Implementation of E-government in South Africa - successes and challenges: the way forward

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Abstract— **The advances in technology hold great potential for helping the South African government respond to its challenges namely, better service delivery, better procurement, efficient working and better communication with citizens and businesses. The implementation of eGovernment initiatives is taking place on many fronts and in many ways in South Africa. Through the implementation of an egovernment initiatives, the South African government aims to provide higher quality & faster service to the public. This article provides a broad overview of eGovernment policy initiatives undertaken by the South African government. It highlights the successes and the challenges of egovernance. It also maps out a way forward.**

Keywords— **eGovernment, Public Service, initiatives, challenges.**

I. INTRODUCTION

In line with world trends, the government of South Africa has, over the last decade, recognized the importance of information and communications technology (ICT) and more recently e-government in improving the standards of service quality and increasing the overall efficiencies of government. As a result, investments in ICT infrastructure have been growing steadily. Information and communication technologies are critical in fighting poverty and uplifting the socio-economic and living standards of the people. ICT has the potential to empower people to overcome development obstacles, address social problems, and strengthen democratic institutions. However, for a country to gain from the benefits of ICTs, technology must be implemented and used effectively. The South African government is implementing e-government with a number of poverty alleviation programmes to improve the living standards of its people such as Municipal Public-Private Partnership Pilot Programme (MPPP) and Black Economic Empowerment (BEE).

South Africa's e-Government strategy by the Department of Public Services and Administration (DPSA), 2001 is driven by the Centre for Public

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Service Innovation (CPSI). Kaisara and Pather (2011:212) state that the public sector has formed working relations with the private sector in the pursuit of service excellence in an attempt to meet the service expectations for citizens. Pike and Barnes in Crous (2006:400) define Total Quality Management (TQM) as 'a philosophy that aims to inspire the behavior and interactions of people in work situations, through their attitudes, aspirations and motivations, to produce quality service'. This means that policy implementers and service providers must ensure that services delivered should be satisfactory and expectations should be met. Customers should therefore be consulted about the services continuously through market research. E-Governance is therefore an attempt by government to ensure total quality management and delivery of public services. This must be coupled with serve delivery performance in the existing government departments. This introduces the term "E-service quality".

The Roadmap Working Group's key questions regarding e-government are:

A. Why are we pursuing e-government?

B. Do we have a clear vision and priorities for e-government?

C. What kind of e-government are we ready for?

D. Is there enough political will to lead the e-government effort?

E. Are we selecting e-government projects in the best way?

F. How should we plan and manage e-government projects?

G. How will we overcome resistance from within the government?

H. How will we measure and communicate progress? How will we know if we are failing?

I. What should our relationship be with the private sector?

J. How can e-government improve citizen participation in public affairs?

After attempting to answer the above questions, South Africa formulated and implemented ICT policy and regulatory framework.

A. *Policy, regulatory framework and ICT infrastructure in South Africa*

Albert (2009:133) states that 'according to UNESCO (2003), e-governance is the public sector's use of information and communication technologies with the aim of improving information and service delivery, encouraging citizen participation in the decision making process and making government more accountable, transparent and effective. This is an alternative way of implementing the six functions of Public Administration which according to Cloete (1981:3) are policy, finance, organizing, staffing, determining work procedures and controlling. The Promotion of Access to Information Act, 2000 enables the constitutional right of access to information. This entitles any individual to request information from a public or private body. A request may be made where the record is required to protect or exercise a right; the procedures have been complied with, there is no ground for refusal; and a request includes request for personal information. Other policy measures that have been put in place are the Minimum Information Security Standards (MISS), Handbook on Minimum Interoperability Standards (MIOS), Electronic Communications Transaction Act, 2002, and the Law Commission Issue Paper on Privacy Public Service Act. The Electronic Communications Bill, 2000 has transformed South Africa's telecommunications Industry. The Public Service Regulations of 2001 enabled e-government implementation followed by An Open Source Software Strategy and Policy, 2006. Implementing these policies necessitated the creation of the State IT Agency (SITA) formed as a central, shared service provider to government departments and provinces, the Government IT Officer's Council (GITOC), formed to encourage and facilitate a forum for consultation and deliberation of ICT related issues by the then newly appointed Government IT Officers (GITOs). The GITOC is an advisory body to the Minister of Public Service and Administration of ICT related matters, the Office of the Government CIO was created within Department of Public Service and Administration (DPSA) to act as a policy making, regulating and strategy formulating body with the detailed purpose of coordinating E-government activities across government and the Department of Public Service and Administration was also tasked to ensure proper measurement of ICT effectiveness in Government working together with National Treasury.

In South Africa, the government has a web portal branded "Batho Pele Gateway" which provides information on government services and other information such as legislation, policies.

Launched in 2004, it is implemented through the Batho Pele Principles framework which aims to create a customer oriented mindset in the South African public service, and to imitate the mindset of the "competitive commercial market, in which private companies cannot afford to ignore the needs and wishes of their customers". The portal translated information into all of South Africa's 11 official languages. This initiative is buttressed by the Government Communication and Information System (GCIS) which is a government information service that ensures the public is informed of government's implementation of its mandate through direct dialogue with people in disadvantaged areas. There is also E-Cadre, a project of the South African Post Office (SAPO), which aims to use IT graduates as volunteers in educating the public on the use of ICTs (Department of Communications, 2008a). In 2004, Government established the African Advanced Institute for ICT (Meraka) to focus on research and applications. This was followed, in 2006, by the launch of an Inter-governmental Relations Forum (IGRF) to speed up communication and ICT deployment across the nine provinces and among traditional leadership areas. Also launched were web site projects for all municipalities. Government has also begun to deploy wireless broadband to 500 Dinaledi schools, considered centres of excellence, and target clinics, hospitals, libraries, multipurpose community centres and post offices to help increase the uptake and usage of ICTs and help deliver inclusivity in building an information society. The government passed the Broadband Infraco Act in 2007. The Act establishes the new state-owned enterprise Broadband agency with the responsibility for expanding the availability and affordability of access to electronic communications networks and services, including but not limited to underdeveloped and under-serviced areas; national long-distance backbone networks; metro access networks and international connectivity networks.

B. *Telecommunications*

In South Africa, Telkom is the main service provider of communications services in South Africa. It operates both fixed line and mobile communications services. E-government is evaluated through public participation. Access to public services is a necessary part of e-government, but not sufficient. Facilitating, broadening and deepening openness and citizen involvement is therefore fundamental to e-government. Dandjinou

(2007:436) advocates political will, sound strategies embedded in national, provincial and local development policies and strategies local/user engagement in terms of feedback and eparticipation and e-readiness as ingredients for successful implementation of e-government initiatives in Africa. Citizen awareness and confidence can also assist to address the education of citizens about e-governance.

Cell phone infrastructure has not yet been applied enough in South Africa to provide e-government services, but holds great potential because of its impact and high adoption rate among the country's citizens. South Africa has, over the last decade, experienced growth in the cellular phone industry following the liberalization of various segments of the telecommunications sector. Today, the country has four mobile phone operators, namely Vodacom, MTN, Cell C and Virgin Mobile and Heita which is part of Telkom. Some of the cellular phone providers are involved in promoting access to rural communities. For example, Vodacom has deployed more than 90,000 community-service telephones to South Africa's under serviced areas, where they have become invaluable sources of entrepreneurial activity for hundreds of community phone-shop operators.

Multi-purpose community centres (MPCC) and internet access (also known as Thusong Service Centres) provide different user groups within a community with a wide range of services for education, business, health, weather, market prices, farm practices, sale of farm inputs, and many more. By way of definition, multipurpose community centres, are perceived to be public places where people can access computers, the internet, and other digital technologies that enable them to gather information, and create, learn, and communicate with others while they develop essential digital skills or as centres where modern IT facilities are shared by the citizens of a specific local community within a rural or deprived urban area. Multipurpose community centres present several opportunities as well as a number of challenges. The opportunities they engender may include: facilitating sharing of information, offering a chance to reduce social isolation and marginalization experienced by rural communities, providing a means of dialogue between rural communities and decision making bodies and enhancing literacy through distance education.

C. Challenges of e-government in South Africa

Despite South Africa's significant investment in ICT infrastructure, policy and regulatory framework to effectively roll out e-government services, the country faces a number of challenges. Service delivery in South Africa is guided by the principle of public service for all under the brand "Batho Pele" (translated to mean people first). The eight Batho Pele principles serve as an acceptable policy and legislative framework regarding service delivery in the public sector. These principles include (Department of Public Service and Administration, 1996); consultation (engaging with customers in terms of what they want); service standards (continually improving services); access (enabling disadvantaged persons to access services and speaking in understandable languages); courtesy (being polite, courteous and friendly to customers); information (reaching all customers to make sure they are well informed about the services government departments provide); openness and transparency (being open and honest about every aspect of work by publishing annual reports to tell citizens how resources were used, how much everything costs, including costs for staff and equipment delivery, services); redress/dealing with complaints (providing a mechanism for customers to record when they are unhappy with a service); and best value (giving customers the best service using all the resources, eliminating waste, fraud and corruption; and finding new ways to improve services at little or no cost). Despite well expressed service delivery principles, South Africa is faced with a number of challenges in terms of service delivery, including problems of poverty, inequality, corruption, insecurity, illiteracy, skills shortage amongst many. The low level of success discourages a lot of people from using these facilities meant to enhance service delivery leading to user dissatisfaction.

Furthermore, 45 per cent of South Africa's population is estimated to be living in rural areas, where ICT infrastructure is far less developed than in urban areas. Lack of equal access to all citizens especially with regard to rural-urban divide in the distribution of national resources, long distance travelled, shortage in the skills necessary to use the internet, read or understand the content; long waiting times to use the internet; and the high costs of access. The people residing in rural areas rely on word of mouth as a method of passing information. It is therefore important to realize the potential of accessing and passing information via mobile devices and internet in areas where they gather to share information. The growing theft of copper cables has affected e-governance negatively, and undermined the implementation of unbundling policy in South Africa as well as being a threat to the country's security and socio-economic development. South Africa, during 2008, experienced a deficit in its electricity supply. President Thabo Mbeki in his State of the Nation Address (Mbeki, 2008) noted that the national emergency presented by the recent power outages

posed the challenge to the entirety of the South African nation. In essence the significant rise in electricity demand over the last few years outstripped the new capacity that was brought on stream. The resulting tight supply made the overall system vulnerable to any incident affecting the availability of energy. Without access to sufficient, quality and reliable energy, every social and development activity is constrained. On the technical front, there are many challenges predominantly with legacy systems and the need to implement transversal systems in order to achieve the horizontal integration required for cross-departmental integration.

The Department of Communications points out that the central challenge to the implementation of the Information Society Development Plan (ISAD) in South Africa is the serious shortage of ICT skills and the state's limited capacity to deliver the necessary task force. This skills shortage is exacerbated by the brain drain caused by skilled ICT personnel and professionals leaving to work in developed countries or moving from the public to the private sector. Besides, education and training is unable to produce the essential and technical management skills that most employers seek.

The School Register of Needs (SRN) survey of 2000 revealed that schools that used computers for teaching and learning in 2000 was 12.3 percent and those that had access to email and internet was 6.9 percent. This has a direct link to the quality of ICT related qualifications produced by universities and technikons. Today all universities in the country and about 6000 schools are ICT enabled; about 800 Public Information Terminals (PITs) have been established; over 80 per cent of health centres are connected with ICTs; all provincial and national government departments and many local governments have websites and e-mail addresses; an educational portal, Thutong, helps educators and learners to access curriculum related information; and an Open Source Software desktop application. However, it is the human resource development issue within government that needs prioritisation. The education system needs to be aligned with the ICT demands of the country and scarce ICT skills need to be attracted and retained particularly within government. Awotwi and Owusu (2008: 453) informs us that women do not have access to ICTs to the same extent as men in the vast majority of countries in the world. They add that women are generally engaged in meeting local and family needs and are overwhelmingly not linked to a global digital economy that is essentially geared to trade and anchored in market transactions. It is the case in South Africa as well. More initiatives should therefore be aimed at empowering women with ICT skill. At present more women are

encouraged to become part of the ICT sector to bridge the gender imbalance gab through the provision of computers at schools and Human Resource development funds and programmes especially for postgraduate qualifications in ICT. Though it has improved, the country also faces major challenges with regards to the management of records and archives due to historical, political, cultural, managerial and technological factors. Within the wider African context, e-government projects have tended to fail because of adopting technologies without the accompanying human skills and capacities to manage, integrate and sustain them; centralizing the use of technologies by national governments without extending the benefits to intermediary institutions such as local government, parliament and civil society; not linking good governance to the broader and more inclusive democracy; high levels of digital illiteracy; and inadequate resources (Cloete, 2007).

D. E-government successes in South Africa

The Independent Electoral Commission (IEC) successfully developed an e-procurement system that allows for open and transparent bidding of government tenders aimed at preventing corruption. Moreover, the IEC leverages tools of multi-access to promote free and fair elections. In 2004, for example, IEC, in partnership with cell phone service providers, enabled voters to short message service (SMS) their identity number, and in return receive a message back indicating their eligibility to vote and the voting station's details. Moreover, a satellite-enabled network made it possible for the commission to register voters; relay, collect and verify ballots; and relay results across the country. Custom-designed handheld scanners captured information from bar-coded ID books and greatly streamlined the process of voter registration. The other successful e-government project is the South African Revenue Services' (SARS) e-filing system which provides a way to conduct transactions related to tax returns on the internet between government and business. The National Traffic Information System (eNaTIS) an e-government initiative that is used for the application for driving licenses and the registration and licensing of motor vehicles; notification of change of ownership/sale of motor vehicles; and application for learners licenses has been a successful project. The transactions and services can be provided by most transport offices across the nine provinces in the country (National Traffic Information System, 2008). The web site of the Department of Labour is an excellent example of a public agency web site that is well tailored to the needs of its stakeholders. The web site is noted for being attractive and simple in design, allowing users to easily find the

information they are looking for. In addition, there are various online filings/registrations, and the posting of online vacancies is available. The Department of Labour's web site is a fully featured site that is a one stop shop for labour issues.

E. Implications

Through e-government, the South African libraries can contribute to bridging the digital divide between the urban and rural communities where such gaps continue to widen. The libraries can also enhance their image by extending their services closer to the communities as well as deepening democratic participation by citizens through enabling access to government held information. Libraries in South Africa can through e-government contribute to the government poverty reduction programmes such as the Black Economic Empowerment by enabling small and medium-sized enterprises (SMEs) to gain access to information about businesses, government opportunities, credit and other related information. Through e-government, libraries can provide internet access to the public as they provide the hardware and software to people often free of charge, educate users on the use of e-information, assist clients in completing various government forms, help in interpreting information retrieved from government web sites to the clients, as well as helping them navigate through governments web sites that are often disorganized. Help in management of e-records but require both legislative and budgetary support to assist in their efforts to capture and preserve the digital heritage and also to help organise its preservation.

F. The way forward for South Africa

Mobile phones in South Africa are Ricad (registered), government has access to all registered phones and in the future should update people about government initiatives and programmes from all departments and Local municipalities data systems. Twitter has become a new and fast growing social network where the President, Presidency and some Ministers example, Minister Gigaba tweets information and updates to their followers. The advantage is that one needs to be a follower to get such information. Facebook, myspace, uploaded videos concerning governance issues on youtube also inform the public about governance in South Africa. Uploadable applications example, Black Berry (bbm) and Nokia (WhatsApp) can be a future invention as those who have such phones can upload the application for free and be updated immediately or enquire via that application to government departments. Institutional Infrastructure and

capacity and legality of sending out this information should be validated before such applications can be provided to the public. For example, individuals should have a choice to attain attitudes, knowledge and skills required to initiate, implement and sustain such e-government initiatives, leadership, authority and vision Government, public administrators, private sector and civil society to improve service delivery especially in rural areas. More capacitated e-management from the Cabinet level, senior management of departments down to the subordinates and buy in from all stakeholders more PPPs in ICT through the Open Source Software is also required.

The South African government doesn't have an integrated monitoring and evaluation system specifically aimed at ICT. Formal monitoring and evaluation procedures thus need to be put in place Emphasis should be placed here on the impact on service delivery and the customer.

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