The 4th Annual International Conference on Public Administration and Development Alternatives
03 - 05 July 2019, Southern Sun Hotel, OR Tambo International Airport, Johannesburg, South Africa

An E-Government Opportunity: Implications for the African Poor and Vulnerable Groups

MB Mosehlana
University of Limpopo, South Africa

Abstract: Information and Communication Technology (ICT) is viewed as an enabler for efficient and effective government processes, operations, interactions, service, and for accountable and transparent government i.e. a phenomenon well known as e-government. E-government is believed to present an enormous potential in innovating and transforming the manner in which government services are delivered. The potential of e-government is however challenged in the developing countries particularly in Africa due to a mist of challenges encountered in implementation. One of the prevailing arguments is that instead of expanding access to the poor and marginalized groups in the society, e-government tends to expand the gap that already exist between the rich and the poor. This paper aims to solicit African governments to prioritise e-government services targeted to the most vulnerable, marginalised, disadvantaged groups, the poor and those in the remote rural areas of the society for inclusive service delivery. The paper adopts a conceptual approach and analyses existing literature aided by scientifically published documents and reports on the subject. This methodological approach let to the determination of a variety of ICT channels which the researcher believes present a necessary potential for the poor, vulnerable groups and people in the rural areas to benefit from e-government services within the realistic context of socio-economic and material conditions encountered in the African continent. If such channels are identified, carefully managed and equipped with services that are relevant to the needs of these groups, the e-government potential can be realised to benefit the poor and vulnerable in Africa.

Keywords: Developing countries, E-government, Rural areas, Vulnerable groups

1. Introduction

Electronic-government (E-government) involves the use of ICTs to facilitate interaction between government institutions and the citizens or the business community in various activities for the delivery of government services. This delivery approach presents an opportunity for equal public service delivery (Lips, 2010). For the full realisation of this opportunity, it is important that e-government services are made accessible to remote rural areas, townships, poor urban areas and vulnerable groups in the society. This is mainly because these groups of citizens are usually excluded from the full benefits of public services for various reasons. Yet equal access to government services is a vital guiding principle to almost if not all democratic governments worldwide (Mphidi, 2011). Equal access implies everyone in the society including people with disability, the vulnerable and the poor. It is fair to expect a government to direct efforts that promotes e-government services designed to cater for these groups, making e-government services a norm in their societal settings and not a privilege. In relation to issues of the digital divide, Maumbe (2007) asserts that some of the questions that government and civil society should ask are issues of how to promote equitable e-government service delivery to citizens and generating long-term trust and loyalty to this mode of delivery.

Drawing from the literature (Kitaw, 2006; Posfai & Fejer, 2008; Abuali, Alawneh & Mohammad, 2010; Hassan, Shehab & Peppard, 2010; Brynard, Cloete & de Coning, 2011; Mphidi, 2011; UN, 2016; UN, 2018), it is a serious concern that ICTs are not appropriately introduced, adopted and utilised in African countries. There is lack of support for appropriate and relevant technologies and delivery channels that consider the user in mind to promote access and usage. Close attention is not given to e-government implementation dynamics between the developed and developing countries, particularly to highlight the challenges that Africa as a developing continent encounters in the implementation of e-government. A significant missing ingredient that would necessitate pursuit of measures and policy strategies to provide real e-government benefits for the poor. Mobile-government as a promising and fast growing channel of delivery that can potentially ensure the inclusion of the poor in the digital age is not effectively incorporated in the delivery stream

and governance processes. Africa has also not adequately taken special lessons when adopting e-government of constantly re-visiting its priorities and evaluating its unique characteristics and circumstances as a developing continent. All these aspects seem to be reasons for delay and implementation or disconnection by Africa from the inevitable and necessary changes or transformation to benefit the most vulnerable and the poor to enjoy the benefits of e-government. This paper aims to solicit African governments to also prioritise e-government services targeted to the most vulnerable, marginalised, disadvantaged groups, the poor and those in the remote rural areas of the society for inclusive service delivery, bearing in mind a host of challenges and implementation gaps aforementioned.

2. E-Government in the Developed vs Developing Countries

When studying world e-government rankings, it is common for the developed countries to be positioned top on the list, whereas the developing and underdeveloped countries usually appear at the bottom. According to UN (2018), the top 10 e-government world leaders are; Denmark, Australia, Republic of Korea, United Kingdom, Sweden, Finland, Singapore, New Zealand, France and Japan respectively. The African continent which generally constitutes developing nations continues to lag behind in global e-government rakings. The average of Africa in 2016 was as low as 0.2882 compared to the global average of 0.4492 as well as the leading Europe's average at a high of 0.7241 e-government development index (EGDI) (UN, 2016). According to the 2018 UN e-government survey (2018), the majority of countries ranking within the Low-EGDI grouping continue to be African countries, constituting 14 countries out of 16. Some of these countries include; Central African Republic, Chad, Comoros, Djibouti, Equatorial Guinea, Mali, Niger, Somalia amongst others. This is a reflection of the continued digital divide between Africa as a developing continent and the developed continents such as Europe.

Chatfield and Alhujran (2009) indicate that e-government leaders have a national e-government portal as one of the identifying success factors compared to the laggards. This means that they have a single-entry point (commonly known as whole-of-government approach or one-stop shop) that covers the scope of a country's e-government with links to specific government departments, agencies and institutions. These governments present their citizens with the opportunity to enjoy advanced e-government services such as electronic payment transactions, e-democracy including e-consultation, e-decision making, and e-information. Developed countries are able to adopt a one-stop shop due to the interconnected, synchronised and coordinated nature of their e-government programmes. However, this is a requirement that the developing nations highly lack and battle with. Although countries like South Africa have shown initiative in this regard, through its official one-stop-website called the Batho Pele Gateway (Department of Telecommunications and Postal Services –DTPS, 2017) which is accessible on http://www.gov.za, e-government services in this country still lack the required level of interconnectedness i.e. coordination of such related activities for seamless delivery (Cloete, 2012). On this note, developing countries should seriously take into account their unique circumstances, prioritise the key issues and address them in order to realise success in e-government implementation.

Alshawi & Alalwany (2009) indicate that e-government strategy development, implementation and operation in the developing countries differs with that in the developed countries. Nengomasha, Mchombu & Ngulube (2010) affirm that developed nations employ sophisticated and integrated e-government programmes as opposed to most developing countries which according to Bhatnagar (2002) still make use of a mixture of automated and manual models for service delivery. However, moving away from a combination of e-service delivery designs to a complete automated self-service approach might not be beneficial for the developing countries due to the state of ICT infrastructure, legal frameworks and literacy levels. The developed countries generally achieve very high-EGDI as opposed to low-EGDI in the developing countries (UN, 2016) that also face problems of systems incompatibility. Abuali, Alawneh & Mohammad (2010) state that the developing countries are often faced with the problem of systems incompatibility between currently employed and future developed e-government systems. These issues clearly highlight the gap between planning for the current and future e-government implementation, lack of a long-term vision for e-government implementation and exposure to the reality that the developing countries should not simply adopt e-government applications from developed nations, but rather adopt it to cater for their unique circumstances.

3. E-Government Challenges in Africa

Despite the growth over years that indicates an increasing awareness and willingness to support and adopt e-government by the African governments, Africa as a developing continent faces a number of challenges in the implementation of e-government. UN (2016) indicates that countries with low E-government Development Index (low-EGDI) are largely African countries. A total of 14 African countries are classified within the low-EGDI as compared to 0 (zero) in Europe, 0 in the Americas, 2 in Asia and 0 in Oceania. Most African countries rank within the lower EGDI or middle-EGDI, with a limited, but gradually increasing number ranking within the High-EGDI. None of the African countries ranks within the Very-High EGDI category (UN, 2018). UN (2016) records indicate that African countries are extremely affected by global challenges of food security and climate change including extreme harsh environments which have negatively impeded progress and priorities on e-government. A number of challenges facing Africa, which to a large extent explain the low-middle EGDI among African countries are discussed. These challenges are very common among poor, remote rural and marginalised groups within the African countries.

3.1 Literacy

According to Kitaw (2006), some African governments including Benin, Burkina Faso, Ethiopia, Gambia, Guinea-Bissau, Mali, Niger and Senegal face various challenges that prevent them to adequately adopt and adapt to e-government applications. Literacy is continuously identified as the biggest obstacle to e-government development in most African countries. Women are ranked on the ratio of approximately two-thirds of illiterate people in Africa and this figure had not yielded positive growth by 2015 as was expected in the millennium development goals. UNICEF (2018) affirms that the literacy rate in 2016 among youth was increasing but women continued to lag behind. This situation does not help this already vulnerable and marginalised group within affected societies. UNICEF (2018) also reports that the West and Central Africa regions rank lowest (53) in both adult and general literacy rates worldwide, with women at a low of 43% (world average 81%) compared to men (63%). Therefore, illiteracy is an obstacle to the adoption of e-government. Almarabeh & AbuAli (2010) add that the uneducated population faces serious challenges of e-government access and adoption, a situation that further makes e-government potential extremely difficult to be realised for this group. However, increasing opportunities presented by ICTs through e-learning programmes can possibly improve the state of affairs and further transform and advance the education system. This may also possibly explain the current improvement trend in literacy rates as reported within the youth grouping.

Mphidi (2011) highlights that internet usage is more prevalent among educated individuals, ultimately translating to low internet usage by the illiterate groups. On the other hand, UN (2016) reported that mobile technologies such as smart phones can help broaden access to both education and internet access among poor groups of people. Moreover, support offered by employees in conveniently located community centres is another important and feasible option to secure access and usage for illiterate individuals who are unable to make use of ICTs, thus ultimately transferring e-skills to the e-illiterates (Posfai & Fejer, 2008). This has critical triple effects because citizens' ability to demand services electronically (e-skills sets) has an influence on e-government adoption rate (Bhatnagar, 2002). As a long term goal, education systems in Africa need to incorporate ICTs at the grass-roots level whilst promoting and producing qualified ICT specialists through relevant tertiary institutions (Kitaw, 2006). These are some of the basic measures that need to be incorporated in the developing countries' implementation strategies in order to address the current state of illiteracy and e-illiteracy.

3.2 Telecommunication Infrastructure

In the 2016 UN survey (2016), it can be interpreted that a country like Republic of Korea is far more advanced in terms of its Telecommunication Infrastructure Index (TII) compared to the previous top two African leaders' (Mauritius and Tunisia) infrastructure combined. Although there is currently a slight improvement - Mauritius (0.543) and South Africa (0.4231) compared to the Republic of Korea's 0.8496 TII (UN, 2018) this is a sad reality that demonstrates the magnitude of incapacity with regard to ICT infrastructure in Africa. According to Kitaw (2006), ICT infrastructure is a central developmental factor in the knowledge society or information age. However, Africa was never capacitated with this kind of infrastructure in the previous decades, and continues to lag behind. Underdeveloped

infrastructure is one of the most critical factors which delays e-government progress in Africa. It is important for the continent to realise this as an opportunity and invest heavily in ICT infrastructure. This is critical if the continent is to position itself to enjoy the benefits presented by ICT and simultaneously be incorporated into global connectivity and development. This is also crucial for its fast growing future generation and its labour force, bearing in mind that a country with no access to ICT's neither participates nor benefits from e-government opportunities (Mphidi, 2011). The same applies to lower class societies where lack of infrastructure is most prominent.

Contrary to its potential, if not properly planned, adopted and managed in cognisance of the socio-economic imbalances, ICT can have a negative impact on impoverished societies by exacerbating inequality. Developing nations can however address these concerns, particularly issues of ICT infrastructure in lower class communities by taking decisive actions. This is due to the reality that ICTs cannot be side-lined when determining government priorities any longer due to their inevitable impact on people' lives. de Coning, Cloete & Burger (2018) also acknowledge that developing countries "might have no choice but to migrate to electronic means of service delivery if they are serious in their attempt to achieve sustainable developmental outcomes". Almarabeh & AbuAli (2010) implore governments in this regard to build projects comparable to the country's telecommunication infrastructure; consider using conveniently located service centres or mobile centres to provide access to marginalised and disadvantaged groups; assess the government's present use of technology and build on it; utilise the Small Medium Enterprises – SMEs model to connect to poor areas and allow sustainability and initiate telecommunication competitions to promote the use of SMEs; lift regulations against wireless and other digital technologies; and a considerable amount of budget must be allocated for ICT investment and infrastructure development.

3.3 Digital Divide

The digital divide is a serious challenge in the digital age preventing poor communities from reaping the full benefits of e-government. According to UN (2016), the digital divide comprises inequality in physical access to ICTs and in resources and skills required to successfully use such ICTs. Almarabeh & AbuAli (2010) define the digital divide as the gap between those with access to the internet or other ICTs and those without i.e. the ICT 'haves' and 'have-nots'. The digital divide according to Rambowan, Lubbe & Kopper (2005) manifest itself in the context of the class structure (rich vs poor) and most importantly, in how minority groups (in this case, the disabled, the young, women and elderly persons and indigenous groups) are treated. If change is orchestrated in how these marginalised groups are treated, and if distribution of resources between the poor and rich is balanced i.e. paying more attention to their needs, digital inequalities can be greatly reduced. Instead of constantly capacitating and advancing the lives of the ICT 'haves', governments should start to pay more attention on how to create an inclusive knowledge society. This requires dedicated efforts towards digital capacitation of these groups by establishing means for the poor to benefit from all-round digital e-government activities. Mphidi (2011) acknowledges this disparity as one of the biggest challenges to governments which have adopted e-government. The digital divide is problematic as those with no access will not have the privilege to access information that provides economic opportunities such as government vacancies, educational bursaries, business opportunities including tenders available through government websites. Therefore, a digital inclusion strategy is of paramount importance for the ICT 'have nots' groups in the society. UN (2016) maintains that digital inclusion measures require fulfilment of four key areas (1) improvement of access to high-speed internet connection to every citizen; (2) provision of reliable and high quality ICT infrastructure; (3) adoption of a holistic approach on social, economic and environmental factors to spread digital inclusion; and (4) promotion of ICT usage and development of necessary ICT skills.

With particular reference to the poor, vulnerable groups, rural areas and townships, governments must ensure that they provide these groups with an added advantage to ensure better access to e-government services so that they can enjoy the same privileges as their urban counterparts. Almarabeh & AbuAli (2010) state that government can in this regard, provide multi-purpose community centres or public kiosks provided with hand-in-hand training for use; incorporate local language and local content in e-government services to promote access, usage and value. Bhatnagar (2002) believes that multi-purpose community centres are beneficial in areas

with low access to the internet i.e. remote rural and underserved townships. This facility is conveniently positioned in public areas and provides different e-government services in one place such as payments, issuing of licenses and certificates. Moreover, supportive policy actions that African countries can consider include among others: improved measurements for ICT usage, efficient use of digital technologies and constant experimentation, strategic collaborations, comprehensive citizens' engagement strategy and improved e-government services targeted at vulnerable groups with user friendly features (UN, 2016).

3.4 Policy and Legislative Framework

The general characteristics and unique circumstances of developing countries make it difficult for policy processes and implementation in particular to take place smoothly. According to Brynard, Cloete & de Coning (2011), circumstances common in the developing nations include: severe lack of policy-related information, information management systems and electronic systems which result in policy paralysis and uncertainties in policy decisions; lack of knowledge, skills and expertise in policy related decision-making leading to poor policy decisions; poor policy implementation and weak service delivery capabilities. Policy then fails as a result of these conditions. As far as e-government is concerned, Kitaw (2006) insists that African countries need to develop relevant policies and satisfactory legislative frameworks to successfully adopt and implement e-government which can assist to eliminate some of their service delivery problems. Developing ICT policies and formulating appropriate ICT legislative frameworks that cater for the needs of all individual beneficiaries is a challenging task (Hassan, Shehab & Peppard, 2010), even more difficult to most African governments eager to adopt e-government.

The challenges to develop appropriate ICT policies is characterised by political and legal elements. Amongst political elements is lack of political leadership and support for e-government (Mphidi, 2011). Firstly, successful e-government applications and implementation requires top officials to be champions and great supporters of ICTs (Abuali, Alawneh & Mohammad, 2010). Contrary to this, there is shortage of skilled high ranking IT public officials in most African governments (Kitaw, 2006). This gap should nonetheless be viewed as an opportunity to promote ICT as a field of study in both basic education level and higher education. Onyancha (2007) states that officials require proper training to ensure the effective use of e-government applications. Training is also significant to build and strengthen e-government culture in public institutions. Secondly, the need for transformation from traditional and bureaucratic systems to citizen-centred governance is a political element that pose a serious challenge to formulation of relevant ICT polices and legislation (Alfano, 2011).

In light of the above, African governments need to commit completely to citizens' needs, incorporate citizens in their systems and communication channels, consult and encourage citizen participation for quality public service delivery. However, Kitaw (2006) states that not all African countries share the same ideology of a citizen-centred governance. Lastly, to fully adopt e-government in Africa, governments need to establish appropriate legislation to support digital signatures and to fight cybercrime. Thus, legislation and policies governing e-government adoption must not only be strengthened, but also be competent to fight crime that develops through the use of the internet, particularly to support the growing demand for e-commerce and e-transitions. Government websites and any e-government application need effective protection and security against any possible digital/internet and online crimes (Bhatnagar, 2002). Subsequently, legislation on both e-government adoption and protection against cybercrimes is critical for e-government success. Apart from a strategic direction that Africa needs to take to address its e-government adoption challenges, it is significant that e-government is implemented and designed with user needs in mind and it's perceived value, with particular attention to the poor and vulnerable groups.

4. E-Government Designed for the Poor and Vulnerable Groups

Almarabeh & AbuAli (2010) argue that e-government may pose a major challenge as some ICT tools may not be user friendly to the disabled groups. Better equipped ICTs which cater for the disabled individuals such as voice prompts options for the blind, and graphic displays for the illiterate and deaf, should be employed to promote equal access to e-government services (Posfai & Fejer, 2008). Assistive technologies such as narrators and enlargements screens can be incorporated in government websites to promote accessibility to e-government services by

citizens with special needs (Kaisara & Pather, 2011). This may be a challenge for developing countries with very basic ICT facilities and even worse, from whom a majority of the poor depends for basic services. These are some of the issues that need to be incorporated in the developing countries' long-term e-government investments strategies. It is important that governments worldwide, especially developing countries put considerable effort in increasing e-government service accessibility and adoption by disabled groups. According to Almarabeh & AbuAli (2010), efforts that may be considered to promote inclusive access to e-government services involve; (1) establishing laws that require institutions and agencies to adopt technology that facilitates usage by disabled groups; (2) design e-government applications that cater for the needs of the disabled groups during the initiation phase, e.g. audio option devices for the blind; (3) and most essentially, governments need to establish performance criteria to measure progress on initiatives and activities aimed at improving accessibility and usage of ICTs by the poor and vulnerable communities. Another fast growing ICT trend that is highly feasible to poor communities is adequate use of mobile technologies, particularly mobile phones or smart-phones in the delivery stream.

5. Mobile-Government

The use of mobile technologies or devices to deliver government services is called mobile-government (m-government). The Department of Public Service and Administration – DPSA (2013) defines m-government as the use of wireless and mobile technologies such as cell phone, tablet and laptop applications to deliver offline information services, online interactive and transactional services between the government and its citizens. M-government is not a separate, additional, replacement or an advanced stage of e-government, but it is simply an important part of e-government (United Nations - UN, 2014). Some countries (e.g. Singapore, South Africa) are increasingly using mobile technologies to provide e-government services to citizens to ensure that services are accessible to them anywhere and at any time – 24/7 access notion. Most significantly, government may use these mobile technological and social media applications to become more accessible and provide up-to-date information services to remote rural areas and to vulnerable groups in the society. In the remote rural areas, the role of field-workers can be amplified since the government is able to empower them through the use of mobile technologies to allow them flexible or smart working conditions (UN, 2016), to adequately and timely capture critical societal information and issues as they arise. A move from fixed to mobile technologies has presented governments with endless and new ways of delivering government services to these recipients who are usually isolated and in real need of government services (Nokia Siemens Networks, Nokia Corporation & Commonwealth Telecommunications Organisation, 2008; Interchange of Data between Administrations - IDA, 2004).

5.1 Mobile Government for Social Services

The use of mobile service applications such as SMSs in the social service sector is increasingly playing a vital role in the developing countries in bridging the access divide in the remote rural areas characterised by vulnerable groups where these services are most needed. A good example of an m-government service is the Singapore SMS text service called SMS70999 designed for emergency services. This mobile service was introduced as a social inclusion initiative targeting vulnerable groups in the society such as the deaf, speech-impaired and hard-of-hearing to easily access emergency services (UN, 2014). Electronic delivery of social services has the potential to drastically influence availability and affordability of mobile devices which will not only help to bridge the digital divide but also to pave the way towards sustainable development (UN, 2016). Government institutions with high and regular customer contact (education, health, employment and social welfare services) tend to sit at higher stages of e-government maturity as a result of high public demand for these services as compared to institutions with low and irregular customer contacts (Kachwamba & Hussein, 2009). This makes social services ideal for online delivery, particularly in the developing countries since these services are critical in paving a way for social and economic empowerment for the poor and encouraging digital inclusion.

The UN (2016) noted that mobile technologies can improve the living conditions of underprivileged communities because as more and more people from impoverished areas own a mobile device, the gap in provision and access to services and learning becomes bridged. This ensures that an environment conducive for education and learning, and access to government health services is consequently created. de Coning *et al*. (2018) affirms that ICTs

encourage people to become literate in order to enjoy e-government benefits since people are compelled to equip themselves with necessary ICT skills. ICTs can then be interpreted both as a push and pull factor for socio-economic development with mobile technologies accelerating the process. Health services are no longer geographically bound as health practitioners are empowered to make use of mobile devices to access test results for patients. Ramharuk (2005) acknowledges that the application of ICTs in the health sector including use of technologies such as Telemedicine - for remote diagnosis, Health Information Systems, Decision Support Systems and Electronic Patient Records has transformed health care services. This serves as a demonstration that geographical barriers to health, education and other government services in the poor communities can be addressed through ICTs. These technologies can help expand government's focus from improving government services to creating citizen-centered public services, thus putting the needs of the poor and vulnerable people first.

Mobile technologies are increasingly promoting equal access to government information as another important government service which is no longer dependent on fixed devices such as a computer. UN (2016) reported that mobile technology is increasingly becoming accessible even in poor and remote rural areas where there is shortage of basic ICT infrastructure and facilities. Developing countries have recorded a large number of mobile users with continued penetration. South Africa is one of the developing countries which demonstrates increased ownership of technologically advanced cell phones (smart-phones) that allow access to e-government services and also offer a great deal of interactivity between government and its citizens (Nokia Siemens Networks *et al*. 2008). However, its internet-based services are considered to be among the most expensive globally (Thakur & Singh, 2013) with the poor being the most affected. This is another element that requires close consideration if the poor and the disadvantaged were to benefit from all-round e-government services and not just offline-services to ensure realisation of an inclusive digital and Sustainable Development Goals (SDGs) 2030.

5.2 Mobile Technologies for Internet Access

de Coning *et al.* (2018) acknowledges that technology is increasingly becoming more affordable in the developing countries. UN member states are therefore expected to increase access to ICTs and promote affordable access to the internet, especially the developing nations, in efforts towards the realisation of SDGs (UN, 2016). According to the UN (2016), mobile smartphones are used as the main source of internet access (4G networks) in the developing countries. The UN (2014) also reported that Kenya's 99% of internet users (almost all internet users) gain access to the internet through mobile devices. DOC (2014) states that although mobile internet connection is a fast growing trend and arguably an affordable means of accessing the internet, the problems of slow connection due to mobile speed can frustrate users, especially the poor who may heavily depend on this platform for connection. Nonetheless, this trend should serve as an indication of an opportunity to encourage the developing nations to expand beyond offline services such as SMSs to delivering a variety of public services (including interactive and transactional services) empowered through this platform as the cheapest channel to access the internet.

5.3 Mobile Technology and E-Commerce

Mobile payment or mobile money is a fast growing commercial trend in Africa which has the potential to reduce poverty by providing flexible financial services (e-banking and e-commerce) most significantly to the majority of the rural population where access to financial services and roads and ICT infrastructure is still a big challenge. M-government presents disadvantaged and vulnerable groups in the society with an opportunity to access financial services much easier than it was before the cell phone took over the key facilitation role in sending and receiving money. This mobile money initiative is commonly known as M-pesa in Africa and currently facilitates significant services such as salary payments, international money transfers and airtime-top-up amongst others (UN, 2014). DOC (2014) highlights that 'mobile money' may also empower lower income households to contract micro-loans (services that are otherwise widely inaccessible to them) for socio-economic upliftment. Also importantly, mobile financial services are accessible to recipients at free of charge (costs are normally incurred by the sender), or at minimal charges if there are any financial charges as compared to formal monthly bank account charges. Thakar & Singh (2013) argue that electronic banking facilities (e.g. ATMs) may economically and geographically disadvantage the poor as they tend to make regular

low value withdrawals (informal sources of income) in remotely accessible ATMs. This implies that these facilities need to be increasingly made accessible to remote rural areas and urban townships in order for these underprivileged communities to see the value of ICTs in improving their lives. However, the banking sector has begun to make efforts to improve their visibility in villages and townships. Entrepreneurial activities can also be supported through this initiative to incorporate informal business activities in the rural areas and expose them to national and global e-commerce. This calls for a more advanced interconnected delivery approach whereby government partnership with the business sector (Public Private Partnerships) needs to come forth in these sectors and strengthen such PPPs for the benefit of society.

5.4 Social Media for Participative and Inclusive Digital Society

Social media application is another significant tool that is used by both the government and communities to communicate and provide information services to one another and also initiate dialogue, including raising awareness on issues that need urgent attention. 'Lungisa' is an example of a social media initiative in Cape Town which facilitates reporting of service delivery problems including problems with electricity, water and other public services (UN, 2014). Van Jaarsveldt & Naidoo (2013) affirm that social media is actively used in South Africa to discuss pressing societal issues, provide information on governmental activities, governance processes and also encourage public participation in such activities and processes. The UN (2014) encourages governments to take advantage of this fairly affordable channel to reach disadvantaged and vulnerable constituencies in order to discuss and address issues affecting their communities. Social media can play a vital role of social inclusion of groups previously disadvantaged in important governance processes through e-participation, e-consultation, e-decision-making and e-information. Government therefore has a task to create a conducive environment through policies that create awareness and teach citizens in disadvantaged and marginalised communities how to access and use e-government services using technological devices at their disposal (UN, 2016). According to Asian Development Bank Institute – ADBI and UN: Economic and Social Commission for Asia and the Pacific –ESCAP (2005), e-government initiatives that are aimed for poor communities should be driven by e-government strategies and policy frameworks that support empowerment of underprivileged communities and should focus on bridging the digital divide.

6. E-Government Adopted Through an African Lens

What is most important for Africa is that, e-government should be seen as an enabler and not a solution to country-wide socio-economic problems. This is simply because *"e-government is not primarily about technology. Technology is as important as the length of the letter 'E' in the word e-government"* (Kitaw, 2006:55). It is important to bear in mind that ICT is not an objective or an end itself, rather a tool to realise government objectives, thus, a means to an end (Thakar & Singh, 2013:43). Meaning that, African governments still have a big role to play to show their true commitment and willingness not only to transform patterns of delivery, but to also show commitment in national strategies and priorities of which their achievement according to the World Bank (2002), can be facilitated through e-government. Kitaw (2006:54) further emphasises that if e-government is *"driven and adopted by Africans themselves, it should figure high among the key areas of action in national e-government strategies not because development partners have recommended it for good governance, but because it inherently contributes to socio-economic dynamisms and overall livelihood of African societies"*. This implies that developing countries need to guard against simply adopting e-government applications from the developed countries with no vision for implementation and worse, outside the context of a particular country. The result will be epic failure which will have the most negative impact on the poor. Therefore, it is important that in the forefront of ICT, adequate and careful consideration is given to interaction of the wider economic, social and political factors that exist within the developing countries and in the poor communities (Thakar & Singh, 2013). By so doing, an informed decision on the determination of how ICTs can be deployed to facilitate this interaction for improvement of the lives of the poor and vulnerable individuals in the society will be sought.

de Coning *et al*. (2018) believes that "technology has already proven its potential to empower the poor". This statement provides a response to the question about what an e-government potential means to the African poor by drawing from the benefits already experienced and success cases

reported on in various settings. What is more important now is for the developing countries in Africa to ensure continued support and capacity building and strengthening as well as to ensure continuous development in e-government with heavy emphasis on uplifting the lives of the poor, the vulnerable and marginalised communities. Society is continuously in a state of constant change and is never static and in light of this, developing countries cannot adequately achieve their developmental milestones in the absence of ICTs, especially with the 4th industrial revolution underway. What is key for these countries is to adopt, use and manage e-government appropriately to prevent programme failure and issues of misguided efforts and resources, while preparing and encouraging the poor and vulnerable groups to embrace and explore ICT opportunities fully. Keeping up with new technological developments with active involvement in such processes in the international level by African countries, governments are then placed in the centre of decision making whereby the countries' individual circumstances can be adequately catered for. As a result, Africans will no longer be a passive consumer of technology, but a key role player as one of the drivers and inventors of the ICT era, appropriately designed for African needs.

7. Conclusion and Recommendations

The digital divide presents a challenge within the poor segment of the population to benefit from e-government services, but mobile technologies with broadband access can play a game-changing role in bridging the digital divide. Countries such as Singapore and South Africa are continuously making use of mobile technologies to deliver government services, with social services receiving considerable attention in this regard. M-government platform is beneficial in incorporating disadvantaged communities and vulnerable groups in societies to also benefit from e-government programmes. Social media as another element of m-government encourages access and participation in important e-governance processes. Despite gaps in e-government between the developed and developing countries, if properly planned and managed, e-government has the potential to bring a multitude of benefits to the developing countries. It is clear that Africa has ample prospects through its current state of e-government affairs provided it circumvents its e-government maturity levels and challenges thereof. As such, it is important for the developing countries, and Africa in particular, to place marginalised communities and vulnerable groups in the forefront of e-government service delivery endeavours and e-governance processes. This may be made possible through dedicated legislative frameworks and policies supportive of e-government programmes with governments playing the champion role to promote digital inclusion of the poor and marginalised communities. Africa needs to re-shape its thinking and view the current challenges as its most precious future opportunities to be acknowledged as urgent investment priorities. As lessons for the developing countries, it is important for them to identify measures and practices that take into cognisance each country's priorities, capabilities and developmental needs and adopt such practices to best suit their respective and unique socio-economic circumstances. Special attention should always be placed towards the needs of the poor and the marginalised so that they are rightfully placed in the forefront of e-government endeavours for the full realisation of its value to society. Furthermore, Africa needs to be an active participant and developer in the international ICT development community and not be a mere passive consumer of ICT goods and services.

References

Abuali, A., Alawneh, A. & Mohammad, H. 2010. Factors and Rules Effecting in E-Government. European Journal of Scientific Research, 39(2):169-175.

Alfano, G. 2011. Adapting Bureaucracy to the Internet: The case of Venice Local Government. Information Polity, 16(1):5-22.

Almarabeh, T. & AbuAli, A. 2010. A General Framework for E-Government: Definition Maturity Challenges, Opportunities, and Success. European Journal of Scientific Research, 39(1): 29-42.

Alshawi, S. & Alalwany, H. 2009. E-Government Evaluation: Citizen's Perspective in Developing Countries. Information Technology for Development, 15(3):193-208.

Asian Development Bank Institute –ADBI and Economic & Social Commission for Asia and the Pacific – ESCAP, 2005. Designing E-government for the Poor. Thailand: United Nations.

Bhatnagar, S. 2002. E-government: Lessons from implementation in developing countries. Regional Development Dialogue – United Nations Centre for Regional Development - UNCRD, 23(2):164-173. Available at: http://www.socialsciences.org/Download/repecDownload.aspx?fname=Document16122010104.179019E-02.pdf&fcategory=Articles&AId=3274&fref=repec. Accessed 20 June 2018.

Brynard, P., Cloete, F. & de Coning, C. 2011. Policy Implementation. In Cloete, F. & de Coning, C. (3rd eds.) Improving Public Policy: Theory, Practice and Results. Pretoria: Van Schaik Publishers.

Chatfield, A.T. & Alhujran, O. 2009. A Cross-Country Comparative Analysis of E-Government Service Delivery among Arab Countries. Information Technology for Development, 15(3): 151-170.

Cloete, F. 2012. E-government lessons from South Africa 2001-2011: Institutions, State of Progress and Measurement: Section II: Country Perspectives on E-government Emergence. *The African Journal of Information and Communication*, (12): 128-142.

de Coning, C., Cloete, F. & Burger, W. 2018. Policy Implementation. In Cloete, F., de Coning, C., Wissink, H. & Rabie, B. (4th eds.) Improving Public Policy for Good Governance. Pretoria: Van Schaik publisher.

Hassan, H.S., Shehab, E. & Peppard, J. 2010. Toward Full Public E-Service Environment in Developing Countries. World Academy of Science, Engineering and Technology. 66: 618-622. Available at: http://doi.org/10.5281/zenodo.1054909. Accessed February 2018.

Interchange of Data between Administrations - IDA, 2004. Multi-channel Delivery of E-government Services. Amsterdam: European Commission.

Kachwamba, M. & Hussein, A. 2009. Determinants of E-government Maturity: Do Organizational Specific Factors Matter? *Journal of US-China Public Administration*, 6(7):1-8.

Kaisara, G. & Pather, S. 2009. E-Government in South Africa: E-service Quality Access and Adoption Factors. Informatics & Design Papers and Reports, 9(1):1-17.

Kitaw, Y. 2006. E-Government in Africa: Prospects, Challenges and Practices. Published thesis, Swiss Federal Institute of Technology, École Polytechnique Fédérale de Lausanne.

Lips, M. 2010. Rethinking Citizen-government Relationships in the Age of Digital Identity: Insights from Research. Information Polity, (15):273-289.

Maumbe, B.M., Owei, V. & Taylor, W. 2007. Taking a Back Seat? Integrating Trust in E-government Service Delivery in South Africa. Managing Worldwide Operations & Communications with Information Technology. 18th Annual Information Resources Management Association (IRMA) International Conference, Vancouver, British Columbia, Canada. 19-23 May 2007.

Mphidi, H. 2011. Digital Divide and E-governance in South Africa. Research, Innovation and Partnerships: Tshwane University of Technology. Available at: http://www.ais.up.ac.za/digi/docs/mphidi_paper.pdf. Accessed 15 August 2011.

Nengomasha, C.T., Mchombu, K. & Ngulube, P. 2010. Electronic Government Initiatives in the Public Service of Namibia. *African Journal of Lib, Arch. & Inf. Sc*., 20(2):125-137.

Nokia Siemens Networks, Nokia Corporation & Commonwealth Telecommunications Organisation, 2008. Global summary report. Towards effective e-governance: The delivery of Public Services Through Local E-content. Finland: Nokia Siemens Networks and Nokia Corporation.

Onyancha, O.B. 2007. E-governance in Africa: Challenges, Trends and Issues. Available at: https://pdfs.semanticscholar.org/9dfb/d18645ce821b56ebadb50baccc8f7e4fd3f4.pdf?_ga=2.26117629.1720669140.1532429299-547302703.1532429299. Accessed 24 July 2018.

Posfai, M. & Fejer, A. 2008. Research Review: The eHungary Programm 2.0. Innovation. *The European Journal of Social Science Research*, 21(4):407-415.

Rambowan, C., Lubbe, S. & Klopper, R. 2005. Perception of Members in a South Africa Rural Community About the Prospects of Becoming a Digital Village. *Alternation,* 12(2): 178-210.

Ramharuk, V. 2005. Using Health Information Systems to Solve the Shortage of Health Medical Experts in Rural Communities. *Alternation*, 12(2):211-230.

Republic of South Africa: Department of Public Service and Administration – DPSA, 2013. Internet source. E-government. Available at: http://www.dpsa.gov.za/dpsa2g/egov_documents.asp. Accessed 13 November 2013.

Republic of South Africa: Department of Telecommunications and Postal Services, 2017. National E-government Strategy and Roadmap. Pretoria: Government Printers.

Thakur, S. & Singh, S. 2013. Study of Some E-Government Activities in South Africa. *African Journal of Computing & ICT*, 6(2):42-54.

United Nations Children's Fund – UNICEF, 2018. Literacy Rates. Available at: https://data.unicef.org/topic/education/literacy/. Accessed 2 December 2018.

United Nations –UN: Department of Economic and Social Affairs – DESA, 2018. E-government survey 2018: Gearing e-government towards sustainable and resilient society. New York: United Nations.

UN: DESA. 2016. E-government Survey 2016: E-government in support of sustainable development. New York: United Nations.

UN: DESA. 2014. E-government survey 2014: E-government for the future we want. New York: United Nations.

Van Jaarsveldt, L.C. & Naidoo, G. 2013. An overview of the Development and Use of Web 2.0 by the South African Government. *International Journal of advances in Computing and Information Technology*, 2(2):1-8.