

# E-Government and Development in Zimbabwe: An Appraisal

Tawanda Zinyama Alfred G. Nhema

University of Zimbabwe, Department of Political and Administrative Studies, Harare, Zimbabwe

## Abstract

This article examines the evolution of the E-governance policy and practice in Zimbabwe over time. The major objective of the article is to give a comprehensive overview of the role that Information and Communications Technology (ICT) and e-Government play in triggering efficient and effective public sector operations. The paper achieves this by discussing the e-government policy objectives, the e-government framework and the challenges facing the country as it embarks on the implementation of the 2015 National ICT Policy.

**Keywords:** E-government, public administration, efficacy of e-government, Zimbabwe

## 1. Introduction

Public administration is required to take a leading role in the innovation and promotion of a dynamic and efficient information and communications technology (ICT) service delivery system through e Government. Through the increasing use of ICT and the development of digital inclusion policies, public administrations across the world are engaging in transformation processes that focus on achieving an efficient, effective, friendly public sector. This approach, also known as “Transformational Government”, has become a driving force for innovations that are leading to the reduction of inefficient operations in public administration. The challenges faced in the process of implementing the ICT transformation processes will also be addressed in this paper.

The aim of this article is to give a comprehensive overview of the role that ICT and e-Government play in triggering innovation and efficiency through the adoption of a modern, efficient and high-quality public administration. The article achieves this objective through the examination of the stated e-government policy objectives, e-government framework and the challenges facing the country as it embarks on the implementation of the 2015 National ICT Policy.

### 1.1. Defining E-Government

Various definitions have been proffered on the definition and conceptualisation of e-government. Given the plethora of perspectives on the concept, we have decided to adopt the World Bank’s definition and focus that refers E-Government as the use of information and communications technologies (ICT) designed to improve the efficiency, effectiveness, transparency and accountability of government operations.

The overriding concern of the process, according to the World Bank, is to create a technology-enabled transformation of government operations into one that will focus on the reduction of costs and the promotion of economic development and improvement in public sector service delivery.

All in all, it is hoped that through the adoption of e-government processes, the following will be achieved: reduction of operating costs; enhancement of transparency and accountability measures; improvement of public service delivery and the facilitating of an e-society. Source: <http://web.worldbank.org/WBSIT>. Accessed 20/01/2016

Many countries are in the process of designing and implementing e-government strategies, programs and projects with a view to modernising their public sector operations.

### 1.2. The Efficacy of E-Government

Today’s public administration has to be able to meet the challenges and requirements of the 21<sup>st</sup> century efficiently and effectively. Services have to be redesigned around the needs of citizens and businesses instead of around the needs of the administration. Reducing the administrative burden on citizens and businesses is the main benefit of increased efficiency and effectiveness in public administration, triggered by eGovernment and increased use of ICT. Public administration now has to move towards what is known as ‘Transformational Government’ which requires that it achieves improved quality and best-value service delivery.

### 1.3. African E-Government Picture

Progress in E-governance in Africa remains relatively slow and uneven. Using the regional E-Government Development Index (EGDI), of the 54 countries in Africa, 16 countries are at the bottom 10 per cent of the world ranking (United Nations, 2014). Tunisia and Mauritius are the two highest-ranked countries in Africa, with Egypt, Seychelles, Morocco and South Africa following closely behind and showing progress as compared with the 2012 Survey. However, Africa as a whole exhibits a regional digital divide with most Internet activity and infrastructure concentrated in South Africa, Morocco, Egypt, Mauritius and Seychelles (ibid.).

Table 1 below shows the top 20 countries in the African region based on e-government development.

Tunisia climbed 28 places to the 75th global position. Mauritius and Seychelles remain in the regional top 5, improving their world rankings from 93rd in 2012 to 76th in 2014 and from 84th to 81st respectively. Egypt improved its ranking significantly and is now ranked third in the region and 80th globally.

Morocco improved its rank by 38 places, which is clearly the biggest jump in the region; it has emerged as a trailblazer in certain areas with particularly impressive mobile broadband take-up. Morocco was one of the first countries in the Middle East and North Africa to institutionalize a regulatory environment for promoting competition in the telecommunications sector; and as such, made great strides in levelling the playing field for private operators to enter and succeed in the market. As early as 1999, a national strategy was developed to lay out the country's ICT vision which later became the foundation for subsequent plans such as e-Morocco and now Digital Morocco.

**Table 1: Top 20 Countries in Africa**

Country	Level of Income	EGDI	2014 Rank	2012 Rank	Change in Rank
<b>High EGDI</b>					
Tunisia	Upper Middle 0	0.5390	75	75	↑ 28
Mauritius	Upper Middle	0.5338	76	93	▲ 17
Egypt	Lower Middle	0.5129	80	107	↑ 27
Seychelles	Upper Middle	0.5113	81	84	↑ 3
Morocco	Lower Middle	0.5060	82	120	▲ 38
<b>Middle EGDI</b>					
South Africa	Upper Middle	0.4869	93	101	▲ 8
Botswana	Upper Middle	0.4198	112	121	▲ 9
Namibia	Upper Middle	0.3880	117	123	▲ 6
Kenya	Low	0.3805	119	119	-
Libya	Upper Middle	0.3753	121	191	▲ 70
Ghana	Lower Middle	0.3735	123	145	▲ 22
Rwanda	Low	0.3589	125	140	▲ 15
Zimbabwe	Low	0.3585	126	133	▲ 7
Cape Verde	Lower Middle	0.3551	127	118	▼ 9
Gabon	Upper Middle	0.3294	131	129	▼ 2
Algeria	Upper Middle	0.3106	136	132	▼ 4
Swaziland	Lower Middle	0.3056	138	138	▲ 6
Angola	Upper Middle	0.2970	140	142	▲ 2
Nigeria	Lower Middle	0.2929	141	162	▲ 21
Cameroon	Lower	0.2782	144	147	▲ 3
Regional Average		0.2661			
World Average		0.4712			

Source: United Nations E-Government Survey. 2014

While the general e-government trends in Africa seem to be inclined toward mobile government initiatives and social media strategies, it is also advisable for policymakers to explore e-government on a more fundamental level through adjusting legislation and policies to encompass technology in national development strategies and welcoming new ideas and ways of connecting with citizens.

## 2. Background of ICTs in Zimbabwe

The deployment of ICTs and e-Government in Zimbabwe goes back to the early 1970s when the Central Computing Services (CCS) provided ICT services to the public services (Hikwa and Maisiri, 2014). Following this, was the adoption of the Integrated Results Based Management System (IRBMS) in 2005, which is underpinned by e-Government as an integral component (COMESA e-Government Web Portal, 2012). Also, in 2005 the Government of Zimbabwe together with the National Economic Consultative Forum (NECF) embarked on an e-readiness survey to appropriately inform the intent to deploy ICTs in the country (Mhlanga, 2006). This e-readiness survey eventually became the basis for the “national ICT policy and e-strategy to provide a roadmap towards a knowledge society” (Mhlanga, 2006:1).

Upon the formation of the Inclusive Government in 2009, the Government of Zimbabwe established the Ministry of Information Communication Technology. Currently, driving the digital access and e-government agenda in Zimbabwe is a Modernisation Unit within the Office of the President and Cabinet and the Ministry of Information and Communication Technology, and Courier Services guided by “ZimConnect”, the e-government framework and other enabling instruments. ZimConnect is an e-government framework and implementation

strategy (2011-2015) and strategic dispensation that aims at promoting the use of ICTs in the public sector value chains in Zimbabwe. In short, ZimConnect is meant to connect the government and its people. The ZimConnect sought for a totally connected government. It focused on infrastructure, capacity building/change management and systems applications. The ZimConnect mission was “To provide seamless e-services to the citizens, business and government through an interconnected public service integrating people, process and technology.”

### 2.1.The Zimbabwean Experience

With reference to technology, Zimbabwe today stands very low in the world order of nations. It is now universally acknowledged that the correct application and management of technology would provide great stimuli to the four traditional factors in economic growth. One of the factors – land – is usually of relatively little value as a growth resource unless technology is applied to it. Minerals resources deep underground contribute little unless technology is applied. The second factor is labour. Labour productivity can be increased almost indefinitely by infusing appropriate technology. Capital, the third factor, has great potential when it is put into technologies, increasing output per person hour or value to raw materials. The fourth factor is education that allows the improvement of human capacity to understand relationships in nature and to apply such knowledge for useful purposes. The world we live in today vividly depicts the glaring disparities of economic wealth between the technologically advanced countries and the backward ones.

Box 1 below, consists of a vivid description by Zhangazha of what the situation used to be at the Zimbabwe Passport Office located at Makombe Building in Harare when clients are applying for passports.

#### Box 1

The dust, dirt, long snaking queues and aggressive vendors just outside the main offices of Zimbabwe dilapidated passport office at Makombe Building in Harare make for a chaotic if not foreboding atmosphere.

Upon arrival at the offices it is not difficult to understand why the offices rank top most among the places people dread visiting. As soon as the gates open, pushing and shoving are the order of the day as passport seekers scream and shout, while children’s cries of hunger intermittently pierce the musty air.

The many meandering queues quickly take their toll on people’s patience. There are no special arrangements for the elderly, the pregnant or disabled who forlornly await their turn while passport officials allegedly first serve those that would have been referred to them after money has exchanged hands through the intricate channels the staff have set up with outsiders.

There is no running water due to regular rationing and ablution facilities are scarce. Neither is there a place to purchase a decent meal and as a result hunger pangs usually translate into frayed tempers.

Visitors to the passport offices are greeted mostly by grumpy and demotivated civil servants who earn as little as US\$350 per month. They in turn vent their frustrations on poor citizens mainly seeking identity and travel documents. Passport seekers are shuttled from one office to the other, with bossy officials barking angrily at those who get into the wrong offices or block the path of the stuffy and crowded corridors and small offices.

Those seeking to sort out passport issues are best advised to choose their words very carefully at all times when communicating with Makombe staff as a slight misunderstanding or misconstrued statement could mean being ignored as punishment or suffering the ignominy of being chucked to the back of the queue.

For those with cash to spare, a bribe of about US\$30 through corrupt channels ensures one is served promptly and courteously.

A person who has paid a bribe is typically seen by his or her confidence in jumping the queue and heading straight to the serving desk where they mention the name of the staffer who has “sent” them. From that office, they are then referred to different staffers at other offices where they breeze through the entire process without any hustle.

In stark contrast, those without cash to grease officials’ palms are forced to queue outside Makombe Building for hours from as early as 4am, with no guarantees they will be served on that particular day. Positions in the queue are for sale from a syndicate whose members get up early to occupy strategic positions in the queue.

**Source: Wongai Zhangazha <http://www.theindependent.co.zw> Accessed 20 January 2016**

The situation, has, however now improved. The Registrar General Office was digitalised in 2012. Currently, the Registrar-General Office sends SMS messages to passport applicants to collect their documents and applicants are now able to download applications forms on the internet. The department introduced its new website: <http://www.rg.gov.zw>. The website provides the public with all relevant information regarding the department’s offices and services. The introduction of e-government by the Registrar-General’s offices resulted in reduced transaction costs – improved efficiency and reduced time spent queuing for passport forms.

### 2.2.Developments that led to the 2015 ICT National Policy

There are numerous national and international documents that informed the development of the Zimbabwe National Policy for Information and Communication Technology of 2015. The national documents include the

Nziramasanga Education Commission Report (1999), Vision 2020 (1999), Science and Technology Policy (2002 revised in 2010), The National Economic Recovery Programme (2004-2006), Zimbabwe Medium Term Plan (2011-2015), National Industrial Development Policy (2012-2016), Zimbabwe Agenda for Sustainable Socio-Economic Transformation (2013-2018). The international documents include the SADC Declaration on Information and Communication Technology, AU Summit Final Declaration on ICT Development (2010), the African Information Society Initiative (AISII), the World Summit on the Information Society (WSIS Declaration of Principles and Plan of Action, 2003-2005), Millennium Development Goals (MDGs). The brief discussions of these documents are given below.

The Nziramasanga Education Commission Report of 1999 recommended the introduction and mainstreaming of computer-based and learning in the pedagogy of schools, colleges, universities and other institutions of higher learning (National ICT Policy Framework, 2006:14). This really constitutes a key element of the national ICT policy.

The Zimbabwe Science and Technology Policy was adopted in 2002. The policy seeks to promote national scientific and technological self-reliance and provides a comprehensive framework for the country to develop and harness Science and Technology for development. The policy also provides for better coordination and direction in Research and Development (R&D) activities in all sectors of the economy. In fact, the policy recognises the ICT sector as a key enabler of national development.

The National Economic Recovery Programme (NERP) was launched in 2003 to address severe socio-economic challenges as a result of droughts. The “Ten Point Plan” enunciated by President Robert Mugabe of Zimbabwe, at his inauguration in 2002, set the tone for a focused multi-sector driven economic turnaround strategy. The NERP places emphasis on the need for Zimbabwe to exploit the potential of S&T in general and ICTs in particular in order to leap-frog national economic competitiveness.

The Zimbabwe Medium Term Plan (2011-2015) identifies the emergence and convergence of ICTs as being at the centre of global socio-economic transformations. ICTs are further identified as a catalyst that will spearhead Zimbabwe into a knowledge society that is supported by reliable connectivity.

The National Industrial Development Policy (2012-2016) seeks to promote ICTs for economic growth and industrialisation. It recognises the many advantages that the utilisation of ICTs enables business operations through reduced transactions costs, increased productivity and efficiency; new trade opportunities locally and globally; access to knowledge; increased communication and better communication. It further recognises that the Government of Zimbabwe is geared to witnessing business embracing ICTs and e-technology with a view to producing higher value chain products through the National ICT Policy Framework and the Strategic Plan led by the Ministry responsible for ICT.

The Zimbabwe Agenda for Sustainable Socio-Economic Transformation (2013-2018) seeks to achieve sustainable development and social equity through indigenisation, empowerment and employment creation through the use of the nation’s abundant human and natural resources. ZIMASSET recognises the rehabilitation of infrastructural assets and the recovery of utility services in Zimbabwe; with improved ICT infrastructure, sector governance, government efficiency, increased access, utilisation and research and development as the anticipated sector outcomes designed to achieve ZIMASSET goals. One of the key components of the Results Based Management Programme is e- Government.

### **3. SADC Declaration on Information and Communication Technology**

The 2001 SADC Heads of State and Government declaration in Blantyre, Malawi recognised ICT as a fast, reliable, efficient and easy way of communication and information exchange. The Heads of State and Government committed themselves and their respective countries to ensure improved living standards for all their people through prioritising areas of action for bringing the digital divide in the SADC region. They further declared the following as priority areas of action:

- The regulatory environment for ICT;
- Infrastructure for ICT development;
- Community participation and governance in ICT development;
- ICT in business development; and
- Human resource capacity for ICT development.

#### **3.1. AU Summit Final Declaration on ICT Development (2010)**

The Heads of State and Government of the African Union meeting at the Fourteenth Ordinary Session of their Assembly in Addis Ababa, Ethiopia (31 January – 2 February 2010) adopted a declaration on the ICT sector as being a top priority in their development programmes and that of member States. Development partners were encouraged to consider telecommunication and ICT infrastructure and services as a basic public utility infrastructure.

### **3.2. The African Information Society Initiative (AISI)**

After recognising the important role ICTs play in facilitating the attainment of development goals and responding to the challenges of the information age, the United Nations Economic Commission for Africa (UNECA) launched the African Information Society Initiative in May 1996 as a common vision, not only to bridge the digital divide between Africa and the rest of the World, but more importantly, to create effective digital opportunities to be developed by Africans and their partners and speed the continent's entry into the information and knowledge global economy. The AISI was adopted by the Economic Commission for Africa (ECA) Conference of Ministers, in May 1996 and subsequently endorsed by the Organisation of African Unity Heads of Summit meetings including the 1997 G-8 Summit. AISI activities among others include national and sectoral policy development and capacity building.

### **3.3. The World Summit on the Information Society (WSIS Declaration of Principles and Plan of Action (2003-2005))**

The first WSIS Declaration of Principles and Plan of Action endorsed in Geneva in 2003 by Heads of State and Government strongly recommends the adoption and utilisation of ICTs to meet the agreed developmental goals. It recognises that education, knowledge, information and communication were at the core of human endeavour, progress and well-being. Governments were urged, among other things, to provide enabling environments for the development and utilisation of ICTs. The second phase of the World Summit on the Information Society (WSIS) held in Tunisia in 2005 reiterated Governments' unequivocal support for the Geneva Declaration of Principles and Plan of Action adopted at the first phase of the World Summit on the Information Society in Geneva in December 2003.

### **3.4. Millennium Development Goals (2005)**

In the New Millennium, governments in Africa started realising the need for sustained development effectiveness and the need to manage their development processes in a way that allowed them to achieve the greatest development impact. Zimbabwe has to a significant extent made inroads in the implementation of the Millennium Development Goals adopted by Heads of State and Government at the fifty-fifth session of the United Nations General Assembly in September 2000. The Zimbabwe Millennium Development Goals (MDGs) Report of 2005 launched by the President Robert Mugabe in September, 2005 recognises the role of ICTs as tools that add value and contribute significantly to the achievement of the MDGs by 2015.

The Zimbabwe National Policy for Information and Communication Technology of 2015 has a vision, mission and key objectives. These are outlined below.

#### **Vision**

A knowledge-based society with ubiquitous connectivity by 2020.

#### **Mission**

To exploit the potential of ICTs for sustainable socio-economic development in Zimbabwe.

#### **Key Policy Objectives**

The purpose of the policy is to provide strategic direction and guidance for sustainable national development through the development and application of ICTs in Zimbabwe. This results in improvement of quality of life, the country's productivity and economic competitiveness, quality health service delivery, agricultural yields, energy efficiency, mineral beneficiation mechanisms, traffic safety.

The policy provides strategic direction on how ICT development and application enables national socio-economic transformation. The policy aims to leverage the strengths and opportunities available for the country. The ICT policy goals are to realise:

- Transformation - Facilitate delivery of Zim-ASSET and other National Developmental goals;
- Growth – Enable and foster access to and increased use of telecommunications/ICT in all spheres of life (such as e-Government, e-Commerce, e-Employment, ICT in education, ICT in health, ICT in science and ICT in agriculture);
- Leadership - Achieve ICT leadership in Africa;
- Inclusiveness –Bridge the digital divide and provide broadband for all;
- Sustainability – Manage challenges resulting from the telecommunication/ICT development; and
- Innovation and partnership – Lead, improve and adapt to the changing telecommunication/ICT environment

Source: <http://www.techzim.co.zw/wp-content/uploads/2015/12/Zimbabwe-Draft-National-ICT-Policy-2015-.pdf> (accessed on 5/2/16).

### **3.5. Zimbabwe's E-readiness**

The adoption of e-governemnt is determined by the degree of a country's e-readiness (Uzoka *et al.*, 2007). The Economist Intelligent Unit's white paper on the 2006 e-readiness rankings define e-readiness as "the "state of

play” of a country’s ICT infrastructure and the ability of its consumers, businesses and governments to use ICT for their benefit.” The e-readiness assessment of a nation provides policy makers with a detailed scorecard of their economy’s competitiveness relative to international counterparts in the digital era (Ifinedo, 2005). Common variables that are used to assess e-readiness of a country are: connectivity and technology infrastructure, enabling business environment, conducive legal and policy environment and socio-economic conditions that support e-services (Economist Intelligence Unit, 2006).

The Government of Zimbabwe with support from the United Nations Development Programme (UNDP) commissioned an e-Readiness Survey whose purpose was to assess the country’s readiness to become a knowledge society. The National e-Readiness Survey indicated that there was a lot of work to be done in terms of preparing Zimbabwe for e-business, for out of a score of 4, the country scored only 1.4 (National E-Readiness Survey, 2005). With respect to E-Government, the following were the findings of the e-Readiness Survey:

- Government possesses an immense potential for E-Government through its wide area network and application systems such as SAP software, civil service payroll, national registration system and pensions processing;
- Most of the online communication is G2B and G2C, but there is no citizen-to-government online communication;
- The institutional mechanisms for ICT are not well-defined and coordinated; and
- There is no integrated government policy framework for the development of e-Government.

This paper observed that the main factor responsible for the low score is the backward ICT infrastructure especially in the telecommunications sector. Many rural areas of Zimbabwe do not have electricity making it impossible to introduce ICT-based services. This implies that there is a need for a well-defined government strategy to articulate such shortcomings, prompting the central government to commit financial and other resources towards infrastructure.

The Zimbabwe Government has established numerous policies and programmes over the years, suggesting that there is willingness by the government to adopt ICTs as drivers of the knowledge economy. These are already discussed above. The WSIS Declaration of Principles and Plan of Action (2003) where Zimbabwe was represented strongly recommended the adoption and utilisation of ICTs to meet the agreed developmental goals.

The Government of Zimbabwe has established a Wide Area network (WAN) that is accessible to all government departments and ministries. This motivation for the establishment of the WAN are:

- To use internet and intranet access to enhance public sector wide information access and exchange; and
- To maximise the benefits of government-wide acquisition of telecommunications services.

Most government departments are now computerised and there is deployment of large enterprise resource planning software (ERPs) like SAP. A regularly updated Web site portal called Zimbabwe Government Online, located at <http://www.gta.gov.zw> was developed. The site, whose major purpose is currently informative, has links to all the government ministries and stand-alone departments.

The Zimbabwe Internet Service Providers Association (ZISPA) has a membership of 28. This indicates that there are many internet users in Zimbabwe (<http://www.zispa.co.zw>). ICT-based services in Zimbabwe are increasing, ranging from conducting business on the cell phone (e-business) to applying for jobs on the internet. However, these internet service providers are concentrated in urban cities where computers are accessible. This creates a digital divide between urban dwellers and rural dwellers.

Another key variable of e-readiness is leadership will. In Zimbabwe there is visible leadership from the top to implement ICT-based initiatives. The President of Zimbabwe, Robert Mugabe, since 2000, has donated computers in the education sector throughout the country. Another positive development is the establishment of a Cabinet Committee on Scientific Research, Technology Development and Applications by the Zimbabwe Government. Furthermore, there is the Modernisation Department in the Office of the President and Cabinet. Additionally, a National ICT/E-Government Policy and Technical Advisory Committee in the Office of the President and Cabinet was created and is composed of various stakeholders that meet every week. They provide leadership and guidance to the whole implementation process of flagship applications and the management of top level national internet domains (COMESA e-Government Web Portal, 2012). This is clear testimony that there is willingness by all to adopt technology. The Ministry of Science and Technology Development is the champion of all technology-based activities in Zimbabwe. Underscored here is that committed leadership and political will are important because they reflect government’s willingness to commit adequate resources in support of e-government services for their sustainability, let alone the creation of suitable environments for infrastructure development.

It must also be noted that the Government of Zimbabwe has established a National High Performance Computer Center housed at the University of Zimbabwe. The government hopes that this would help improve ICT standards and utilisation. Other plans for promoting wider connectivity are the need to capacitate TelOne, NetOne and Powertel so that they are able develop key ICT infrastructure, improve ICT literacy by 10 per cent

annually, and create an ICT Hub, among others.

### 3.6. ICT Sector Challenges in Zimbabwe

Despite the developments that are outlined above, the ICT sector has been faced with a number of challenges. Some of these include:-

**Inadequate communications infrastructure:** whilst there has been significant roll out of communications infrastructure with 2G exceeding 75% population coverage (as at 31 December 2014), high speed broadband coverage is still patchy with most rural and remote areas remaining uncovered due to a non-holistic approach to universal service. Broadband coverage in rural and remote areas remains low. Coverage is mainly concentrated in affluent urban areas. This is widening the urban-rural digital divide against the principle of equitable access.

Most citizens are still physically visiting government offices in order to get basic information, complete and submit a form or to get any other services. Ministries of Home Affairs, Higher Education, Local Government, Gender Affairs, Legal and Justice, Small and Medium Enterprises are typical examples. One of the authors visited one of the government departments and observed how desperate the public service needs just elementary e-filing skills. Countless stacks of paperwork and boxes filled more space than furniture and after witnessing that, this writer was tempted to forgive the pace of service that they received on that visit.

**Inadequate electricity supply:** the national power grid does not cover the whole country which leaves a significant population dependent on alternative power sources which tend to be more expensive. Even those who are on the national grid experience erratic supply. This shortage has had adverse effects on the development and use of ICTs.

**Inadequate ICT skills:** there is a shortage of ICT skilled manpower to roll out ICT programmes. This shortage has a knock-on digital literacy which drives uptake and usage of ICT services. There is need to integrate ICTs in the education curricula commencing from early childhood education level as well as the promotion of ICTs uptake within communities. The government can expand the e-learning by increasing computer literacy in schools and the wider community by expanding the presidential e-learning programme and introduce the public-private partnerships to expand infrastructure in schools.

**Fragmented institutional arrangements:** the convergence of technology platforms has resulted in multiple services which used to be offered over separate platforms being availed on a single platform/network. This has rendered it unnecessary to have multiple institutions overseeing the development of electronic communications in any given country.

**Inadequate investment capital:** the high perceived country risk has resulted in higher lending rates for foreign borrowings. Furthermore, the liquidity crunch currently bedeviling the country has made it almost impossible to secure long term domestic funding for ICT projects. Where available, the interest rates charged are exorbitant. There are also limited public-private partnerships arrangements in Zimbabwe particularly in the ICT sector. These factors have adversely affected infrastructure development and growth of the ICT sector in Zimbabwe.

**Absence of a Cybersecurity Framework.**

There is no cybersecurity framework in place. There is a need to put in place a Cybersecurity framework that ensure the maintenance and protection of the security properties of the country's assets against relevant security risks that are common in the cyber security arena. The overall security goal of the framework should be to ensure the availability, integrity and confidentiality of country and citizen data in cyberspace.

**Low digital literacy level:** the education curriculum does not include a comprehensive ICT focus. Therefore, the level of digital literacy at grassroots level is very low to stimulate service uptake and usage, especially in rural areas.

**An outdated, service specific, licensing regime which is not in line with technological developments:** the existing, service specific, licensing framework is restrictive in nature as it does not allow operators to take full advantage of the possible economies of scope and scale that are exploitable under a converged licensing framework that may enhance the information society.

**Limited local ICT innovation, research and development (R&D) and entrepreneurship:** there is no framework for R&D to stimulate innovation and harness the potential of ICTs in promoting entrepreneurship.

**Absence of an internet governance framework to deal with the management of national and international internet traffic:** although the current Domain Name System (DNS) structure has served Zimbabwe well, in as far as ensuring the availability and reliability of service, it has some weaknesses that need to be addressed. Chief among these weaknesses is the fragmented manner in which the DNS has been implemented, which presents a lot of security loopholes in the system. Implementing security measures like Domain Name System Security Extensions (DNSSEC) is a challenge.

Another challenge is the absence of properly constituted Internet Exchange Points (IXPs) in the country, which results in externalisation of local traffic thereby compromising quality of service, affordability and security.

In order to overcome the various challenges in the ICT sector, there is need on the part of all stakeholders to devise a well-focused approach in addressing the challenges at a broader level so that the enabling policy; legal and regulatory frameworks are defined with the objectives of providing a conducive environment for private sector participation and investment. As a result, the policy should focus on:

- i. Universal access and service;
- ii. Infrastructure development and management;
- iii. Research, innovation and industry development;
- iv. Policy streamlining, regulatory framework and institutional mechanisms;
- v. Capacity building and content development; and
- vi. National ICTs and the impact on regional integration

#### 4. e-Government in Zimbabwe

E-government includes all electronic information movement, interactions and transactions that facilitate service delivery among Government ministries, institutions, departments and agencies (G2G); between Government and the business (G2B) and between Government and the citizenry (G2C). E-Government, as defined by the European Commission,

*is about "using the tools and systems made possible by Information and Communication Technologies (ICT) to provide better public services to citizens and businesses. ICT are already widely used by government bodies, just as in enterprises, but eGovernment involves much more than just the tools. Effective eGovernment also involves rethinking organisations and processes, and changing behaviour so that public services are delivered more efficiently to the people who need to use them. Implemented well, e-Government enables all citizens, enterprises and organisations to carry out their business with government more easily, more quickly and at lower cost"*

(European Commission's e Government portal at [http://ec.europa.eu/information\\_society/activities/egovernment/index\\_en.htm](http://ec.europa.eu/information_society/activities/egovernment/index_en.htm)).

E-Government relies entirely on ICTs to provide services such as:

- Convenient access to interactive information and services;
- Timely delivery of public services; and
- Efficient and effective methods of conducting business transactions.

The Government of Zimbabwe defines e-government as "an enabler that facilitates the overall implementation of the results-based management programme through the use of information communication technologies (ICT) to improve service delivery."

Nitro (2000) believes that there are three domains of e-Government:

- i. The improvement of government processes (e-administration);
- ii. Connecting citizens (e-Citizens and e-services); and
- iii. Building external interactions (e-Society).

Implied here is that e-government promotes value for money by addressing the public sector problems of inefficiency, ineffectiveness and inconvenience.

In Zimbabwe, the e-Government has been a deliberate component of the national plan. For instance, an e-Government Blueprint has been produced covering the years 2011-2015. It provides directions, strategy and focus regarding the implementation of e-government (COMESA e-Government Web Portal, 2012). The Blueprint outlines the following:

- i. An evaluation of progress on e-Government and status of ICT in the country;
- ii. Strategies that include the direction and focus of the e-Government;
- iii. Programmes recommended for implementation;
- iv. Key performance indicators (KPIs) and Targets; and
- v. Proposed e-Government frameworks; and Action Plan and Implementation Roadmap.

#### 4.1. Policy Statements: e-Government

- a) Facilitate the development of a single national strategy and blueprint for the planning, design and implementation of e-Government infrastructure and services. This will avoid fragmentation, duplication and focus the country on areas of achieving maximum results.
- b) E-Government will be deployed to reduce government institutions operational costs and to bring Government closer to the people.
- c) The e-Government Strategy will maximise and leverage on national ICT infrastructure to optimise capital and operational expenditure requirements.
- d) Avail e-government services to all citizens in a language that they understand.

#### 4.2. Implications for National Development

In his speech during the 2005 World Summit of the Information Society Conference (WSIS) in Tunis, President Mugabe of Zimbabwe said, “ICTs can be a useful tool in generating economic growth and employment creation, improving productivity and quality of life for all people... On one level, this summit provides an opportunity for the global family of nations to address this need... (WSIS, Tunis, 2005).

The E-Government programme being implemented in Zimbabwe currently is dubbed ‘ZimConnect’ and it aims at allowing all Ministries, Departments and public entities to have flexibility in deploying e-applications online that reduce red tape, eradicate corruption and other institutional bottlenecks associated with the traditional methods of public service delivery. The 11 e-applications, currently riding on the Public Finance Management System, will be launched during 2016 in order to bring Government services closer to the people (GoZ, 2015).

Furthermore, the National Information Data Centre (NIDC) is being developed by the Zimbabwe government. The NIDC will act as a central repository for public sector information and will anchor the E-Government Programme architecture. Similar initiatives are also needed for communication information centres and establishment of computer laboratories in schools.

The uptake and use of ICTs has greatly increased in recent years with the high uptake seeing the “digital divide” between rural and urban areas being reduced dramatically. This is evidenced by the high growth registered by Zimbabwe’s ICT indicators with active mobile penetration reaching 90% and Internet penetration reaching 45% as at 31 December 2014. Rapid and robust infrastructural development and rejuvenation has enabled the development and availability of a plethora of e-services, which consumers have embraced as easier means to communicate and transact between person to person, person to business and business to business. There has been adoption of mobile money transfer, and various broadband applications such as WhatsApp, Facebook, Twitter, YouTube and Skype.

Government websites for ministries are up and running, which is a key milestone in the journey to a paperless and information society. The 2015 ICT National Policy is now in place. Statistics show that Zimbabwe’s mobile penetration rates increased to over 60 percent in 2010 from 9 percent in 2008. Internet penetration rates have risen from 1.5 percent to between 11 per cent and 20 per cent during the same period.

Government is also making great strides in the use of ICTs by introducing various e-Government services to the citizenry. Efforts and investments have been made in the fields of ICT backbone infrastructure development, ICTs in education, research and development, the creation of Community Information Centres, ICT governance and the training of legislators and government officials in ICT usage. Zimbabwe is now connected to the undersea fibre optic network through SEACOM, WACS and EASSy.

**Table 2: Zimbabwe’s Web Presence in 2005, 2008 and 2010**

S/N	web presence in 2005	web presence in 2008	web presence in 2010
51: Zimbabwe	←	←	←

Sources: UN Global E-government Report 2005; UN E-Government Survey 2008; UN E-Government survey 2010

The creation of official websites by the Zimbabwe Government provides greater opportunities for interested clients and to have speedy access to government information. It makes government policies and plans easily available and accessible users not only in Zimbabwe but also to people in other parts of the world. In the process, acquisitions of government publications are made more transparent and cost-effective through the various government websites.

Access to information is considered crucial for poverty reduction since it contributes to new sources of income and employment for the poor, improved delivery of health and education services and competitiveness of the economy. Zimbabwe has continued to make significant efforts to build its ICT infrastructure as reflected by important improvements in developing its broadband infrastructure and the expansion of, mobile network coverage. As a result, ICT usage, while still low, has picked up slightly, as evident in the increase of the number of internet users.

**Table 3: E-Government Readiness Data 2005 for Zimbabwe**

Web Measure	Infrastructure Index	Human Capital Index	E-government Readiness Index
0,1654	0,0395	0,7900	0,3316

Source: United Nations, 2005; Geiger and Lanvin, 2013

In 2010, Zimbabwe’s e-readiness index was 0, 3230 which was an improvement in e-government development. Zimbabwe jumped 12 positions to rank no 129. The 2012’s E-Government Readiness Index shows Zimbabwe occupying 116<sup>th</sup> position out of 142 countries surveyed with an e-readiness index of 0.389 out of 1.

Mhlanga (2013) argues that citizens just need four (4 A’s) as depicted in table 4 below.

**Table 4**

Accessibility	Services are expected to be accessible to users, in terms of distance and availability
Affordable	Services should not be so expensive
Adaptable	Services should take account the local social and political environment, and be adapted to local needs.
Acceptable	Service should be in a form that users find acceptable, for example culturally

Source: Mhlanga 2013:15

Other on-going E-Government flagship programmes are in the following line Ministries:

**Table 5**

Ministry/Agency	Application
Lands and Rural resettlement	Land management information system
Local Government, Public works and National Housing	Online Liquor License Application and Processing
Mines and Mining development	Online Application of Prospecting Licence
Justice, Legal and Parliamentary Affairs - Deeds and Companies Department	Online company registration and Deeds transfer
Economic Planning and Investment promotion - Zimbabwe Investment Authority	Online Investment project application and Processing
State procurement Board	E-procurement and contracts management. Public Service Commission Online human resources management Information system including E-recruitment
Health and Child Care - Chitungwiza Hospital	E-hospital Administration
Home Affairs - Immigration - Registrar General's Office	E-visa application , processing and travellers' clearance online passport application functional
Primary and Secondary Education	E-learning Zimbabwe Revenue Authority E-taxation(functional)
Higher and Tertiary Education, Science and Technology Development	High performance Computing Centre (functional)
Zimbabwe Revenue Authority	E-taxation (functional)

Source: Government of Zimbabwe, 2015: 136

For many of the citizens, ICT has penetrated virtually all aspects of their daily lives, from the way we shop to the way we communicate, work, share and network. Web 2.0 has had a major impact in transforming not only the way in which citizens communicate in their private sphere, but also the way in which civil society and politics work. The social media toolbox consisting of Twitter, Facebook, YouTube and LinkedIn are commonly now used by Zimbabweans. Nevertheless, these technologies have not reached everyone in our societies, nor have governments fully incorporated the potential of from these technologies into their service-delivery or decision-making processes.

Therefore, the success of the future of e-Government will to some extent rely on the success of inclusion policies aimed at closing the existing digital divide. Minimizing the digital divide will contribute to the stimulation of a knowledge based society and a knowledge economy. The full benefits of the knowledge society, including e-Participation, can only be realised if citizens have the necessary skill sets, buttressed by government policies that focus on the promotion of digital skills and digital literacy. These skills must remain a top priority for the Zimbabwe Government and public administration.

Nevertheless, one must not overlook the fact that greater use of e-government and ICT in public administration also results in the appearance of new risks and challenges. Greater openness involves a greater chance of misuse. Therefore, issues related to ICT security and the development of secure standards are gaining importance in the implementation of e-Government solutions and strategies.

## 5. Conclusions

Today's public administration has to be able to efficiently and effectively meet the challenges and requirements of the 21st Century. Services have to be redesigned around the needs of citizens and businesses. Moreover, in the context of the current financial crisis, it has to be considered that the difficulty of obtaining extra resources exacerbates even more the need to boost efficiency and effectiveness in public administration. In this case, ICT-based service delivery and customer service is a solution that allows the limited resources to be dedicated to the areas where they are most needed.

While the opportunities opened up by ICT in public administration and public service delivery are

myriad, the success of e-Government and its implementation depends on the creation of a digital inclusion infrastructure that enables citizens to easily access e-services. Public administration and public authorities have a leading role to play in making sure that more and more citizens take advantage of the opportunities created by a viable ICT system.

Zimbabwe should be commended for being prepared to embrace e-government. The Zimbabwe government has supported a number of programmes and policies that recognise ICTs as enablers of development. The Zimbabwe National ICT Policy Framework of 2002 and 2015 signal the willingness of the government to adopt e-government and related ICT programmes.

While there is marked progress in the areas mentioned above, further efforts are needed so that the vision for ICT development in Zimbabwe is realised. ICTs should be developed as one of the major pillars of the country's socio-economic development and growth. The Zimbabwe Agenda for Sustainable Socio-Economic Transformation (Zim-ASSET) clearly spells out ICTs as one of the pillars for national socio-economic development.

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