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Exploring the Use of Mobile Phones for Public Participation in the Buffalo City Metropolitan Municipality

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Abstract

This study investigated the factors that influence the intention of citizens to use their mobile phones to increase their participation in local government. It examined whether gender and age can be used to moderate the effect of these factors. The research was conducted in Buffalo City, a municipality in South Africa. The research used a questionnaire survey to collect quantitative data and semi-structured interviews to collect qualitative data. Data was collected from people aged between 18 and 55 who have no access to fixed-line Internet at home but are instead primarily accessing the Internet via their mobile phones. The study found that the acceptance of mobile phones as a means for public participation is largely a matter of designing mobile participation solutions that support and enhance the performance of citizens. Citizens are fairly accustomed to mobile technology, and this increases the likelihood that they would willingly adopt mobile participation solutions if they offer tangible gains when compared to current methods. Older citizens would require support in familiarizing with the new technology, while all citizens place the availability of reliable organizational and technical infrastructure as an important predictor of their intention to use. The influence of friends and family members was an important factor in citizens' intention to use. Gender did not have any significant effects on the factors that affect intention to use. Age was a significant moderator with younger citizens requiring quick and convenient ways to interact with government while older people looked for more efficient ways of reaching government which should in turn lead to improved quality in services delivered.

Keywords

e-Government; m-Government; m-Participation; Mobile phones; Public Participation, Digital Public Services.

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Introduction

For governments to effectively service their citizenry, they need to create platforms for the public to take part in their planning processes and have an influence on the decisions taken (Komito, 2005). Traditionally, the most prevalent form of public participation in political discourse has been through voting. However, in recent times there has been a decrease in voter registration and turnout in both developed and developing countries (Van Belle and Cupido, 2013). This may indicate that the public does not see its opinions having any impact on the direction and activities of government.

Public participation should be the cornerstone of any democratic society. Promoting public participation is central to maintaining a democratic dispensation (Williams, 2006). It is also argued that the role of citizen participation in governance and service delivery efforts is becoming an increasingly important issue for governments (Ochara and Mawela, 2015). Development programmes that are constructed, implemented, and evaluated by people at the local level, such as South Africa's National Development Planning (NDP), must serve the needs of the communities ahead of partisan political interests (Kabemba, 2012). Citizens often view their role in government merely as voters and taxpayers (Carrim, 2011). When avenues for public participation are unavailable, there is a higher risk of having an aloof government that is ignorant to the needs of the communities it is intended to serve. Negative practices such as fraud and corruption also tend to prosper when the public is not involved in government (Bertot, et al., 2010).

Furthermore, good working relationships between government and civil society must exist in order for public participation to be sustained (Nyalunga, 2006). Non-governmental organizations (NGO's), traditional leaders, as well as municipalities must all work together to ensure that the legislative frameworks that govern public participation are upheld (Setsabi, 2010).

According to the South African Municipal Systems Act 32 of 2000, local government is intended to provide accountable and democratic government for local communities as well as encourage their involvement in local government matters (Venter, 2007). The goal of public participation is to establish a collaborative problem-solving mechanism between government and civil society aimed at achieving representative and more acceptable decisions. Public participation should not be seen as an occasional event such as voting or marching, but instead as a continuous process requiring change in public perception on government matters as well as commitment from government to find innovative ways of facilitating participation.

Mobile phones have a potential to increase public participation (Heeks and Bailur, 2007). The infrastructure for using mobile phones already exists, and much of the South African population is in possession of a working mobile phone (Carrim, 2011). Government is encouraged to explore this unique opportunity which is likely to require notably reduced capital expenditure than regular information technology solutions as has been the case in places where it has been implemented (O'Donnell, et al., 2007). By facilitating mobile participation, government can help alleviate the problem of alienated citizens who lack avenues to engage government (Norris and Moon, 2005). There is evidence to suggest that developed countries with mature mobile participation implementations have improved government to citizen relationships (Macintosh, 2004). Government departments in Europe have been able to lower their staff complement by providing certain services on a do-it-yourself basis online (Rashid and Elder, 2009). Government enjoys improved support from citizens when forums for consultation that influence decisions are made available (Gauld, et al., 2010). Citizens are able to achieve real benefits from mobile participation due to the efficiency of online tools for interacting with government (Welch, et al., 2005).

There is literature that acknowledges the potential of ICTs to improve interactions between government and citizens (Ebrahim and Irani, 2005). The role that mobile phones and applications can play in enabling citizens to participate in government matters is an emerging field of study (Ertiö, 2015). The focus of this research was on investigating how the participation of citizens in local government can be improved through the use of mobile phones. It investigated how governments can benefit from the capabilities of mobile phones since they are already widely used by citizens for social, financial and other personal applications.

Electronic citizen participation

Citizen participation helps governments receive support for policy initiatives from the public, identify unexpected dangers and possible clashes. As an electronic extension of citizen participation, e-participation refers to the use of technology as a medium for participating in government planning, decisions-making, and service implementation processes. It can be implemented at any of the levels of government, that is, local, provincial or national.

According to O'Donnell et al. (2007), e-participation enables citizens to interact amongst each other and with civil servants who can in turn respond to citizens or engage with their colleagues through the use of technology. This definition speaks to the common models of e-participation, namely, citizen to citizen (C2C), government to citizen (G2C), and government to government (G2G). Macintosh (2004) provides a view of e-participation that is more process-oriented by defining it as ICT-enabled participation in government processes including administration, policy formation, decision-making, and service delivery. M-Participation is an extension of e-participation and refers specifically to the use of mobile technology in public participation which involves mobile phones, tablets, laptops, and other mobile devices (Conroy and Evans-Cowley, 2006).

While e-participation aims to achieve more than mere digital provision of information, many of its implementations worldwide show higher numbers of citizens accessing government websites to get information as compared to citizens using technology to deliberate, consult and affect discourse in government matters (Komito, 2005). Instead of actively conceiving and constructing, citizens merely become endorsees of predefined planning programmes (Williams, 2006).

Younger South Africans, between the ages of 18 and 35, are not actively involved in community matters with a small percentage having attended

a hearing or meeting organized by the local council or government. Older members of the community still choose to interact with government through traditional means but this trend is likely to decrease over time as upcoming generations are more comfortable with ICT (Heeks and Bailur, 2007). The most common application of e-participation in South Africa is email which is used by municipalities to send monthly invoices to citizens for the consumption of municipal services.

Proliferation of mobile phones

It is reported that 91% of adult people (from age 16 and higher) in South Africa have a mobile phone (Pew Research Center, 2014). South African mobile web users on average consume 6.2 hours of media on a daily basis, and are active on their mobile phones for 30% of this time, which amounts to 114 minutes spent consuming mobile media per user per day (InMobi, 2013). The use of mobile ICT is one of the critical requirements to the socioeconomic development of sub-Saharan Africa (Meso, et al., 2005). In 2007, the people of Kenya were for the first time enabled to perform financial transactions such as sending and receiving money via their mobile phones through an electronic payment service named M-Pesa (Hughes and Lonie, 2007). This innovation promotes financial inclusion of previously marginalised communities and in so doing advances the developmental objectives of the country. M-banking or m-payment systems such as eWallet and Cash Send contribute to the reduction of the digital divide and unbanked citizens in South Africa by providing those who do not meet the stringent criteria for obtaining a traditional bank account access to transfer and withdraw funds using their mobile phones (Donner and Tellez, 2008). The cost of providing public services is significantly reduced by using networked systems where mobile telecommunications are leveraged to bridge network gaps and connect rural communities.

Rashid and Elder (2009) conducted an evaluation of mobile phones as an instrument in addressing problems related to development using evidence from projects supported by the International Development Research Centre. The projects cover multiple themes including livelihoods, education, poverty alleviation, provisioning of health care, the environment as well as natural disasters. The authors found that mobile phones improve the efficiency of farmers and/or fishermen and in the development of emerging enterprises (Rashid and Elder, 2009). Ghana and Senegal showed salient evidence of improved financial profits as a result of using mobile phones while poor communities in Asia view the role of mobile phones during emergencies as its most helpful use (Rashid and Elder, 2009).

Towards mobile participation

Collaborative planning creates a platform where the ideals of a participatory democracy can be realized. The lack of public participation creates difficulty for government administrators and planners when making decisions about the future of the communities (Evans-Cowley and Hollander, 2010). The traditional methods of public participation such as public meetings can be ineffective and inefficient in today's dynamic world where people have numerous other obligations which render them unable to attend meetings. Citizens usually prioritize work and family responsibilities ahead of local government meetings. Public meetings tend to be misused as platforms to pursue political agendas rather than focusing on issues that affect citizens. Scarcity of resources, power struggles between councillors, lack of trust between ward members who represent different political parties, all make the traditional forms of local government participation difficult (Nyalunga, 2006). Planners struggle to find means of engagement that provide a meaningful experience for citizens (Van Belle and Cupido, 2013). The costs of calls to government call centres, being restricted to working hours, long queues at government offices are all deterring factors to public participation (Patel and White, 2005).

Governments may be able to lower the impact of some of these challenges by introducing digital means of interfacing with government by exploiting the capabilities of mobile phones as that is a medium that citizens already possess. Technology mitigates the time and location constraints that hinder citizens who would otherwise be keen to participate. Better relationships between government and its citizens can be established by incorporating technology into public planning processes (Evans-Cowley and Hollander, 2010). The introduction of technology in public participation supports the development of a democratic political culture (Hermanns, 2008). Governments have been unable to fully exploit the capabilities of mobile phones to reverse the trend of increasing political apathy (Hermanns, 2008).

Government has an obligation to begin creating applications that take advantage of existing

mobile technology to provide beneficial services to citizens (Patel and White, 2005). According to Simons (1988), the degree to which the public finds information truly usable and therefore the extent to which participation is possible, may largely be an issue of how that information is presented. These concerns indicate that there is a requirement for considerable initial investment from government. Government may have to introduce incentives for mobile operators to lower voice and data costs so that participation can be affordable to citizens of all demographics.

While voice prices have been declining steadily in recent times, the use of voice services has also seen significant declines while there has been growth in data use (Gillwald, et al., 2012). Defining mobile phone costs in terms of voice and data is no longer valid as users increasingly tend to convert airtime to data when they run out of bundles (InMobi, 2013). Additionally, there is also an increase in using data services to make voice calls through voice over IP (VoIP). SMSs are becoming extinct almost entirely as they are being substituted by instant-messaging services (Gillwald, et al., 2012). Government must therefore build m-participation solutions that are aligned to the constant evolutions in the ICT sector. This may require governments to form partnerships with role players in ICT. Challenges such as limited time, money, and qualified personnel are compounded by changing technologies and can have significant cost implications if proper planning is not done.

The literature on public participation in government highlights several common issues that hinder the successful adoption of technology. Additionally it is argued that the human factor contributes much more than the actual technology in limiting adoption (Williams, 2006). It is suggested that humans are generally resistant to change and that extensive change management is required when introducing a new technology (Gillwald, et al., 2012). Resistance to m-participation is likely to be low as citizens are already accustomed to using their mobile phones to interact and transact (Trimi and Sheng, 2008). The use of ubiquitous mobile phones make it possible for even the poor and disadvantaged to consume e-government thus avoiding the pitfall of widening the digital divide which results from using technology that is only accessible to select segments of the population (Patel and White, 2005). M-participation takes advantage of already existing technologies to extend government's reach to segments of the population which do not have access to more costly technologies. Transforming from traditional face-oriented or file-based systems of public participation to digital can increase efficiency, improve public information dispersal, and also improve equity opportunities for citizens.

This study examined the factors that influence citizens' intention to use mobile phones in order to increase public participation in local government and whether the effects of these factors are moderated by gender and age. There is a need for studies that explore the potential role that mobile phones can play in enabling citizens to participate in government matters (Conroy and Evans-Cowley, 2006). South Africa is similar: while there are several published studies on e-government in South Africa, there is still a lack of literature on m-participation (Mawela, 2017). This is a crucial area to concentrate on as most of the South African citizens have continued access to mobile phones, are accustomed to using mobile phones for social interactions, sending and receiving professional and personal information, as well as performing transactions with private sector service providers (Gillwald, et al., 2012). This research reviewed the factors that affect the intention of citizens to use their mobile phones for participating in local government and the moderating effects of age and gender as the intrinsic characteristics of citizens. The study, which was positioned in Buffalo City Municipality, aimed to address the following research questions:

1. What are the factors that influence the intention of citizens to use mobile phones to participate in local government?
2. Does age and gender moderate the effects of these factors on the intention of citizens to use mobile phones to participate in local government?

Materials and methods

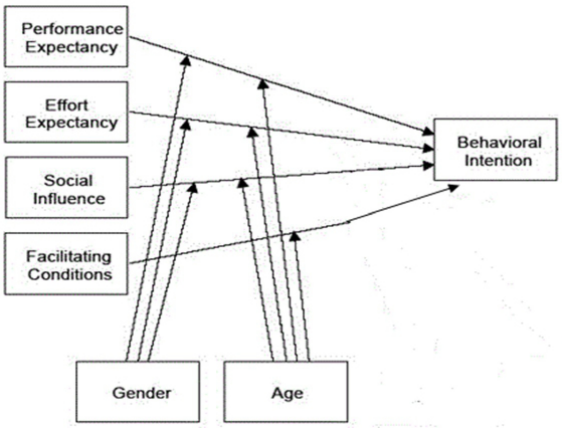
System implementers often use technology adoption models to assess how well a new technology is likely to be accepted by its intended users (Davis, 1989). Systems users have a reputation for resisting new systems. In order to successfully implement a new technology, the targeted users must be willing to adopt it. This often means abandoning old methods of doing things and learning the methods of the new technology. This requires extensive change management. Technology adoption models measure constructs such as perceived usefulness and ease of use. Users must be able to see the proposed value of a new technology in order to be willing

to adopt it. Usefulness and ease of use imply that the new technology satisfactorily solves a real problem and does not require an effort that is significantly more than what is required by current methods. Users must be able to see how a new technology will allow them to do more or work better in order to be receptive and show a strong intention to use.

Various models for understanding technology adoption have been previously proposed. Davis's Technology Acceptance Model (TAM) which was published in 1989 is based on the Theory of Reasoned Action (TRA) and the Theory of Planned Behaviour (TPB) and has been adopted widely to determine user acceptance of new technology (Venkatesh and Bala, 2008). The TAM has since evolved into TAM2 and later TAM3 which includes constructs that measure the influence of social factors while the initial version had a primarily technological focus. The Unified Theory of Acceptance and Use of Technology (UTAUT) model published in 2003 was intended to consolidate 8 models including TAM, TRA, TPB, the Social Cognitive Theory, and others which have been used previously to determine technology acceptance (Pearlson and Saunders, 2010). UTAUT is made up of 4 core constructs namely Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC). With the exception of FC, these core constructs have an effect on Behavioural Intention (BI). While FC does not affect BI, both BI and FC have a direct impact on Use Behaviour (UB) (Venkatesh, et al., 2003). The UTAUT uses Gender, Age, Experience, and Voluntariness of Use to moderate BI. Each of these moderating constructs has a varying effect on each of the model's core constructs.

This study used the UTAUT model because it has been shown to provide a "better explained variance of the intention to use technologies" than other technology adoption models (Khechine, et al., 2014) such as Theory of Planned Behaviour, Theory of Reasoned Action, and Technology Acceptance Model. The study modified the UTAUT and produced a framework that uses only the constructs that are relevant to its context. The result was a framework that excludes UB and Experience on the basis that there is no extensive experience of government using mobile technology neither to deliver services nor to engage the public in the Buffalo City Municipality of South Africa. When a new technology is being introduced and no extensive usage data exists for it in a given context, previous researchers usually measure related experience such as, internet and computer use (Johnson, 2013).

This study borrows from that approach and measures the mobile phone capabilities of citizens. These capabilities are considered separately and not as variables of the UTAUT model. The reason is that the literature review showed that the prominence of mobile phones in South Africa has remained consistently high since the mid-2000's with various segments of the population using it to perform more or less the same functions (InMobi, 2013) (Pew Research Center, 2014), meaning their experience in terms of years would not have any significance for this study. We collected the mobile phone capabilities data purely to establish whether a respondent was a user of a basic or smart phone and was familiar with the various functions of an internet-enabled phone. It is our view that such data would impact their willingness to adopt m-participation as it is consumed via internet-based applications. Voluntariness of Use was excluded on the basis that the use of mobile phones by citizens to interact with government would under normal circumstance be voluntary. The theoretical model for this study is depicted below:



Source: Adapted from Venkatesh, et al., 2003

Figure 1: Research theoretical model.

Research philosophy

The underlying philosophy of this research was positivist. Positivist research is primarily used to identify quantitative data with propositions that can be tested or identified. The purpose of positivist research is to discover causal relationships between variables. This study aimed to explain the relationships between variables namely the core constructs on the modified UTAUT model and the moderating constructs as we investigate the factors that affect the intention of citizens to use mobile phones for public participation. By studying these relationships, the study was able to identify

and explain the factors that influence the adoption of mobile phones as a tool for public participation in local government and whether their effects on behavioural intention are moderated by age and gender.

The study collected both quantitative and qualitative data. A questionnaire survey was used to collect the data required for quantitative analysis, whereas semi-structured interviews were used to collect data for qualitative analysis. This research tested predefined hypotheses for the quantitative aspect (see Table 1). The qualitative data collected through interviews was used to support the quantitative data. The quantitative and qualitative data collection methods are not opponents of one another but can instead be used to examine different aspects of the same phenomenon. The use of both quantitative and qualitative data allowed for triangulation. The target population included the citizens of Buffalo City Municipality between the ages of 18 and 55. Data was collected from people who have no access to fixed-line Internet at home but are instead primarily accessing the Internet via their mobile phones.

Results and discussion

A total of 156 questionnaires were included for the analysis. Both genders were well represented with males making up 51% of the sample and females making up 49%. The majority of respondents were youth from the 18-23 and 24-29 age group categories. English and Xhosa were the prominent home languages amongst respondents with the majority of them having achieved up to a secondary school education. Respondents were asked to assess their mobile phone capabilities. The majority of respondents (94%) were in ownership of a smartphone and were comfortable in using its functionalities. 14% of the respondents did not use their mobile phones to play games, while 6% said they did not download apps with their phones. Listening to the radio via mobile was unpopular with 88% choosing 'no'. Respondents used the normal functions of a smart phone such as sending and receiving messages, taking pictures, going online, and listening to music.

Mobile participation adoption

The first part of the research sought to address the question: What are the factors that influence the intention of citizens to use mobile phones to participate in local government?

The hypotheses were tested using multiple regression analysis. The research aimed to establish whether there are any direct links between the independent variables and the dependent

Hypothesis number	Hypothesis Description
H1	Performance Expectancy (PE) will have a positive effect on the intention to use mobile phones as a medium for public participation in local government.
H2	Effort Expectancy (EE) will have a positive effect on the intention to use mobile phones as a medium for public participation in local government.
H3	Social Influence (SI) will have a positive effect on the intention to use mobile phones as a medium for public participation in local government.
H4	Facilitating Conditions (FC) will have a positive effect on the intention to use mobile phones as a medium for public participation in local government.
H5	The positive effect of performance expectancy (PE) on the intention to use mobile phones as a medium for public participation is moderated by gender, such that the effect is stronger for males.
H6	The positive effect of effort expectancy (EE) on the intention to use mobile phones as a medium for public participation is moderated by gender, such that the effect is stronger for females.
H7	The positive effect of social influence (SI) on the intention to use mobile phones as a medium for public participation is moderated by gender, such that the effect is stronger for females.
H8	The positive effect of performance expectancy (PE) on the intention to use mobile phones as a medium for public participation in local government is moderated by age, such that the effect is stronger for younger citizens.
H9	The positive effect of effort expectancy (EE) on the intention to use mobile phones as a medium for public participation in local government is moderated by age, such that the effect is stronger for older citizens.
H10	The positive effect of social influence (SI) on the intention to use mobile phones as a medium for public participation in local government is moderated by age, such that the effect is stronger for older citizens.
H11	The positive effect of facilitating conditions (FC) on the intention to use mobile phones as a medium for public participation in local government is moderated by age, such that the effect is stronger for older citizens.

Source: own processing

Table 1: Research study hypothesis.

variable. The study found that direct links exist between 3 of the independent variables and Behavioral Intention. The data showed significant regression coefficients for the direct links between PE, SI, and FC and the dependent variable. Hypotheses were tested at a significance level of 0.05. P-values were adjusted for unidirectionality. The R^2 value was 0.528, meaning that almost 53% of the variance in the BI construct was explained by the 3 independent constructs.

Performance expectancy (PE) had a positive effect on the BI construct. This result supported the 1st hypothesis and is consistent with results from other related studies (Venkatesh and Bala, 2008) (Zhang, et al., 2012). Additionally, PE was the strongest predictor of BI which is a finding that is consistent with results from previous research (Yang and Zhou, 2011). This finding can be explained by the fact 72% of respondents fell into the wider youth age group, i.e. 18-35. This finding was also supported by the qualitative data wherein respondents expressed that they hoped m-participation would enable them to efficiently apply and receive services such as identity documents, driving licenses, matric certificates, etc. from the responsible departments and regulating bodies which would in turn enable them to apply for job opportunities. The inability to apply for advertised posts due to unavailable documentation emerged as a major concern for the respondents. The respondents saw m-participation as a technological tool that could help link them with government and make the job application process as hassle-free and cost-effective as possible.

Respondents also thought m-participation would be useful in that they would not need to take time out of their regular business to visit government offices, saving them money on transportation and time on travelling and queuing. Understanding the foremost predictors of user acceptance would be invaluable to a government and its technology partners. This knowledge can help those in administration make sound decisions regarding what technology to implement in order to support mobile participation. The technology solutions would have to be designed such that they are effective in terms of supporting and enhancing citizens' performance. This would in turn encourage the citizens to be more willing to use the technology.

Effort expectancy was not a predictor of Behavioral Intention. Subsequently the 2nd hypothesis is rejected. This finding is supported by Park et al. (2009), which theorizes that when users are familiar with a particular technology, effort expectancy cannot have a meaningful effect on their perceptions towards that technology. Respondents are already fluent in the use of mobile phone technology and view an electronic government solution as just another application that they would easily become used to. This supports the core notion of this study which is to take advantage of mobile phone technology to increase public participation as it is already largely diffused and used in South African communities.

Respondents in the semi-structured interviews mentioned that data costs are indeed a concern to them even in their current use of their mobile phones. The qualitative data showed that while users are conscious of data costs, such costs do not discourage them from using mobile applications as long as the applications allowed them to perform their desired functions effectively. Technology acceptance in developing countries often hinges on users having to weigh the effect of communication costs against the expected gains associated with using a technology (Ruxwana, et al., 2010). Users tend to manage their data spend by enabling and disabling application services as and when necessary. Government should view this finding as a hint to pair the deployment of m-government with the installation of free wi-fi hotspots in areas where data costs are a concern as a strategy to promote m-participation. Older respondents expressed that learning a new application would be a welcomed temporary discomfort if it meant that they would no longer have to put their jobs at risk by taking time out to visit government offices. Many of the people in Buffalo City Municipality work as unskilled labour in factories, farms, and construction sites which makes them vulnerable to lay-offs and replacement.

The social influence (SI) construct was a predictor of BI and thus supports the 3rd hypothesis. This finding is consistent with previous research (Bertot, et al., 2010). The opinions of others regarding the m-participation were important for citizens. When the people closest to an individual were favourable towards the use of mobile phones to interact with government, the more likely a citizen would be to participate in m-government. Users have no expectation to raise their social status by m-participation but only to feel part of a group with which they identify with. The semi-structured interviews revealed that friends and family have an influence because people usually chat about their online experiences and often suggest interesting applications

and websites to one another. Government would therefore have to implement community-wide awareness campaigns when launching m-participation as individuals do not like to feel isolated by choosing to use a new technology. The people in one's social circle must also subscribe to m-participation in order to achieve a successful implementation. The qualitative data revealed that many of the popular applications become so through word of mouth and that people do not enjoy using applications that are not used by people they know.

Facilitating conditions (FC) is a predictor of BI and therefore supports the 4th hypothesis. Citizens are more willing to use mobile phones for public participation when there are sufficient facilitating conditions. The availability of resources and help from government would be greatly important in influencing the intention to use of citizens. This should be coupled with a reliable infrastructure which would include systems and computing networks with high availability. Government would be advised to provide support staff and online help facilities to assist users as part of its change management process when transitioning into m-government. Providing help and support is a critical aspect in ensuring the successful implementation of a new technology (Gillwald, et al., 2012) (Gauld, et al., 2010). Citizens with a tertiary education were not concerned about receiving extensive hand-holding but were instead worried about the availability of good network coverage and systems that can remain online and available irrespective of the amount of users that are accessing the systems at any given point. This can be explained by the fact that learned citizens are likely to already have extensive experience with new systems in their workplaces, and have learned that unavailability is a common teething problem. The lack of a reliable ICT infrastructure is a major barrier to the successful implementation of ICT applications in developing countries (Ruxwana, et al., 2010).

The role of gender and age in mobile participation adoption

The second part of the research sought to address the question: Does age and gender moderate the effects of these factors on the intention of citizens to use mobile phones to participate in local government?

The effects of the moderating variables, gender and age, were evaluated to test hypotheses H5 to H11. We tested hypotheses H5 to H7 to establish whether gender could have a moderating effect on the factors that influence BI. We then tested hypotheses H8 to H11 to determine whether age could moderate the factors that influence intention to use.

We found that age indeed had a moderating effect on the relationship between 2 independent variables (PE and FC), and the dependent variable BI. Gender did not prove to have any significant effect on any of the variables. Hypotheses 5, 6, and 7 were subsequently rejected. Previous studies which use the UTAUT model to measure technology acceptance have found gender to have had some moderating effects (Venkatesh, et al., 2003) (Quan-Haase and Wellman, 2004). This difference in findings may be explained by the time/era at which those studies were conducted versus the present at which this study has taken place. In the early 2000's technology was relatively new in developing countries, and was primarily a sphere for intelligent young men interested in science and engineering innovation (Brown, et al., 2010). In the present day, this has changed and females are as involved with technology as their male counterparts (Orji, 2010). The respondents in this study had essentially similar characteristics because they shared similar social backgrounds, e.g. unemployment, inability to study beyond high school due to lack of funding, etc. Additionally, they had relatively the same level of experience in using mobile technology as revealed by the data collected from Part A of the questionnaire regarding mobile phone capabilities.

As stated previously the study uses a unilateral significance level of 0.05 to test its hypotheses. Based on the results the 8th hypothesis is supported. The positive effect of performance expectancy on the intention to use mobile phones as a medium for public participation was moderated by age, such that the effect was stronger for younger citizens. Several studies found age to be a strong influence on differences in performance between the usual versus the new-age methods of interacting with government (Welch, et al., 2005). The questionnaire measured performance expectancy in terms of its perceived usefulness, with statements centred on the efficiency and effectiveness of m-participation solutions. Moreover, the questionnaire sought to establish whether there were any perceived benefits, for example improved productivity and cost savings. The older citizens showed that they expected m-participation to spare them from absconding from work which was a paramount concern

for them as they could access the applications at their convenience (anytime, anywhere). Younger citizens who were primarily financially dependent expected m-participation to free them from the expenses associated with travelling to government offices. Younger citizens expected the turnaround on applications for government services to be reduced as they would be able to track and follow-up on their applications remotely.

The qualitative data supports this finding as citizens expressed a need to have the ability to track their requests. Younger citizens were concerned with attaining a speedy service at a low cost. Older citizens wanted to have their requests resolved without them being physically involved every step of the way, but being able to tell what is happening with their requests at any given time. Older citizens tend to look for improvements in the quality of service while younger people tend to look for speed and efficiency when evaluating a new technology (Chan, et al., 2010).

The study also found that the positive effect of facilitating conditions on the intention to use mobile phones as a medium for public participation was moderated by age, such that the effect was stronger for older citizens. This result supports the 11th hypothesis and may be due to older citizens' disillusionment regarding the standard of help and support that government has brought to communities through the years. Older citizens may also exhibit more anxiety with learning a new technology as compared to young people and would therefore require more support. People in the 18-23 and 24-29 age groups showed strongly that they had enough knowledge and social support to successfully adopt m-participation. People in the higher age groups showed that they had the resources needed to take up m-participation but were skeptical about the level of support they would receive from government. In the semi-structured interviews, an older woman in the 50-55 age group expressed that she usually relies on her young adult daughter to show her things on her phone and would do the same with m-participation.

ICTs enhance service delivery by increasing efficiency through enhanced connectivity and opening channels of communication between a government and its citizens so that comparative advantages can be attained (Park, et al., 2009). The need to increase the involvement of citizens in local government politics and service delivery stems from the position that without citizen involvement authorities often take decisions which are not aligned with the needs on their constituencies (Bertot, et al., 2010). By analysing the variables that affect the adoption of mobile phones as a medium to increase participation, the study exposes the expectations of citizens from a digital government interface. The said interface should in the end serve a purpose beyond just getting people to go online, but the quality of services delivered to citizens must improve as a direct result of using the online government system. In state-building efforts, ICT processes are intended to play a central role in closing the digital divide and improving service delivery particularly in underdeveloped societies (Kabemba, 2012).

Conclusion

This study explored the potential of implementing mobile participation in the Buffalo City Municipality of South Africa. It was argued that mobile participation may improve public participation since citizen participation is touted as the corner stone of a democratic society. This study analysed the predictors of the intention to use m-participation. We also evaluated the effects of 2 moderating variables, gender and age, on the relationship between the predictors and behavioural intention. The study allowed us to gain insight into the factors that would encourage citizens to accept m-participation. Government should give special consideration to the needs of its people in order to meet their expectations. The results showed that effort expectancy was not an important factor for citizens in adopting m-participation as citizens were already accustomed to using mobile applications. The expectation to perform more efficiently and effectively was however a major requirement. Government and its technology partners should design interfaces that ensure that this expectation is met. M-participation solutions should be designed in such a manner that users can see its accrued benefits in the form of improved service delivery, savings in time and costs, and perhaps better relationships between government and citizens. For example, allowing easy navigation between municipal account statements, municipal debt querying, and online payment facilities would reduce the need to contact call centres or travel to municipality offices in order to resolve bill related issues. The results show age as having a moderating effect, as younger citizens were more concerned with rapidity (getting things done quickly), and older citizens with utility (getting things done effectively with improved quality).

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