**Increasing Public Participation in Local Government by Means of Mobile Phones: the View of South African Youths**

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# 1. Introduction

There is a general apathy towards political participation worldwide, even in developed countries such as Switzerland and the United Kingdom (UK), which show a decline in voter turnout over the last few decades (Brücher & Baumberger, 2003). Governments around the world have introduced initiatives to include citizens in the decision making process. Most citizens, however only interact with government during elections, but there are many ways in which citizens can participate in an on-going basis (Pahad, 2005). Public participation is necessary to ensure that citizens are able to influence the decision-makers in government, especially in situations where the decisions taken affect their lives directly (Creighton, 2005). It is at the local level where citizens experience the direct effect of political decisions.

Decentralising and encouraging more citizen participation requires adequate mechanisms for engagement. The constitution of South Africa has been hailed by many as the most progressive in the world, and makes specific provision for public participation. Section 152 of the Constitution speaks of democracy, accountability, and the encouragement of involvement in matters of local government Section 16(1) of the local government municipal systems Act 32 of 2000, echoes this need for, and encouragement of participation in local matters, and adds that local government should do whatever it can to facilitate this process (Constitution of the Republic of South Africa, 1996, 2009).

Mobile phones are usually used as communication tools, but they have also been used by ordinary people to mobilise others, who were previously passive, into political action. This indicates that there are drivers or motivators that bring about political participation, other than just the use of technology. What has eluded governments is how to fully utilise the capabilities of mobile phones to reach almost every citizen, and in so doing possibly reverse the increasing political apathy amongst their citizens (Hermanns, 2008).

# While the potential of mobile to transform government interaction with citizens is widely acknowledged, the use of existing mobile government services is not widespread (Bagui, Sigwejo, & Bytheway, 2011; Chigona, Beukes, Vally, & Tanner, 2009). This research adds to the understanding of youth perceptions towards political participation using mobile phones, and reveals some of the inhibitors to participation while exploring interest in specific mobile government services.

# 2. Literature Review

## 2.1 Democracy and Participation

Participatory democracy models are based on the belief “that the very act of involvement is beneficial in that it permits all citizens, and not merely elites, to acquire a democratic political culture” (Deegan, 2002, p. 45). Participation is an important part of any modern democracy, even though many citizens perceive that their only influence over government lies in their ability to occasionally cast their vote (Creighton, 2005). Not allowing for participation limits a governments sources of options and ideas, and also exposes the process to corruption, which would be addressed through public scrutiny if citizens were more involved (Creighton, 2005).

The reasons for low participation vary from the simplistic, in that people would rather spend their time doing something else, to issues of practicality, and principle (Brücher & Baumberger, 2003). In some cases politics can be difficult to understand and therefore can be a barrier to participation. Many people do not know how to communicate their wishes correctly, or how to use the available mechanisms for participation appropriately. Public participation should not just be viewed as events, such as elections, protests or demonstrations, but rather as an on-going, and evolving process that requires as much change in public perception and mind set, as it requires government commitment to explore new systems of participation.

According to (Mattes, 2002), South Africans are passive when it comes to community involvement. In a study comprising over 2 200 respondents, only 4 indicated that they made any attempts to, “attend any hearing or meeting organised by parliament or by an MP” (Mattes, 2002, p. 33). There is therefore a need for other approaches to not only monitor participatory processes, such as the status of requests made to local councillors, but also new ways in which to disseminate information (Nyalunga, 2006). The ability to track what councillors are doing between elections, is important for both citizens and government, and could not only improve accountability, which is stipulated in Section 152 of the constitution, but also provide citizens with valuable information which could help them evaluate their local councillor in the run-up to local elections.

## 2.2 E-government and M-Government

Governments’ around the world have embraced the internet and the world-wide-web to deliver e-government services to citizens (Yildiz, 2007). E-government, in its broad sense, is the use of information technology to enable or enhance government processes, of which the use of the internet is only one part (Grant, Hackney, & Edgar, 2010).

In South Africa, as in many developing countries, traditional e-government can be said to widen the gap between “haves” and “have-nots”, since the poor and disenfranchised typically have no access to fixed internet. However, m-government entails the distribution of government services utilising mobile technologies (Carroll, 2005). The potential of m-government, enabled by the ubiquitous mobile phones, is to provide services, especially to previously disadvantaged groups, as well as provide a new mechanism for public participation in politics (Poblet, 2011). However, this requires the creation of applications that leverage the appropriate mobile technology to create useful government services (Patel & White, 2005; Poblet, 2011). The innovation would be to take advantage of “the most basic capacities of already existing technologies to reach broader population segments which otherwise would not have had access to more costly and sophisticated mobile technologies” (Poblet, 2011, p. 503).

The widespread use of mobile phones (Trimi & Sheng, 2008) has seen them being used in applications ranging from reality television voting, crime fighting, banking, commerce applications, enabling easy donations to charity, the supply of information, as well as to many other areas (Patel & White, 2005). Traditionally, citizens who want to engage in dialogue with government such as gaining information, discussions, public hearings, or voting, are required to be physically present (Brücher & Baumberger, 2003), which in itself poses practical problems for many, such as inconvenient times or locality. This is highlighted by Patel and White (2005) in their review of government call centres, and cites some factors as reasons for their failure, such as call cost, limitations on ‘open’ hours, and insufficient resources. They also cite the problems of queues, which could translate into loss of income for citizens, limited office hours, and resource restriction compared with government enquiries or information centres, as points of contact. This highlights the need for governments to explore different ways to interface with citizens, not only in the provision of information, but also to engage in dialogue.

Many services are procedural or bureaucratic in nature, such as notifications of status changes in identity document requests, or the confirmation of actions. Vincent and Harris (2008) cites examples in Lewisham, and Hillingdon, in the United Kingdom (UK) where mobile text services relay information such as employment opportunities, events, and “food safety warnings”. Citizens are allowed to upload photographs of problems such as potholes, request garbage removal, or to report broken lights.

Mobile users already engage in a wide range of participatory activities such as reporting traffic congestion, entering competitions, taking and distributing photographs, or spreading news of different events (Vincent & Harris, 2008). Mobile phones have contributed to greater awareness and interest in politics, and have proven to be an effective tool in facilitating information sharing between “a large number of similarly minded people within a short period of time and at short notice (Hermanns, 2008, p. 79). Mobile phones have definitely created new ways in which citizens can participate, and can deliver applications that address the need for “innovative ways of popular participation” (Nyalunga, 2006, p. 5).

The current position of mobile phones as a platform to encourage participation is without question, but there are concerns around personal privacy and security, if this platform were to be used to report on corruption, or criticise government (Poblet, 2011). However, South Africa has some experience in this regard with its award-winning 32211 SMS tip-off crimeline (SAinfo , 2010). In this case anonymity is guaranteed, not by government or the police, but by private enterprises. The initiative was spearheaded and is supported by private enterprise, and possibly this ‘buffer’ to government gives citizens the necessary ‘comfort’ to freely express their opinion. The promise that personal information will not be passed on to the authorities has been enough for citizens, and since its launch in 2007, the crimeline has resulted in over 1000 arrests, as well as the seizure of over R36 millon (SAinfo , 2010).

Social networks existed in society long before the introduction of information technology driven social networking tools such as Facebook and LinkedIn. Being a part of these networks can be used as support structures, for personal gain or collaboration with others on areas of common interest (Dudwick, Kuehnast, Jones, & Woolcock, 2006). With regard to politics, social capital is linked to confidence in “government and democratic performance” (Patulny & Svendsen, 2007). Some evidence also suggests that there is a positive relationship between social capital and both election turnout and civic attitudes (Henn et al., 2007). Social Capital Theory (SCT) describes these relationships and mobile phones act as a facilitator of social capital, by connecting people together (Yang, Kurnia, & Kim, 2008).

## 2.3 Social Capital

SCT deals with trust networks such as those which exist between friends, family, churches, clubs, and other community and social groups, which individuals can use for personal gain or assistance, or to promote a group agenda (Putnam, 2000). The relationship between the networks is described through the concepts of bonding, bridging, and linking. Bonding refers to close, personal relationships between homogenous groups. Bridging refers to heterogeneous groups based on differences such as ethnicity or religion. The links are sometimes referred to as ‘strong ties’ for bonding relationships, and ‘weak ties’ for bridging relationships. Some characteristics of strong ties are regular contact or communication, and is usually accompanied by a high degree of trust. Weak ties imply fewer personal relationships and lower levels of trust. Linking social capital is ‘vertical’ connection, usually between levels of power, such as a links between different economic or social groups, and in the context of this research, the connection to government. Involvement in non-political groups has been found to increase the likelihood of involvement in politics (Klesner, 2007).

Those who participate in voluntary activities have been linked to an increase in political participation. According to Henn, Weinstein, and Hodgkinson (2007) efficient democracies are likely where a high degree of association, cooperation and trust exists between citizens. In contrast, inefficiency and corruption is likely to exist where there are low levels of social capital. It is argued that individual’s involvement in political processes is linked to their level of involvement in other groupings.

In addition to voluntary activities and networks, SCT also proposes the concept of reciprocity, where acts of kindness are returned, which also leads to trust. Garson (2006) mentions that social capital can be increased through participation in voluntary associations, as well as through networking, mentoring and mutual support. And further that, social capital would also lead to increased reciprocity. The building of trust has also been linked to an increase in political participation (Klesner, 2007).

**Figure 1**: Relationship between mobile phones, social capital, and political participation

A shown in figure 1 above, a complementary relationship exists between social capital and the use of mobile phones. Mobile phones can increase social capital, which has been linked to the increased likelihood of participation in politics. In turn, participation in politics can be facilitated through the use of mobile phones.

# 3. Research Methodology

The objective of this research is to investigate what youths think about interacting with government via their mobile phone. More specifically:

* To determine the level of interest in mobile influencing factors on the intention to engage in m-Participation.
* To establish what level of participation would be desired : informational(G2C), polls/voting, feedback/commentary(C2G) and citizen contact (C2C)
* To identify areas of concern to use of mobiles in the participation process, such as security and cost

## 3.1 Theoretical Framework

To pursue the first objective, key influencing factors for m-Participation are required. Technology adoption models are typically used to determine the levels of intent to use and acceptance of new technology (Venkatesh, Morris, Davis, & Davis, 2003). Venkatesh et al. (2003) consolidated different acceptance models into the Unified Theory of Acceptance and Use of Technology (UTAUT). This model incorporates elements of Theory of Reasoned Action, Theory of Planned Behaviour, Technology Acceptance Model, the Motivational Model, the Model of PC Utilisation, the Innovation of diffusion Theory, and the Social Cognitive Theory, which were all previously used to determine IT acceptance. The UTAUT model is chosen for this study because it has been shown to be more accurate as a predictor of acceptance and adoption than any of the other adoption models used in isolation (Venkatesh et al., 2003).

However, since this research investigates the perceptions of, and behavioural intention (BI) to use mobile phones to interact with government, some parts of the UTAUT model were not considered, and the diagram below shows the modified model used in this research.

Both use behaviour and experience are excluded as there is no widespread availability of government mobile services, and therefore use of mobile phone government services in South Africa. In the context of this research, the use of mobile phones to interact with government would be voluntary, so the voluntariness of use as a moderator is also excluded. Facilitating conditions was also removed as it affects UB which was removed, but not BI. The Social Influence (SI) construct has been shown to have a notable effect on BI. However, the moderating constructs of SI, are only significant in environments where use is not voluntary (Venkatesh et al., 2003). The following hypotheses related to the first research objective are directly adapted from the UTAUT model:

H1: Performance expectancy (PE) will have a positive influence on the behavioural intention to use mobile phones as a medium for political participation. This influence is moderated by gender and age (stronger influence for men and younger users).

H2: Effort expectancy (EE) will have a positive influence on behavioural intention to use mobile phones as a medium for political participation. This influence is stronger for women than men.

H3: Social influence (SI) will have a positive influence on behavioural intention to use mobile phones as a medium for political participation. This influence is moderated by gender and age.



**Figure 2:** Modified UTAUT model

Some constructs from SCT were also incorporated in the survey instrument and interview protocol.

## 3.2 Research Philosophy, Sampling Approach and Instrument

The underlying philosophy for this research is positivist as it attempts to determine what drives the use of mobile phones in political participation partly by validating the hypotheses of the UTAUT model. The research strategy employed a survey to capture data for quantitative analysis, and semi-structured interviews to collect qualitative data. The analysis of the qualitative data offers improved clarity on some of the relationships found during the quantitative data analysis. The research is also cross-sectional as data was collected over a period of four weeks beginning in the first week of July 2011.

The target population consisted of youngsters between the ages of 18 and 35 years, who did not have access to fixed-line internet either from home or work. Those who had infrequent access to fixed-line internet via facilities such as public libraries were allowed to participate in the survey. A convenience sampling approach was adopted, because of the ease of access to participants.

The survey instrument included demographic questions, test items from the UTAUT model to measure intention to use technology, individual perceptions of politics, as well as some elements of social capital theory. Most questions adopted a 5-point Likert answer scale from strongly disagree to strongly disagree. To be as inclusive as possible, the English instrument was translated into Afrikaans and Xhosa and Xhosa-speaking facilitators were used in the interviews. The questionnaires are available from the authors on simple request.

The data collected was retrieved from people in factories, churches, taxi ranks, a fast food outlet, and office buildings. Survey respondents were not asked where they lived, and data was collected from a variety of areas, including the Cape Town city centre, Khayelitsha, Westlake, Claremont, Hanover Park, Belhar, Charlesville and Retreat. A total of 131 usable questionnaires were available for data analysis. Respondents had capable mobile phones, all but two being Java enabled, and all but one internet enabled, confirming the trend towards smart phones. Although home language was captured and is referred to, it is in no way implied that it is a proxy for race. Figure 3 shows the demographics of the respondents by age and language.

**Figure 3:** Respondents demographics by gender, age and language.

Four people (two of each gender) were also interviewed in order to gather additional qualitative insights. The semi-structured interview protocol contained open-ended questions to encourage subjective opinions, and prompting by the researcher also allowed for a more conversational process. When mentioned in the analysis, participant citing for the interview respondents is as per table 1.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Code | Gender | Age | Current phone | Future phone | Area  |
| F1 | F | 24 | Nokia X3 | Blackberry | Hanover Park |
| F2 | F | 27 | iPhone 4 | - | Moved to Westlake from Khayelitsha |
| M1 | M | 34 | Blackberry | Blackberry | Belhar |
| M2 | M | 20 | Samsung  | Blackberry | Belhar |

**Table 1:** Interview participant profile and reference

As shown below, most of the comments made at the interviews confirmed the findings from the survey and supported the majority views. Thus the quotes given below are generally added to give ‘colour’ to the survey data.

# 4. Influencing Factors on M-Participation

The modified UTUAT model was used to determine the behavioural intention to use a mobile phone to interact with government. Performance Expectancy (EE) was broken down into two constructs: (General) Convenience and Convenience specifically for M-Government of Mobile Technologies. Effort Expectancy consisted of 4 constructs: Clear & Easy to Use, Costs, Device Form Factors and User Proficiency. Like PE, Social Influence (SI) was broken down into a more generic construct relating to “Some people I know” and one referring specifically to people important to the respondent. All Cronbach Alpha reliability coefficients for the multiple test items were in the range 0.66-0.83. The reliability coefficients for the model constructs as well as other variables used elsewhere in the research are shown in Table 2.

|  |  |
| --- | --- |
| Variable | Cronbach Alpha |
| **PE**MobileConvenience\* | 0.660 |
| **PE**MobileGovernmentConvenience\* | 0.830 |
| **EE**ClearAndEasy\* | 0.732 |
| **EE**CoverCosts\* | - |
| **EE**FormFactor\* | - |
| **EE**Proficient\* | - |
| **SI**SomeThinkIShould\* | - |
| **SI**NBpeopleThinkItsGood\* | - |
| **BI**BehaviouralIntention\* | 0.693 |
| GeneralInterestInGovernment | 0.823 |
| CommunityVoting | - |
| GovernmentTrustAndPrivacy | 0.769 |
| SpecificGovernmentServices | 0.857 |
| Voting | 0.909 |
| ServiceDeliveryAndCorruption | 0.695 |
| CommunityInteraction | 0.812 |
| CommunicationWithCouncillor | 0.893 |
| Cost | 0.759 |
| VPCommunityChangeAndHelping\*\* | 0.698 |
| VPBelongToGroup\*\* | - |
| NMSFamilyAndFriendInteraction\*\* | 0.641 |
| NMSNeighbourInteraction\*\* | 0.702 |
| ReciprocityAndTrust\*\* | 0.688 |
| \* UTAUT; \*\* SCT; no Cronbach Alpha for single-item constructs |

**Table 2:** Constructs Used and Their Reliability

Multiple regression analysis was used to determine the degree of influence the new variables have over BI. Some of the PE and EE variables are significantly related to BI, as explained in the hypotheses analysis below. The variables used in the multiple regression account for 46.5% (r2 = 0.465) of the variance in the intention to use mobile phones to interact with government.

***H1****: Performance expectancy will have a positive influence on the behavioural intention to use mobile phones as a medium for political participation.*The multiple regression analysis shows a highly significant and positive (p = 0.007, beta = 0.260) relationship between the variables PEGovernmentMobileConvenience and Behavioural Intention. There is therefore strong evidence against the null hypothesis and it is therefore rejected.However, neither age category nor gender were found to have a moderating influence.

***H2****: Effort expectancy will have a positive influence on behavioural intention to use mobile phones as a medium for political participation.*

The multiple regression analysis supports an extremely significant and positive (p < .000, beta = 0.375) relationship between the variable EEProficient and Behavioural Intention. This is strong evidence against the null hypothesis, and the result supports the hypothesis that effort expectancy is a predictor for behavioural intention. Over 67% of respondents indicate that they expected that they would become very good at using their mobile phone to interact with government. Tests reveal no statistical significance in the relationship between effort expectancy and behavioural intention when gender is used as a moderator.

***H3****: Social influence will have a positive influence on behavioural intention to use mobile phones as a medium for political participation.*

The multiple regression analysis finds no statistically significant relationship between any of the SI variables and Behavioural Intention. Because of this, it was not necessary to test the moderating impacts of gender or age.

The drivers of behavioural intention in the modified UTAUT model include PE and EE factors, both exhibiting positive and significant relationships with BI. That social influence has no effect on behavioural intention was expected, as social influence has only been shown to have an effect within non-voluntary environments.

From this it can be concluded that the respondents perceive government mobile services to be useful and would add value to their lives. They also have the perception that not only would these services be easy to use but that they would also easily become proficient in using them. It can be concluded that the expectation is that the user interface of government mobile application or services would be very user friendly. Failure to meet this expectation would affect the behavioural intention and ultimately the use of the services or applications.

# 5. Exploring the Other Research Objectives

## General interest in politics and participation

**Figure 4:** General interest in politics and participation

Although there was some interest in politics, it appears that citizens did not believe they could change what government does. Only 35.7% (strongly agree = 23.0%, agree = 12.7%) indicated that besides voting, they could influence what government does. Another 31% were not sure, while 33% (disagree = 20.6%, strongly disagree= 12.7%) did not believe they could make a difference.

The results showed that some citizens feel that they could have marginally more influence at a local level. When asked whether they felt they could influence what politicians do in their community, 25.6% were not sure. However, with 44.2% who were in agreement (strongly agree = 21.7%, agree = 22.5 %), 25.6% not sure, and 33.3% who responded negatively, it appears that there was no consensus on having an influence over community politics.

This feeling of ‘disempowerment’ was reflected by the interviewees: “*I'm a youth I don't have time for this. What can I do... nothing*” (F1). “I don’t watch a lot of news. I don’t know a lot about uhm, politics” (M2). *“I take a slight interest in…what gets done in the country, in the level of crime, uhm visible police – how often you see them and how many of them you do. But I don’t take an interest in the sense where I will complain about certain things they don’t do, or the things I don’t see. I’m very, a complacent person, I’m very happy with the way I am and how things are. I’ll just live with it instead of complaining”* (M2).

However, interest does not always translate into action. The literature mentions that there may be many different reasons why people do not interact with government, some practical, others personal. That people do not feel that they can make a difference is one of them. Those who were not sure whether government looks out for them amounted to 38.5%., with 31.6% who did think that government looks out for them. One interviewee cited politician self-interest as taking priority over serving the people: *“They talk too much about themselves and not about the real issues. When they showed a debate on special assignment or third degree it shows what really goes on.”* (F1)

Despite this, interest in voting on community issues was positive (Strongly agree = 34.4%, agree = 31.3%, Mean=2.2). In the context of SCT the results indicated low linking capital, or connection between citizens and government. This disconnect is further supported by looking at citizen trust in government.

In summary, there appears to be a measure of interest in politics with a greater tendency towards community politics. However the citizen perception of a ‘divide’ between themselves and government would have to be bridged to build a trusting relationship. As mentioned in the literature mobile phones can help build social capital by enabling citizens to ‘link’ to government more easily, as well as provide mechanisms to monitor service delivery.

## Mobile Phones as a Convenient Means of Interaction

Convenience could be a major factor affecting the adoption of mobile internet (Chigona etal., 2009). Some test items checked the degree to which mobile phones were seen as a convenient means of interaction, both in general and more specifically for government interaction.

**Figure 5:** General convenience of the mobile phone.

A positive (strongly agree = 70.2%, agree = 21.4%) response was received to the perception that mobiles were convenient because they could be used anywhere. There was also agreement (strongly agree = 62.6%, agree = 28.2%) that the anytime nature of mobiles contributed to this convenience.

**Figure 6:** Convenience of the mobile phone for participation with the government.

74% of respondents agreed (43.5% strongly) that using mobile phones to interact with government would save time, and 71% agreed (46% strongly) that using a mobile phone to get information would be quicker than visiting government offices. All interview participants agreed that it would be more convenient, saving both time and money: "It would be convenient for me, and save me time and trouble." (F1); "less time consuming, saving you a lot of effort, maybe to drive to Home Affairs" (M2). 60% also indicated that they believed it would be useful to communicate with government using a mobile phone.

However, interestingly, there was slightly higher support when asked about the Intention to use the mobile phone to interact with the government.

**Figure 7:** Intention to use government mobile phone services

The response was favourable with 65.6% (strongly agree = 36.6%, agree = 29%) indicating that they would be one of the first to try mobile services to interact with government. Some explanation for this positive intention to use government mobile services could be in reaction to some issues experienced when dealing with government departments by the means that are currently available: “it’s a hassle..in all of them” (F2). “lines are long and it takes a bit of time” (M2) *"if you have a problem, a need to go to Home Affairs, you need to find out something, you have to take off work"* (M1) *"At SARS [South African Revenue Services] there are these moerse [i.e. very] long lines. This one person had the same ID as my mom and she had to pay extra tax. It took 3 days. There were very long lines"* (F1)

Time and cost were recurring areas of concern for the demographic who responded to this research. For many, a day off work to visit government offices means no pay, as well as travel and other costs. The interest in, and the appeal of mobile services, is that they could potentially save them time and money. So the eagerness expressed to use the services when they become available is understandable.

In summary, it is evident that mobile phones have become a part of many people’s everyday lives and its convenience is reflected in the high positive responses to questions around its use anywhere and anytime. Overall there was also a very positive perception that mobile government services would not only save time and be quicker, but would also be useful, which bodes well for the introduction of government mobile services.

## 5.3 Levels of Participation

### 5.3.1 Receiving Information via a Mobile Phone

As mentioned towards the end of the last section, the methods of interacting with government services has both time and financial implications for citizens. In the literature, Patel and White (2005), cite problems in government call centres, enquiries or information centres and services. The time and money saved through the use of mobile internet was also reported by Chigona et al. (2009).

**Figure 7**: Preferences for receiving government information via mobile phone

Participants responded positively (strongly agree = 39.8%, agree = 35.9%) to the general statement about using their mobile phone to get information from government departments. For most South Africans, there is a great dependence on public transport, and this is linked to their livelihood. There was an overwhelming 80%, both receiving public transport information, and finding government offices and clinics, who showed interest in using mobile phones as a medium of interaction.

In other cases, information could be ‘pushed’ to citizens, such as in the example cited in the literature of the broadcast of ‘food safety warnings’ in the UK. There are also notification services where citizens are informed of the status of their requests, which are triggered by an event such as the application for a new identity document.

Citizens could request information on an ad-hoc basis depending on their needs, such as the location of the closest labour department office. The responses about the need to have interaction with the labour department were very positive at 76.8% (strongly agree = 45%, agree = 31.8%) and the need for these services was supported by the suggestion of such a service by one of the interview participants: *“if there’s a department of labour in Wynberg and stuff like that. If I need to know where to find which offices…nearest to my community”* (F2)

There were also positive responses to the other questions on receiving messages in other situations, for example if a person was on the housing list, for medical information as well as job vacancies.

### 5.2.2 Voting

**Figure 8:** M-Voting preferences

When asked about voting, respondents indicated that they would be interested. Quick polls on community issues featured strongly with 58.9% (strongly agree = 31.8%, agree = 27.1%, Mean = 2.24), and were very closely followed by voting in national and municipal elections.

Although platforms for voting exist, Hermanns (2008) warns against equating voting in a political election, to voting on a reality television show. This warning finds traction in the following statement: *“you can vote for your Idol on MxiT [a hugely popular South African Mobile Instant Messaging platform]….There’s so many other things on MxIT, so why not vote things in your community on MxIt”* (M2). Literature also suggests that making electronic voting available may in fact not increase voter turnout, and Vincent and Harris (2008) stated that it is more likely to be used by existing voters.

### 5.2.3 Reporting Service Delivery, Corruption and Community Problems

Writing letters, sending SMSs or attending public meetings are some of the ways in which citizens can express their views. The few that do have access to the internet, post comments onto websites, or write blogs.

**Figure 9:** Reporting on service delivery and corruption

Service delivery issues could be approached from a more positive and proactive perspective, where posts would serve to inform rather than to apportion blame: *"[it] would be a good idea to use a cell phone, so that they can be informed and also know on their services where they can maybe, they can pick up...improve on their services"* (M1)

Respondents, when asked if they would like to report community problems such as the lack of trash removal, using their mobile phone, 78% responded positively which was an indication that a service with features such as those in SeeClickFix would be a good starting point.

Reporting also raises the issue of anonymity. Interviewees gave mixed responses when asked whether or not they would rather be anonymous or not when reporting: *“I don't mind really...to give my name. Ja, its, I don't mind giving my name”* (M1) as opposed to *“rather remain anonymous, …but at some times ..I don’t think it would be a big thing…for them to know who it is”* (M2). Probing a bit deeper, M2 was asked whether he would feel differently if what he was reporting was a bit closer to home, such as reporting his local councillor for a lack of service delivery, or corruption: *"it could be a bit...intimidating just knowing that...they know it’s me, should I, or shouldn’t I. It will leave a big question, but if it’s a big enough thing and like you have an actual reason for doing then I guess it all depends on the type of person you are and how confident you are"* (M2)

With nearly 80% in agreement, a service that would allow for reporting corruption, service delivery and community problems would be well received. It is only natural for people to protect themselves and those close to them and especially if they perceive that a very real personal danger exists, if they speak out: *“people are scared to talk, people are scared to be seen talking to police and telling them what happened, and stuff like that. So it would be like great, if you can just say whatever you want to say, report something anonymously”* (F2)

The option to be anonymous is therefore crucial, especially when reporting on service delivery and corruption, as the fear of being identified would reduce the incidence of reporting. The results showed strong agreement to all three questions, indicating a desire to inform and report.

### 5.2.4 Community Interaction

There are many different reasons why people don’t interact, but mobile phone technology could be used to allow for more interaction.

**Figure 10:** Community interaction

The response to the statement, "I want messages sent to my mobile phone about community meetings", is positive. One of the interview participants related a situation where information or event notifications sent via a mobile phone would be helpful when making public announcements about upcoming public meetings. *"It would be like very helpful, because sometimes you..don’t know what is going on. You have no idea what people are saying, or if there’s a meeting and stuff. Or you missed the time when the guys are shouting like there’s a meeting at 7 o’clock."* (F2). However, a similar study by Bagui et al. (2011) indicated that ward councillors shared a different perspective on community meetings, as it appears that notification of meetings only go out to ward councillors and forum members.

Besides receiving information directly from government, or related to government services, there was also interest in other information generated by citizens. Interaction and sharing of information in the community would not only benefit those in the community, but 'crowdsourcing' could enable local government to gain insight, and make better decisions based on input from its constituents. The increased communication between community members would also strengthen social capital, which would help to increase political participation.

### 5.2.5 Communication with the Local Councillor

Local councillors play an important role as political representatives voted in by communities. The expectation is that that they will deliver to their constituency what was promised before the election. It is therefore important that constituents can easily communicate with their local councillor to ensure that they are fulfilling their mandate.

**Figure 11** Communication with the local councillor

The results show a definite interest in communicating with a local councillor as well as dialogue between the councillor and other constituents. Feedback offered to councillors can be used to better serve their constituency as well as to gain insights into some issues or concerns that may not have surfaced yet. The ability to report empowers citizens and allows them to influence government where it matters most for them, on a local level. However this may meet with resistance from some politicians, who may not agree with the level of transparency that this would bring. Constituents would not only be able to monitor their local councillor but also review their past performance. This would help them decide whether to vote for the same councillor in the next elections. From a provincial or national government point of view, it could also be a monitoring tool allowing them to intervene where necessary.

## 5.3 Areas of Concern

Respondents were also probed around a number of possible barriers or areas of concerns namely the issue of trust, security, and privacy, as well as cost.

The majority of respondents indicated that they did not trust the government (32% did *not* trust the government and a further 30% were unsure). Furthermore, only 41% of survey respondents expected the government to protect their privacy during their mobile interactions. This spread of views is supported by the different comments of the interview participants: *“I don't trust them”* (F1) versus *“I do trust the government”* (M1). The study by Bagui et al (2011) confirms this lack of trust and further reports a “bad image of politics”.

**Figure 12** Perception of Security Risks

Respondents were still concerned with security, as can be seen with only 41.4% who perceived no risk. Security and respect for privacy in electronic systems is crucial to user acceptance (Brücher & Baumberger, 2003; Buellingen & Wortner, 2004; Carroll, 2005; Haque, 2004; Grant et al., 2010; Poblet, 2011). Not only must the system prevent data manipulation during transmission, but also, the identity of the sender should be unmistakably verified (Brücher & Baumberger, 2003).

With the anticipated uptake of smartphones, security is more important as there is an increase in attacks on these devices (Becher, Freiling, Hoffmann, Holz, Uellenbeck, & Wolf, 2011). In addition, “computer viruses are now airborne” (Hypponen, 2006, p. 70), and some of the challenges faced include vulnerability to hacking, as well as the interception of signals broadcast via wireless networks. Added to this is the high risk of theft or loss of mobile phones which could potentially carry personal information (Trimi & Sheng, 2008). The use of mobile internet potentially also expose users to web browser vulnerabilities and exploits (Becher et al., 2011). Despite warnings of a security risk, many users blindly accept unknown files and follow links sent to them (Hypponen, 2006).

The digital divide is the gap between those with access to ICTs and those who do not (Chigona et al., 2009). Lack of access to ICTs have been equated with limiting opportunities for citizens, and the South African government responded by putting the necessary regulatory frameworks in place to address this. Agencies and bodies such as Government Information Technology Council (GITOC), and the State Information Technology Agency (SITA) were also created to ensure that e-government services were made available to all citizens (SITA, 2011). Even so, delivery has been ineffective, amongst other reasons, due to internal tensions over management structures and power struggles (Cloete, 2012). The long held monopoly by Telkom (national telecom operation) also did not help with the supply and delivery of the required infrastructure for the provision of internet services. And, despite the introduction of a second network operator, fixed-line internet costs are still too high for many (Mutula & Mostert, 2010), especially for those living in rural areas. Nearly forty five percent of the South African population lives in rural areas (Mutula & Mostert, 2010), and in some cases the closest access to government facilities could be as much as a two day walk (Twinomurinzi & Phahlamohlaka , 2005 ; as in Twinomurinzi, Phahlamohlaka, & Byrne, 2012). Low penetration of personal computers, necessary for access to the internet, led to the provision of access via public access terminals at ‘multi-purpose community centres’, libraries and the post office (Mutula & Mostert, 2010), but these have proven to be unsustainable (Singh, 2010).

SITA recognised the need to advance the importance of mobile government because of the ubiquity of mobile phones along with the greater coverage of wireless networks in rural areas. Although mobile phone and wireless networks may appear to have addressed the divide, it does pose some obstacles of its own. As a developing nation, cost (or affordability) remains an important concern for all mobile interactions, especially in South Africa with historically high costs of mobile telecommunications (Chigona et al., 2009; Bagui et al., 2011). And, despite the introduction of lower mobile internet tariffs, it still remains too high for the majority of South Africans.

Widespread implementation of mobile government services is lacking, with most being rudimentary and informational, such as SMS notification services from the Department of Home Affairs (Cloete, 2012). While there are a few mobile government implementations the potential of mobile services has not been properly explored by the South African government (Mutula & Mostert, 2010). Both Brücher and Baumberger (2003), as well as Haque (2004) indicate that government should form a relationship with mobile operators to ensure low cost or even free access to government mobile services. Buellingen and Wortner (2004) raise issues of reliability of service, which is echoed by Chigona et al. (2009) who cite concerns over mobile connectivity in South Africa.

Interestingly in this study the number of respondents prepared to communicate with government remained the same (79%) regardless of whether the service was free or low cost. In the interviews, it became clear that respondents were fully conscious of the potential cost saving. At first F1 was adamant that she was not going to incur any costs: *"I don't want to. I would use my airtime"* (F1) but, after some further discussion, she came to the realisation that that *"I would save taxi money"* (F1). The indirect cost savings of using mobile internet, such as the time saved on travelling or standing in queues, was confirmed in a study conducted by Chigona et al. (2009).

Indications are that there would be demand for appropriate services where it is clear that any additional costs could be offset against the benefits derived. Argueably, more efficient revenue collection was the driver behind the deployment of the SARS services. The implementation however is an indication of the capability for government to deploy transactional, two-way mobile services, however “constraints include a lack of political will and support; a lack of strong and consistent leadership; a weak and contradictory IT governance framework; and continuous political and bureaucratic infighting.” (Cloete, 2012, p. 138).

# 6. Implications

The survey presented a list some government mobile services. The introduction of services would be a very good starting point upon which others could build. High on the list was a public transport information service where citizens could access bus and train timetables, as well as receive warnings of delays or cancellations. There was also keen interest in being able to locate government clinics or offices, communication with the Department of Labour, as well as receiving job ads. The list of services could be extensive, and interview participants mentioned some other G2C and C2G services that they would like to see: "*criminal, crime reports*" (F2); *“I would report over full taxis.”* (F1) *“I would like to inform the police about crime”* (M1)

M-government services would not only be easier to create but would also be met with the least amount of resistance when compared to m-democracy applications. As mentioned before, voting may raise concerns around secrecy, privacy, and security. Far easier to implement and less likely to raise the same concerns, are ‘quick polls’. Initially it can be used as an effective way for a local councillor or the citizens to quickly gauge community opinion on a variety of issues. The bigger plan for the quick polls system should be that it evolves it into a fully-fledged voting system. Over time it could be used as a testing environment, while addressing secrecy, privacy and security concerns. When finally implemented as an election voting system, the transition would be familiar, and seamless to users.

However, this degree of openness may be idealistic. The proposed Protection of Information Bill is an example of the lengths to which the South African government will go to keep some things ‘under wraps’ and ultimately go against section 16 and 32 of the South African Constitution which states that, anyone should be allowed access to information, and anyone has the right to freedom of expression.

A comment or chat network would allow for the communication and the sharing of ideas between individuals and communities, helping to build bridging capital, and the much touted ‘rainbow nation’.

The high interest in wanting to report service delivery and corruption, and the lack of trust in government was evident in this research, which indicates that the level of social capital between government and ordinary citizens is extremely low. However, reporting and monitoring services could be potentially problematic from political rather than technical point of view. The increased transparency, as well as exposure to public scrutiny of some processes could possibly curtail the incidence of tender irregularities, endless service delivery complaints and corruption. The tables would be turned, and ironically, citizens could become ‘big brother’. Several politicians may not be comfortable with being continually questioned, and having their every move subject to public enquiry.

# 7. Conclusion

Although the Constitution of South Africa supports political participation, the mechanisms provided still prohibit many from interacting. Mobile phones are an integral part of everyday life for many people: “*My whole life is on there*” (F1). The widespread acceptance and adoption of mobile phones in South Africa makes it the perfect vehicle for citizen interaction with both their community, and government. One interview participant sums it up as follow: “*if the youth access it through their mobile phones it will be so much easier, so much quicker, cause it’ll be convenient*” (M2)

Of all the UTAUT variables tested, the only two statistically significant drivers for the intention to participate in M-government were found to be the Performance Expectancy construct relating to the *convenience* of using the mobile device and the Effort Expectancy construct of the user’s *proficiency* with the device. This finding is reminiscent of the parsimony of the original Technology Acceptance Model.

There is great interest in the specific G2C and C2G mobile services mentioned in the survey, and is possibly a reflection of the respondent perception that these services would offer personal value. Brücher and Baumberger (2003) noted that services have to offer value to ensure widespread use. Although there does appear to be some interest in voting using mobile phones, voting via mobile phone is likely to be controversial, with concerns over secrecy, privacy, and trust. Trust in the system is best built over time as citizens become familiar with the systems as they use other G2C and C2G services.

Issues around mobile security can also negatively affected trust. Providing public transport information or job advertisements could be considered as ‘safe’. However, an application that either held, or transmitted medical information over wireless networks could be compromised by mobile malware or other security exploits. Even though these security breaches may not originate from the service provided, and rather be as a result of user bad practices, potential security breaches need to be taken into consideration before deploying mobile government services.

Respondents also expressed interest in being able to report on service delivery and corruption, as well as communicate with their community and councillor. Mobile phones serve to empower citizens and can give them the ability to access information, report and communicate more easily than before.

Some considerations for future research are to expand the sample, not only to increase the representativeness and size of the sample, but also to include other age groups. Additionally, the research could focus on services people want or need: in addition to the typical government information services offerings, conduct focus groups to get a list of services that citizens really want.

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