders felt that having the support of the mayor and government officials at the City was very important for project success, and they felt that the relationship Lungisa had built with the City contributed to the success of the project.

This does not confirm any of the propositions of this study, but it may be related to one of them, namely, that political consensus on the importance of e-participation positively influences the success of service delivery e-participation projects in a developing country. As discussed in the literature review, Bhuiyan (2011) and Cloete (2012) find that political consensus was necessary for e-government success precisely because consensus would lead to government support.

A cause and effect relationship may exist between political consensus and government support for e-government and e-participation. This relationship was hinted at by Participant F when she said, “I think [political consensus] does [influence the success], because it’s why government is willing to work with the project or not.” Other interviewees observed and reported government support, but were perhaps oblivious to the *cause* of this support. Further research is needed into political will and consensus and how it affects e-participation. Here however, the original proposition can not be confirmed.

5.3.2 Independence from Government and Political Parties

The finding that independence from government and political parties positively influenced Project Lungisa’s success does not confirm any of the propositions of this

study. However, two other studies corroborate this finding. Rowe and Frewer (2000), studying public participation in the United Kingdom, find that a criterion for success was that participation processes should be conducted independently, and that managers and facilitators of such processes should not only be independent, but also be *perceived* as independent by the public.

Friedman (2006) argues convincingly that formal, government-initiated participation processes do not enhance participatory governance, and in particular that they are not conducive to the participation of the poor. He uses the example of the Treatment Action Campaign in South Africa, and shows that effective participation occurs when citizens invoke their constitutional right to make demands of the government, not necessarily through government forums.

5.3.3 Use of Mobile Phone Technology

The findings indicate that the use of basic mobile technology, in the form of SMS and USSD, contributed to the success of Project Lungisa because of its affordability and accessibility. This is related to the proposition that a direct relationship exists between the degree of inclusion achieved by a service delivery e-participation project in a developing country and the success of the project. Although the proposition is not confirmed, the use of mobile phone technology does appear to be important because its affordability and accessibility lead to increased levels of inclusion.

The Mobile Marketing Association of South Africa (MMA) reports that 32.2 million adults[2] owned mobile phones in South Africa in 2014, representing 87% of all adults (MMASA, 2014). The MMA further reports that 14.6 million mobile users (or 39% of all adults) only use voice, SMS or USSD, but no data. This appears to confirm that basic mobile technology is the best way make e-participation accessible to the general public.

Finally, the finding also corroborates results reported by Cupido and Van Belle (2012), who find that South Africans see mobile phones as an appropriate technology for interacting with government: 79% of survey respondents indicated that they would use

[2] An adult is here defined as someone 15 years of age or older.

their mobile phones to communicate with government, regardless of whether the service was free or paid.

5.3.4 Effective and Sustained Project Leadership

The results indicate that Proposition 4 is confirmed, and that sustained and effective project leadership positively influences service delivery e-participation project success in a developing country. This aligns with observations in the literature review that project leadership influences e-government and e-participation success in South Africa as well as in other developing countries (Cloete, 2012; Krishna & Walsham, 2005; Matavire et al., 2010).

An interesting additional finding is that there should ideally be two types of leaders involved – one person who is in touch with the local community, who understands the community and has relationships with key stakeholders in the community, and another person who is strong on the technical and strategic side and can focus on project planning and the technical setup. In the case of Project Lungisa, Participant C assumed the role of the former while Participant A assumed the latter role.

5.3.5 Stakeholder Management

The results also indicate that Proposition 5 is confirmed and that effective stakeholder management positively influences service delivery e-participation project success in a developing country. While one interviewee felt that stakeholder management was not important for project success, seven others felt that it was a key factor influencing the success of Project Lungisa.

This is in line with Dada (2006), Cecchini and Raina (2004) and Sæbø et al. (2011) who find that managing the interests of stakeholders is vital for e-government and e-participation success.

5.3.6 ICT Infrastructure

Proposition 1 is also confirmed – the quality and coverage of a country's ICT infrastructure influences the success of service delivery e-participation projects in a developing country. This is in agreement with the literature review, where it was established that e-government, and by extension e-participation, cannot succeed without adequate ICT infrastructure (Bhuiyan, 2011; Kushchu & Kuscu, 2003; Schware & Deane, 2003).

None of the people interviewed indicated that there had been problems with inadequate quality and coverage of cellular networks in Khayelitsha. In fact a number of people said that it had not been a problem. It is therefore difficult to say how Project Lungisa would have been affected if the quality and coverage of the networks had been worse.

5.3.7 Citizens' Trust in Government

Proposition 6 is also confirmed– there is a direct relationship between citizens' trust in government and the success of service delivery e-participation projects in a developing country. This is in line with the literature, which shows that levels of trust affect e-government and e-participation adoption, and thus success (Carter & Bélanger, 2005; Carter & Weerakkody, 2008; El-kiki & Lawrence, 2006).

The DPME in South Africa also links citizen trust to successful e-participation. The framework for strengthening citizen-government partnerships for monitoring, states that:
"Low levels of trust currently exist between organised civil society and government around service delivery monitoring. This results in a confrontational climate and lost opportunities to harness the capacity of civil society to partner constructively with government to improve service delivery." (DPME, 2013)

One of the stakeholders felt that trust was not necessarily a requirement for successful e-participation, but that it could in fact be a result of successful e-participation. This is echoed by findings from other studies. Holzer (2004) concludes that digital democracy builds public trust in government. Tolbert and Mossberger (2006) find that e-

government could increase trust by improving interactions with citizens, and their perceptions of the government's responsiveness. More research is needed to understand the exact relationship between trust and e-participation success in a developing country.

5.3.8 Marketing and Advertising

The results indicate that marketing and advertising notably influenced the success of Project Lungisa. Stakeholders felt that the project's limited marketing and advertising adversely affected the project's success.

Hellström and Karefelt (2012) similarly find that the main reason the general public did not use UgandaWatch, a mobile participation platform in Uganda, was that they were simply unaware of the platform. Essoungou (2010) reports that the well-known participation platform, Ushahidi, experienced similar challenges regarding awareness (as cited in Hellström and Karefelt, 2012).

Cecchini and Raina (2004), studying e-government in rural India, find that campaigns to raise awareness about e-government were vital for e-government to succeed. They recommend print campaigns, but also note that word-of mouth publicity – sparked by public demonstrations of e-government services – could be a powerful tool for spreading the word.

5.3.9 Community Integration

Community integration was also found to influence e-participation success. Stakeholders felt that a lack of integration with the community of Khayelitsha negatively influenced Project Lungisa's success.

A possible explanation for this may be that the residents of Khayelitsha have a strong sense of solidarity with activist organisations, such as Organisation X, and a strong sense of community. Thus, building rapport with the community and activist organisations may have helped to build trust and encourage use of the e-participation platform. However, since Organisation X was resistant to Project Lungisa and was not interested in working with the project, it was difficult to integrate with the community that way.

This is reminiscent of Mcmillan and Chavis's (1986) theory of the sense of community. Fiol and O'Connor (2014) build on various theories of community identity, including Mcmillan and Chavis's (1986), arguing that groups with a strong sense of community will be resistant to change introduced by outsiders. They contend that a co-evolutionary change model is needed in community development, where insiders (community members) and outsiders (non-members) work together to spark change.

Project Lungisa staff working together with "insider" groups and residents in Khayelitsha can be seen an example of Fiol and O'Connor's (2014) insider-outsider collaboration to invoke change. However, since the key insiders – Organisation X – were not willing to collaborate, project success was negatively affected.

5.4 Research Limitations

An obvious limitation of this study is that, because Project Lungisa is a pilot project, it is relatively small, and therefore the pool of interviewees was small. The researcher attempted to include all stakeholders with extensive knowledge of the project, ensuring that the information they supplied was credible. Other potential interviewees, such as people in funding organisations or partner organisations, did not have deep enough knowledge of the project to comment reliably on its success or failure.

A key stakeholder from Organisation X, who had initially liaised with Participant A regarding a possible collaboration, was unfortunately not willing to be interviewed or to comment on the findings. Consequently there is no confirmation from Organisation X as to why they were reluctant to partner with the project, and only Participant A and B's perspectives are presented in this research. However, while they were not the main decision-makers, Participants G and H provided some insight into the role that Organisation X and Organisation Y played in the project, as they are members and employees of these organisations.

Because of language barriers, the researcher was also not able to interview the users of Project Lungisa. However, Participants E, C, G, and H understand the context of

Khayelitsha as well as its citizens, and they provided insight into the users' circumstances. Participants E, C and H are all residents of Khayelitsha, and Participant G works with Organization Y that is based in the community.

Due to time constraints it was not possible to conduct a multi-case study. Multiple cases could have refined the model further and made it more reliable. It is hoped that future studies can continue to test the model presented here, thus making it more robust.

6 CONCLUSION

This study investigates factors influencing the success of service delivery e-participation projects in a developing country by studying the case of Project Lungisa. By collecting and analysing qualitative data from interviews, documents and field notes, nine factors were identified that influence the success of Project Lungisa: Factor 1 – support of local government; Factor 2 – independence from government and political parties; Factor 3 – ICT infrastructure; Factor 4 – use of mobile phone technology; Factor 5 – project leadership; Factor 6 – stakeholder management; Factor 7 – marketing and advertising; Factor 8 – integration with the community; and Factor 9 – trust in government. A revised conceptual model of the factors influencing e-participation project success is shown in Figure 2.

As a preliminary step, the success dimensions of Project Lungisa were investigated. Five dimensions of success were discovered - improving service delivery by resolving service delivery reports, empowering citizens, holding government accountable, achieving extensive awareness and use of the system and demonstrating proof of concept. The overlap between the success dimensions found in this study and the evaluation criteria mentioned by Macintosh and Whyte (2008), Aichholzer and Westholm (2009) and Sæbø et al. (2009) was limited. This indicates that dimensions of success of e-participation in developing countries are, as expected, different to the success dimensions in developed countries

Another notable observation was that the log frame drawn up for Project Lungisa's funding proposals was not an accurate representation of the project's success dimensions. This reinforces Dale (2003), Earle (2002) and Gasper (2000)'s arguments that the log frame needs to be altered to allow for goals and success dimensions that are not necessarily quantifiable to make it more relevant to implementers of development projects.

Regarding influencing factors, four of the propositions described in the literature review were confirmed, while two were not confirmed. As predicted in the literature review,

citizens' trust in government, stakeholder management, ICT infrastructure and project leadership were found to influence Lungisa's project success. Additionally, it was found that the support of local government, independence from government and political parties, the use of mobile phone technology, marketing and advertising and community integration all influenced the success of Project Lungisa.

Political consensus and inclusion were not confirmed as influencing Project Lungisa's success, thus Propositions 2 and 3 were not confirmed. However, it is possible that political consensus (Proposition 2) is closely related to support of local government (Factor 1), and that political consensus may be a necessary condition for support of local government. It also appears that inclusion (Proposition 3) may be related to the use of mobile phone technology (Factor 3), because the affordability and accessibility of mobile phones leads to increased levels of inclusion.

Interestingly, stakeholders felt that independence from government and political parties influenced project success. Similarly, Friedman (2006) argues that formal, government-initiated participation processes do not enhance participatory governance because they are not conducive to the participation of the poor.

Marketing and advertising was another unanticipated factor that stakeholders named as influencing the success of Project Lungisa. Retrospectively, it was discovered that Hellström and Karefelt (2012) also found that the main reason the general public did not use UgandaWatch – a Ugandan e-participation platform – was that they were simply unaware of the platform. Essoungou (2010) reports that the well-known participation platform Ushahidi experienced similar awareness challenges (as cited in Hellström and Karefelt, 2012).

A third unexpected and interesting factor influencing project success was community integration. This could be explained by the theory of sense of community. Fiol and O'Connor (2014) argue that groups with a strong sense of community – such as the community of Khayelitsha – are resistant to change introduced by outsiders. They propose that a co-evolutionary change model is needed in community development

where insiders (community members) and outsiders (non-members) work together to spark change.

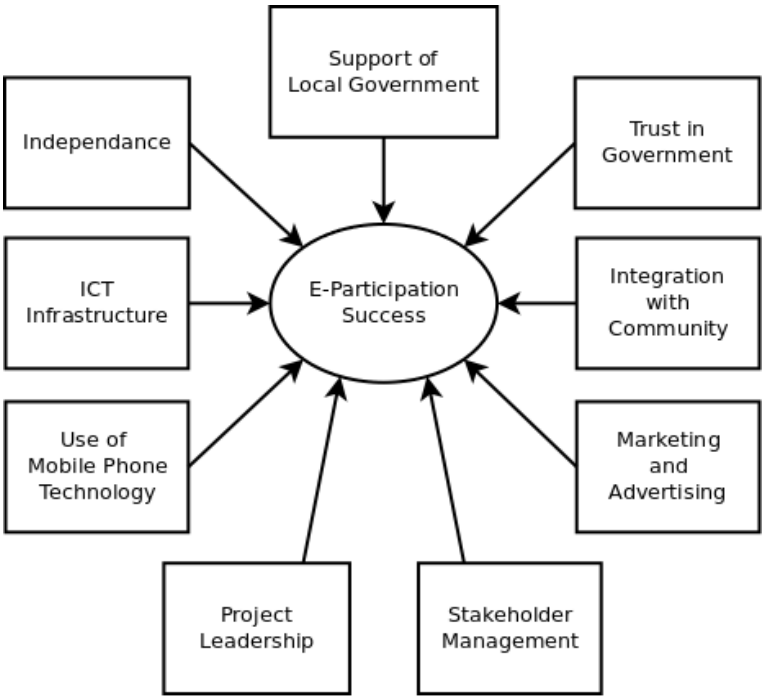

Figure 2: Factors influencing the success of service delivery e-participation projects

6.1.1 Implications for Theory

Yin (2009) argues that, while single case studies cannot be used for statistical generalisation (generalising to a population), they can be used for analytic generalisation (generalising to theory). This study focuses on the latter by generalising its findings to a conceptual model. This conceptual model, or theoretical generalisation, can now be tested by subsequent studies. It is hoped that further research can refine the model to a point where it is widely used and accepted by researchers.

The conceptual model is unique in that it is, to the best of the researcher's knowledge, the first one that applies to e-participation in developing countries. Current models of factors influencing e-participation success have focused on developed country contexts (Aichholzer & Westholm, 2009; Carter & Bélanger, 2005; Lee & Kim, 2012; Macintosh & Whyte, 2008; Sæbø et al., 2009). While other research examines general e-government success in developing countries, these studies have largely concentrated on the practitioner or implementer's point of view (Al-khamayseh et al., 2006; Matavire et al., 2010; Pokwana & Kyobe, 2013; Sandy & McMillan, 2005). The conceptual model in this

study includes success dimensions relevant to various project stakeholders, forming a more holistic understanding of project success and differentiating it from previous models.

It is hoped that, because of its unique focus on e-participation specifically in a developing country context, and because of the incorporation of diverse stakeholders' success dimensions, this model will be useful in informing future theoretical work in the field of e-participation.

6.1.2 Implications for Practice

Future implementers of e-participation projects in South Africa and other developing countries should bear these influencing factors in mind when implementing projects. Ideally, e-participation projects should be run independently from the government department(s) involved, but implementers should try to gain the support of local government and establish a good working relationship with them. The available ICT infrastructure should be taken into account. For example, if there is limited access to broadband Internet, a web-based platform is not advisable.

Mobile phone technology, especially basic services such as SMS and USSD, should be exploited for e-participation, as they are affordable and accessible. The person chosen to lead the project should have long-term commitment to the project, and they should be a dedicated and effective leader. The leader should be able to lead strategically and interface with government, but should also understand the community that the project is aimed towards. Where one person cannot fulfil both of these roles, a combination of leaders may be necessary.

The importance of stakeholder management should not be underestimated. It is advisable to conduct a stakeholder analysis at the beginning of a project to understand who stakeholders are and what their vested interests might be. Budgets for marketing and advertising should be set aside to create awareness of projects and grow the user base. Project implementers should also think about ways to integrate the project with the community, possibly by hiring community members or by working with prominent

community groups to gain their support and trust. Trust in government is important and implementers may want to consider incorporating trust-building material into marketing and advertising, as well as focus on building trust with community organisations and members in other ways.

6.1.3 Directions for Further Research

Subsequent studies are needed to test the conceptual model. An obvious direction for further research and additional case studies can be used to do this. A survey could be conducted amongst practitioners of e-participation in developing countries to test the model, should more projects arise in future.

As stated, the number of stakeholders of Project Lungisa is fairly small because of its size. However, looking at the success dimensions listed by the stakeholders, it would seem that different types of stakeholders have different criteria or dimensions of success. Further research is needed to understand the types of stakeholders and how their success dimensions differ.

Future research should also focus on the relationship between trust and e-participation success. While this study found that a lack of trust in government hampers e-participation success, previous studies have shown that e-participation could also build trust (Holzer, 2004; Tolbert & Mossberger, 2006). This indicates that the relationship between trust and e-participation is complex and multi-faceted, and that future research could help shed more light on this relationship.

E-participation is a new phenomenon that has only recently been introduced to South Africa and other developing nations. It is hoped that this study has contributed to the body of knowledge on e-participation by sharing lessons regarding success and failure from Project Lungisa, and that future e-participation implementations can gain from these findings.

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APPENDIX A: INTERVIEW GUIDE

1) What is (or *was*) your role in the e-participation project?

2) In your opinion, what goals need to be achieved in order to make this project a success?

    a) To what extent do you think these goals have been met? Do you think the project has been a success thus far?

3) What do you think are some of the key factors contributing to the success or failure of the project?

    a) Do you think achieving inclusion – or making the system accessible to all socio-economic groups – is a factor in the success of this project?
    b) Do you think that managing the project stakeholders (Cell Life, partner NGOs, community groups, government groups etc.) and paying attention to their interests is a factor in the success of the project?
    c) Do you think the trustworthiness of government is a factor in the success of the project?
    d) Do you think effective project leadership is a factor in the success of the project?
    e) Do you think ICT infrastructure (i.e., telephone lines, cellphone networks, broadband networks, electricity) is a factor in the success of this project?
    f) Do you think the agreement of politicians or government officials on the importance of e-participation is a factor in the success of the project?
    g) Can you think of any other factors that contributed to the success or failure of the project?

Question 4 is only for implementers of the system.

4) Can you discuss some of the key challenges you and your colleagues experienced during the implementation of this project?

a) How did you overcome these challenges?

5) How do you think the Lungisa project is positively or negatively affecting service delivery?

6) Going forward, what are some of the main obstacles that need to be overcome for service delivery e-participation to succeed in South Africa?

APPENDIX B: ORGANISATIONAL PERMISSION

Diné Bennett

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17/02/2014

Permission to Conduct Research

Dear Mr. Salter

As part of my MCom degree at the University of Cape Town I am conducting a research study into service delivery e-participation in South Africa. Prior to undertaking the study I need your consent for me to approach Cell Life staff members who have worked on Project Lungisa, in order to interview them and collect data for my research study. I also request your consent to collect documentation relevant to Project Lungisa.

I will make every effort to ensure the study does not disrupt the working environment in any way. The purpose of research will be explained to all interviewees, and their consent obtained orally before interviews are conducted. They will also be informed of their right to terminate the interview at any time and withdraw from the study.

Participants will remain anonymous, although their roles in the various organizations may be stated in my write-up. Personal information will not be gathered or published and racial variables will not be used. Confidential documentation will, likewise, not be published.

I have obtained ethical approval for the study from the commerce faculty at the University of Cape Town. My research is supervised by Prof. Mike Kyobe. If you have any questions, he can be reached at +2721 650 2597 or michael.kyobe@uct.ac.za.

Yours Sincerely,
Diné Bennett

I hereby acknowledge receipt of this letter, and grant permission for Diné to conduct her research.

Graham Salter
Cell Life Chief Executive Officer