ICT Policy Development and Implementation in South Africa: Towards an Improved E-Government Implementation

MB Mosehlana
University of Limpopo, South Africa

Abstract: The application of Information and Communication Technologies (ICTs) in government operations has become inevitable given an environment in which public administration find itself in the 21st century. South Africa is not immune to this environment and is required to continuously improve the use of ICTs in government administrations to fully reap the benefits of e-government. A progressive e-government requires a strong and robust ICT policy environment, however, the South African government has lacked behind between 2001 and 2015 in ensuring that the country continues to have an effective and up-to-date ICT policy that addresses the interconnected nature of the ICT environment. As a result, implementation of e-government in the country experienced a wide range of policy, leadership and administrative problems including outdated ICT policy framework, weak political leadership, lack of coordination and overlapping roles amongst institutional role players causing divisions and dubious transfer of power, poor management of the e-government portfolio, poor maintenance and preservation of ICT investments, concerns with IT training and skills development, lack of Public Private Partnerships in e-government, lack of societal ICT uptake due to skills and capacity shortages, which ultimately hindered e-government progress in the country. The establishment of a recently updated White Paper on National Integrated ICT Policy, 2016 provides better prospects and pave a way towards an improved e-government implementation in the country, which seeks to address these concerns. A number of considerations are essential in ensuring an improved implementation e-government implementation.

Keywords: E-government, ICT policy, Information Communication Technology (ICT), policy implementation, South Africa

1. Introduction

Wescott (2005:1) explain e-government as the use of ICTs to facilitate a more efficient, cost-effective, and participatory government to promote convenient government services, greater public access to government information and a more transparent and accountable government to its citizens. ICTs can be internet-based and non-internet electronic facilities. The definition overtly highlights the multi-facets benefits of the e-government phenomenon, which are already deliberated on by many researchers in the field. E-government continues to take centre stage in current academic, political and administrative dialog due to its potential to transform public administration. This is largely due to developments and influence brought forth by the phenomenon especially in redefining relations amongst government, citizens and the business community. He also acknowledges that e-government also has its imprints in NPM, an argument supported by Bonina & Cordella (2008) and Torres, Pina, & Acerete (2006:279) as well as the Governance paradigms. Apart from its multi-facets benefits, e-government adoption in government processes (service delivery,

governance and operations) has demonstrated a number of challenges, which if not adequately addressed can hamper its success and cripple its potential.

As part of its e-government mandate to ensure that it reap the benefits brought forth by this phenomenon, the South African government has made attempts to create an enabling environment for a successful e-government adoption. Such efforts are demonstrated through policy intentions from the mid-90s at dawn of democracy. Nokia Siemens Networks, Nokia Corporation and Commonwealth Telecommunications Organisation (2008:06) support that the South African government sought to prioritise initiatives towards the development of a strong G2G ICT infrastructure and enabling processes to build a solid internal state capacity for successful G2C and G2B programmes. DPSA (2007:11) confirms that this strategic viewpoint is endorsed since back-office operations play a key systematic role in service delivery, whose success affects the success of front-office operations. Such attempts shortly became unsuccessful due to factors rooted within policy development and

implementation. This paper seeks to deliberate on such factors as well as to provide a way forward by highlighting a number of considerations for the recently updated National Integrated ICT White Paper, 2016 to support a successful e-government implementation in South Africa.

2. Benefits of E-Government

Apart from its challenges, adoption of e-government in government administrations has brought forward multi-facets benefits. The benefits of e-government include inter alia; reinforced innovation (Mphidi, 2011), ICT as an innovative and modern tool of development and societal growth (Ifinedo, 2012:8), provides an alternative channel of interaction and delivery (Brynard, Cloete & de Coning, 2011:158), a model that Kitaw (2006:7) refers to as a transformational pattern of delivery, while Ifinedo (2012:8) views it as a modern or innovative tool which promotes development in the society. Ondari-Okemwa and Smith (2009:35) considers e-government as an enabler of customer-focused services and knowledge society.

The unique automated feature of ICTs converts processes inexpensively and in a productive manner – which translates to efficiency and effectiveness (Brynard *et al*., 2011:158). Mukonza (2014:499) affirms that e-government lead to improved efficiency and public participation which is symbolised by; decreased costs in the distribution of information services (Almarabeh & AbuAli, 2010:36), enhanced citizen participation in decision making processes through e-participation and e-decision-making platforms (Bhatnagar, 2002:5), open channels of communication amongst government agencies (Mphidi, 2011 online), improvement in government operations and services (Kitaw, 2006:14). E-government provides the opportunity for equal public service delivery (Lips, 2010:281) by promoting accessibility, connectivity, answerability, efficiency and successful social, political and economic development (AL-Kaabi, 2010:650).

In a nutshell, if citizens are able to gain access to government information, download different forms and government reports for evaluation, transparency in government operations is then enforced and public servants will be held accountable (Joseph & Kitlan, 2008:5). The wide-ranging benefits of e-government complement the current environment in which public administration find itself, commonly referred to as the 'information age' or 'the digital age' whereby information and knowledge distributed through digital platforms drives development in society. This environment is constantly changing which requires the society and more particularly, government administrations as vehicles of service delivery to adapt to changing times and societal needs. A requirement that the South African government is not immune to, and so is its ICT legislative framework.

3. Historic Account of ICT Policy Development in South Africa

It is particularly for the benefits highlighted that the South African government laid a foundation that sought to pave a way for ICTs to benefit its course and the society it serves by employing e-government as an essential tool of operation in its administrations. The government made early attempts in capturing the benefits of e-government through various policies that sought to promote electronic processes in its operations. Hence South Africa was benchmarked an African leader in 2003 (although for a brief period) in accordance with the United Nations (UN 2003) global e-government rankings. Firstly, South Africa forms part of the international community on ICT and partakes in the World Summit on the Information Society (WSIS). The aim of WSIS is to advise governments to establish and implement information policies that guarantee efficient, equitable and universal access to relevant information or to e-government services and ICTs. Most governments worldwide developed ICT policies which are shaped by the Geneva and Tunis agenda, South Africa included (Kaisara & Pather, 2009:6).

Secondly, commitment by the South African government is demonstrated through the establishment of the Telecommunications Act of 1996 under which the Universal Services Agency (USA) was formed to promote ICT access to groups previously disadvantaged by the apartheid regime. This Act was later updated and renamed Electronic Communications Act of 2005 in cognisance of the changing patterns of the ICT environment in order to promote universal access to electronic communications services and electronic communications network services to all areas and communities in the country. The Agency was also renamed Universal Service and Access Agency of South Africa – USAASA (Kaisara & Pather, 2009:7; Electronic communications Act

of 2005). The Electronic Communications and Transactions Act 25 of 2002 is another important piece of legislation which aims to promote universal access of ICT mainly to the underserviced regions as well as electronic delivery of services (Kaisara & Pather, 2009:7; Electronic Communications and Transactions Act, 2002). Due to compelling nature of ICTs and its inevitable nature for integration in service delivery processes, Department of Public Service and Administration (DPSA) was compelled to write a report in 2001 titled the 'Electronic Government: Digital Future' which then served as an e-government specific policy whose objectives were to ensure cost effectiveness, increased productivity and improved service delivery (DPSA, 2001). This report served as the public service's IT policy framework to promote the delivery of e-government services since 2001 to 2015 (period of over a decade) without any reviews and update to the policy.

Constant changes and improvements in ICTs require governments to continuously update their ICT policy frameworks to stay relevant so they can fully reap the benefits of e-government (Hassan, Shehab & Peppard, 2010:601; Almarabeh & AbuAli, 2010:32). However, South Africa on the other hand failed the task which rendered its good and early attempts futile. As a consequence, the country experienced a wide range of challenges which may also explain its loss to Mauritius in 2004 as an Africa e-government leader (UN, 2003:34) as well as its overall international position from 45 to 55 (UN, 2004:46). The country has since never regained its position, rather subsided in performance with its worst performance in the 6th place continentally (UN, 2014). South Africa currently ranks 3rd continentally and 76th globally (UN 2016:113). This period of underperformance matches the period in which the country's ICT legislative framework was considered obsolescence.

4. E-Government Implementation Challenges in South Africa

E-government implementation in South Africa over the past decade has been crippled by a variety of leadership, technical, organisational and policy challenges. Lack of legislation has been a common concern as cited in various scholarly work and is argued as the undoing of the South African e-government implementation. Cloete (2012:133) believes that e-government implementation in the country is

worsened by vague, non-satisfactory and an outdated policy which failed to respond to an ever changing and convergence nature of ICT. A Public Service IT Policy framework, 2001 served for over a decade without necessary reviews in cognisance of the dynamic nature of the ICT environment. This failure is an error that e-government best practice requirements advices against. Another incompetence of this policy is reflected through what Trusler (2003:3) regard as substantial dependence on individual government departments to derive their own implementation strategies and e-government projects. The ripple effects of such inactions are highlighted by Cloete (2012:133) as including amongst others; lack of coordinated e-government projects, dismantled e-government potential and capacity. Singh (2010:226) affirms that there is lack of clear records on e-government implementation in the country as a consequence of uncoordinated e-government efforts stimulated by lack of clarity on legislation and policy direction.

5. Overlapping Roles of Key Role Players

Other policy related concerns which hindered progress in the implementation of e-government involves the overlapping roles of key or strategic role players who are collectively tasked with the responsibility to facilitates and guide activities and efforts to ensure a successful e-government implementation in South Africa. According to Cloete (2012:133), overlapping roles of the Ministry of Communications (now Telecommunications and Postal Services) and Public service and Administration also hampered progress in the adoption of ICT for service delivery. Lack of clarity with roles, especially with regard to policy development (and policy review and update thereof) between the two ministries translated to lack of accountability for the e-government mandate. This is in particular because they both have policy mandates, one with regards to regulation of the ICT sector – DTPS (DPSA 2001:13) and the other with legislation pertaining e-government implementation in the public service – DPSA. Lack of coordination, dedicated e-government leadership and accountability as well as power competition between the two strategic players was due to ambiguity in roles, negatively affecting e-government progress in the country (Cloete, 2012:133; Trusler, 2003:3). Singh (2010:226) express that dubious transfer of power is one of the negative effects of identified lack of clarity in roles and policy direction,

which saw DTPS taking the leadership role as the "director of ICT initiatives and coordinator of the ICT policy" in the country (Singh, 2010:217).

6. ICT Infrastructure and Access, Skills Development and ICT Awareness

Apart from legislative challenges, Mtimunye (2011) also identified training and skills development, organizational change in the public sector, establishment of mutually beneficial partnerships throughout the public sector and maintenance and preservation of deployed ICT investments as some of e-government implementation challenges facing South Africa. Singh (2010:220) affirms that lack of priority in infrastructural investments has resulted in failure to sustain some of the e-government programmes in the country. In addition, National Integrated ICT Policy Green Paper (DTPS, 2014) cite low levels of electronic skills by citizens, low levels of internet use due to high cost of broadband, lack of access to ICT facilities, network connections and unavailability or unreliable electricity in rural and remote areas, lack of e-government awareness by citizens, unwillingness by network providers to roll-out services in unviable areas, weak government ICT infrastructure, cybercrime and shortage of IT specialists as some of factors that hinders successful e-government implementation in South Africa. These challenges highlight ICT-supply inefficiencies.

7. New Policy Prospects

The South African ICT sector received a lot of criticisms in the past decade for not creating an environment which promotes a flourishing ICT sector, resulting in overall poor e-government performance in the country. Concerns with e-government progress were largely alluded to policy development and implementation inadequacies. The private sector also suffered the negative effects of a poorly regulated and fragmented ICT sector as opposed to innovatively regulated sector which according to DTPS (2014:3) calls for ICT convergence. As a result, progress both in e-commerce and e-government was hampered in the country. The state of affairs forced DTPS to take action in order to reform SA's ICT policy by initiating a policy review process in 2012, reviewing the 2001 ICT policy; a process which incorporated the entire ICT sector and produced a comprehensive National Integrated ICT Policy White Paper in 2016.

8. A Way Forward and Implementation Considerations

In cognisance of the newly updated ICT policy and looking at some of the most concerning e-government challenges experienced in the country, the paper seeks to draw attention and place emphasis on chapters 4, 5, 9,10 and 13 of the policy to deliberate on the way forward for an improved e-government implementation.

9. Development of a Digital Society in South Africa

Chapter 10 of the policy focuses on transforming South Africa into an inclusive digital society whereby "a single cohesive strategy is essential to ensure the diffusion of ICTs in all areas of society and the economy. Like energy and transport, ICT is an enabler – it can speed up delivery, support analysis, build intelligence and create new ways to share, learn and engage" (National Integrated ICT Policy White Paper, 2016). This section seeks to create an enabling environment for general members of the society to adopt and apply various relevant ICTs in their day to day lives to improve their socio-economic and political milieu. In order to ensure that the South African society is digitised, four core pillars are identified to drive the process: (1) the digital transformation of government; (2) promotion of digital access by all citizens; and (3) digital inclusion (National Integrated ICT Policy White Paper, 2016).

Digital transformation of government drives the demand for e-government services and promotes growth in e-commerce. This pillar provides an e-government framework to support and strengthen processes in demand for e-government services. With this policy objective in mind, issues related to lack of coordination and synchronisation of e-government efforts by various departments should be key target areas that the e-government framework and e-government implementation strategy should immediately rectify. Taken as lessons from past failures measures need to guard against activities that may create divisions and incoordination. Almarabeh & AbuAli (2010:32) indicate that institutions can learn from their past success and failures to improve implementation in e-government related activities. The e-government strategy needs to make it a priority that issues of programme coordination are adequately dealt with by putting in place necessary, tried and trusted measures that are subjected

to constant monitoring and review if there is to be success in the overall e-government implementation in South Africa.

10. Creation of an Enabling Institutional Environment

There are confirmed cases of institutional challenges facing e-government in South Africa, which includes among others; fragmented e-government projects, divisions amongst role players, power competition and clack of clarity in roles cited by various scholars (Thakur & Singh, 2013; Cloete, 2012; Singh, 2010; Trusler, 2003). The ICT policy (ss.13.1.1 of the National Integrated ICT Policy White Paper, 2016) acknowledge these concerns as having hampered progress in e-government implementation in South Africa and place special emphasis on regulation of the internet and ICT value chain amongst various government institutions. The ICT policy provides an institutional framework that highlights a number of interventions to address identified challenges pertaining institutional capacity to drive a positive e-government implementation. Such interventions involve creating coordinated leadership, enhancing public value and clarifying roles and responsibilities.

The policy provides for the establishment of an Inter-Ministerial Digital Transformation Committee (IDTC) to ensure the achievement of an inclusive digital society. The committee is therefore tasked with the responsibility to ensure coordination of e-government related activities and efforts across different government departments and entities (ss. 13.4 of National Integrated ICT Policy White Paper, 2016). The committee served as a redress mechanism addressing issues of working in silos to provide for a strong and coordinated leadership that will promote e-government champions. It also important to highlight that Presidential National Commission on Information Society and Development (PNC on ISAD) was established within the Presidency as a committee responsible to provide e-government leadership and coordination, however failed at task. Cloete (2012:133) argue that critical role players such as PNC on ISAD has also not made much visible contribution and has proved to work in isolation contrary to its coordination role. Indeed, PNC on ISAD has not made a visible mark as expected, and its role and existence was not common knowledge by employees within the president's office. It is of paramount importance that the newly established committee is proactive

in its role and guard against areas that derailed the achievement of e-government objectives due to lack of strong, determined and coordinated leadership. Kitaw (2006:13) argue that successful e-government applications and implementation requires top officials to be champions and great supporters of ICTs. Bhatnagar (2002:5) and Ojo, Janowski & Estevez (2005:321) adds that strong leadership that inculcates a positive mind-set in the public service towards e-government.

It has therefore become clear that issues of uncoordinated leadership or lack thereof contributed to delayed e-government progress in South Africa. This state of affairs must be taken as an opportunity to fast-track implementation. In this regard, Abuali, Alawneh & Mohammad, 2010:172) supports and encourages initiatives that are directed towards growth and preservation of political-will and e-government champions within the South African government. These efforts need to be accompanied by what Thakur and Singh (2013:42) refers to as an understanding of the value of ICT by the leadership. Creation of trust in e-government activities is equally significant (Lips, 2010:275) and trust requires strong and stable e-government leadership. Maumbe, Owei & Taylor (2007:1541) speaks of an e-government trust 'balance sheet' which has to be infused in the implementation of e-government programmes in South Africa. This will also help revive e-government trust lost (businesses that are pro e-commerce and individual supporters of e-government initiatives) which may be perceived as lack of prioritisation in ICT driven initiatives by the leadership.

Chapter 10 of the policy (National Integrated ICT Policy White Paper, 2016) states that "a single cohesive strategy is essential to ensure the diffusion of ICTs in all areas of society and the economy" – a requirement that led to the development of a National E-government Strategy and Roadmap in 2017. Establishment of the e-government strategy in the country is a huge milestone which should pave a way for a progressive e-government implementation in South Africa, provided that the country has been operational without this much needed plan of action. Establishment of the country's e-government strategy is also an important provision made in the Electronic Communications and Transactions Act, 2002. The achievement of the three pillars of a digital society stipulated in the ICT policy is largely dependent on a proactive e-government strategy.

11. Clarifying Roles for Enhanced E-Government Implementation

One of the principles guiding the institutional framework is ensuring that government institutions have distinct mandate with clearly expressed goals (ss. 13.3 National Integrated ICT Policy White Paper, 2016) to address identified e-government challenges and discrepancies that occurred due to lack of clarity in roles and responsibilities. The country's e-government strategy explains and clarifies the roles and responsibilities of various e-government players which has been a challenge since early 2000. Key e-government role players (ss. 12 of the National E-government Strategy and Roadmap, 2016) include; IDTC, National e-government Executive Committee (NEEC), National e-government Steering Committee, Government Information Technology Officers Council (GITOC) DTPS, DPSA, National Treasury, National, Provincial and Local Government and Sate Information Technology Agency (SITA). This institutional arrangement supports the notion of whole-of-government which promotes a well-coordinated e-government environment across all spheres of government, amongst government departments, agencies and appropriate government structures in the country – thus demonstrating a multi-stakeholder partnership. An approach indorsed by the UN (2014:7) as significant in addressing complex and wide-spread e-government challenge.

The country's e-government role players have been re-defined and their roles and responsibilities revised, particularly the roles of DPSA, SITA, OGCIO and DTPS. Additional role players are identified to facilitate a well-coordinated, cooperative, regulated, accountable, monitored and regularly reviewed ICT sector to adequately address current e-government challenges. The role of SITA in government is re-emphasised as a developer of digital government solutions, responsible for development and management of a government-wide integrated e-government platform. This mandate is attainable through the provision of transversal services to support e-government, determination of digital norms and standards and also importantly, the design and management of the one-stop digital platform. The National E-government Strategy and Roadmap 2017 (ss.12.2) further highlight the role of SITA as mandatory in the provision of services which enables an effective e-government implementation, particularly within national and provincial administrations. The current issues with regard to lack of uniformity in various governmental websites, issues with systems compatibility or interoperability should become priority areas for SITA. The Batho Pele Gateway also need to be constantly updated, monitored and reviewed in line with the best international practices to ensure fit for purpose as a country's one-stop shop. It is also important to acknowledge that building a one-stop shop needs a capacitated centralised leadership for widespread coordination, and this function must be taken seriously because it has always been challenging to achieve (Bhatnagar, 2002:4).

The country's e-government strategy makes provision for revision of the roles of GITOC to ensure that the council's e-government responsibility is enhanced in line with the current e-government policy. GITOC has a technical and advisory support role regarding matters of digitisation of e-government services in the public service. The National E-government Steering Committee as another key player is tasked precisely with the responsibility to ensure success implementation of the National e-government Strategy and Roadmap. NEEC is the IDTC support structure which will coordinate and secure commitments by different department to the national e-government programme; and also provide strategic guidance on issues of e-government. The committee comprise of Director Generals of the Presidency, DPTS, DPSA, National Treasury and CEO of SITA (ss.12.1 of the National E-government Strategy and Roadmap 2017).

The role and responsibilities of DPSA is now clearly stipulated which deals precisely with a very crucial aspect of change management and process-reengineering within the public service (Section 12.2 of the National E-government Strategy and Roadmap 2017). Change management has been predominantly cited as one of factors hindering successful e-government implementation. South Africa is also the culprit. Trusler (200:3) cite resistance to change by public officials (also the general public) to embrace a move from traditional based delivery approach to electronically mediated processes – an inevitable requirement of the current information age. Brynard *et al*. (2011:159) confirms that there exists some level of resistance to proactively adopt and improve the use of ICT tools in government functions which can be in part due to low electronic-literacy levels, lack of ICT resources, difficulty in digitising traditional programmes and

government priorities. In effort to manage change and promote of e-government culture in the public service, DPSA has to consider reasons behind reluctance to change. This will assist the department in putting into place appropriate counter measures and activities which drives e-government culture in South Africa. Training and awareness are the most common measures (Al-Naimat, Abdullah & Ahmad, 2013:396; Bhatnagar, 2002:6; Almarabeh & AbuAli, 2010:39).

The National treasury provides funding for the National E-government Programme guaranteeing an e-government specific budget to be drafted by DTPS. This financial interventional arrangement will assist in curbing the current financial problems with regard to funding for e-government projects by providing required financial resources and ensuring accountability through appropriate reporting mechanisms. National departments are required to identify different types of e-government services and of which must be coordinated throughout the national, provincial and local offices. SITA must facilitate delivery of such services and must also be reported to DTPS and DPSA. Provincial administration on the other hand has the responsibility to coordinate provincial and municipal e-government services through liaison with relevant stakeholders and to raise e-government awareness to the general public (ss.12.2 of the National E-government Strategy and Roadmap 2017).

The much needed awareness of the value of e-government in society must be re-emphasised within this institutional arrangement. Mphidi (2011) indicates that the most challenging activity is the government's ability to influence individual citizens to make use of ICTs to their great advantage. The South African government should continuously improve their efforts towards educating the society about the unavoidable importance of ICTs in improving their lives since e-government services are useful only if the citizens have the knowledge of them. A fast-growing use of mobile applications (m-government) in developing countries highlight high levels of tolerance and interest in the use of electronically-driven services by the society, which may in a long run counteract societal resistance to technology. South Africa need to capitalise on mobile applications to deliver not only basic services, but to encourage adoption of interactive and internet-based services. According to the UN (2016:96) and Asian Development Bank Institute

– ADBI and Economic and Social Commission for Asia and the Pacific –ESCAP (2005:iii), governments must create conducive environment through policies and initiatives that create awareness and teach citizens in disadvantaged and marginalised communities to access and use e-government services using technological devices at their disposal. Mobile devices with internet access are highly demanded in the society and affordability is becoming less of a concern. In a nutshell, clarification in roles and responsibilities will foster the culture of accountability, cooperation and coordinated efforts for improved national e-government programme implementation in South Africa.

12. Ensuring Universal Service and Access to the Poor

Issues related to ICT infrastructural development or investment which influences the uptake and use of e-government services in the society is identified as one of the factors that hinders successful e-government implementation in South Africa (Mtimunye, 2011; Singh 2010; DTPS 2014). To promote an inclusive digital society, ICT infrastructure needs to be accessible and affordable to the majority of less privileged in the society, especially remote rural areas and underserviced urban townships (Bhatnagar, 2002:5; Ojo *et al*., 2005:321; AL-Kaabi, 2010:652). Careful considerations need to be applied to guard against worsening the digital divide in South Africa. As one of the critical objectives in the creation and development of an inclusive digital society, Chapter 9 of the National Integrated ICT Policy calls for a rapid deployment of ICT infrastructure. Mutually beneficial public-private partnerships (PPP) across the country's ICT sector are important in creating a flourishing and robust ICT sector characterised by well-developed maintained ICT infrastructure (Thakur & Singh, 2013:42).

As a result of re-defined roles and responsibilities of the e-government role players in South Africa, USAASA has been dissolved and the Universal Access Fund (UAF renamed Digital Development Fund in efforts to re-vitalise ICT access initiatives that cater for all in the society. Chapter 5 of the National Integrated ICT Policy provides a foundation and commit to universal service and access to ICT infrastructure and service to marginalised communities to address issues of digital divide in South Africa. A promise has been made which states that "we are fully committed to turning this digital divide into a

digital opportunity for all, particularly for those who risk being left behind and being further marginalised" (National Integrated ICT Policy White Paper, 2016). Such a statement of intend also require substantial efforts to be realised including commitment by the e-government leadership, adequate management of the universal service and access portfolio and the Digital Development Fund as well as building trust in e-government. Trust building initiatives in South Africa should include inter alia; lifting confidence levels of users via e-literacy programs – e-skills, e-learning and closing digital divide (Bhatnagar, 2002:5; Kaisara & Pather, 2009:5). If these areas are not given adequate attention, they can quickly dissolve e-government trust in the country.

13. Conclusion and Recommendations

In South Africa, progress with regard to e-government implementation has been non-satisfactory, dating back to 2004 when it lost its position as an African leader. A number of challenges have been identified as factors that hampered the country's e-government development. Implementation challenges are largely concerned with policy development. South Africa failed to regularly update its 2001 Public Service IT Policy Framework, developed by DPSA which was supposed to regulate and create a healthy ICT sector to support progressive e-government and e-commerce. The policy was scrutinised by various scholar as unclear, out-dated and failed to respond to the convergence nature of the ICT sector. Irregularities in that policy resulted in numerous implementation challenges ranging from leadership, coordination and ICT access and adoption concerns including; lack of coordination amongst key role players; lack of dedicated e-government leadership, uncoordinated e-government projects; poor management of the e-government portfolio; lack of leadership by PNC on ISAD, poor and ICT infrastructure in remote rural and underserviced urban townships, lack of e-government awareness by citizens. As a result of these challenges, e-government potential was dismantled, demonstrated through slow e-government progress and poor implementation. What was once considered early attempts, through adoption of various Information policies, quickly became futile and irrelevant.

A major breakthrough for e-government in South Africa was seen in early 2016 through an updated National Integrated ICT Policy White Paper, and a subsequent National E-government Strategy and

Roadmap established in 2017. These developments serve as major milestones for the country in creating a robust ICT sector that support the country's e-government mandate. The current e-government challenges can be addressed by taking into account a number of considerations which should be built within the e-government work-plan. Such considerations are success factors aimed at addressing implementation challenges by focusing attention on considerations in creation of digital society, an enabling institutional environment, clarification of roles, and ensuring universal service and access to the poor. Achievement of these important objectives may place South Africa in a positive space to regain its position as an African e-government leader.

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