

# Citizens' engagement in e-Government in Zambia: A Discussion Paper

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## Abstract

The emergence of knowledge economies and extensive use and adoption of ICT in business entities have placed more pressure on governments to implement e-Government in their public service delivery platforms. For some of the governments, implementation of e-Government follows no explicit strategy but is done with a loosely coordinated approach. A properly designed e-Government implementation strategy with input from the local context is desired if implementation were to be deemed successful. Because of efficiencies brought about by the adoption and appropriate use of ICT in businesses and other private sector entities, e-Government is slowly becoming a *sine qua non* for responsive and transparent governance and is seen as one of the most important ingredients to national competitiveness.

Using a desk literature review, this paper emphasises the different factors that should be considered when developing e-Government projects, especially in Africa. The paper discusses the basics of e-Government readiness in Zambia by analysing the different initiatives that are being put in place to encourage e-Government development, and analyses the balance between the back-end and front-end applications in public delivery platforms. The paper posits that a lot needs to be done if proliferation of e-Government applications was to be attained in Zambia and that future e-Government strategies should be implemented within the realm of community informatics. This entails the application of ICT aimed at personal, social, economic, cultural and governance development of and within communities. It is anticipated that the adoption of a community informatics approach will enable the citizens to buy-in to the different e-Government applications and thereby guarantee continued usage. This paper presents factors which may act as reference points when e-Government strategies are being drawn for the SADC region.

**Key words:** e-Government strategy, Zambia, public service delivery, e-Inclusion

## INTRODUCTION

Information and Communication Technology (ICT) is a driver to 'overhaul' government business processes in the framework of e-Government. ICT makes possible the facilitation of an interaction platform that enables the government (as the major provider of e-Applications), the citizens and businesses to interact. It is also a platform that allows the civil society organisations to provide the

necessary checks and balances to the governance system and decisions made for the common interest.

Sustainable e-Government adoption initiatives can be designed if the supply and the demand side of e-Government are understood. The supply side include aspects such as the availability of ICT skills of government employees working with back-end e-Applications; propensity to change; frequency of process monitoring and evaluation of e-Government applications through business process re-engineering; ICT infrastructure preparedness; ICT policy development; availability of black belt e-Government application developers. The demand side is centred on the following entities: a) individual citizens – ICT literacy skills, trust of traditional government institution, b) businesses – business value via the involvement of e-Government (e.g. transparency in the award of tenders by government tender boards), c) civil-society – how ICT can be used to engage the government and other stakeholders on issues of governance, funding, efficiency in public service delivery.

Knowing and understanding what these different constituents demand in the e-Government environment is essential to design affluent e-Government interventions. Researchers' desire to have citizen-centric e-Government application initiatives can be seen in the different adoption models that have been designed. These adoption models should be grounded on strong theoretical background (Akhter-Shareef, 2011).

Global studies provide little information about the state of e-Government implementation in developing countries in general, and in sub-Saharan Africa in particular (Akhter-Shareef, 2011). There is generally a shortage of studies on e-Government's implementation endeavours and this presents a knowledge gap that needs to be plugged (Kim, Pan, & Ling-Pan, 2007). One of the central tenets to understanding successful e-Government implementation is the ability to distinguish and contextualise the different application processes that are evident on e-Government platforms (Yildiz, 2009). Very few studies have attempted to understand the cardinal factors that affect e-Government adoption especially at the community or individual level. It is because of this that this paper, using mixed research methods, present the status of e-Government adoption in Zambia. Just as in Meneklis and Douligeris (2010) theoretical analysis, this paper develops a perspective based on Giddens's structuration theory (1984) in order to explain the undercurrent processes of evolution concerning e-Government initiatives and their environment. It is anticipated that this document and literature review will promulgate into our understanding of what are the different factors that affect e-Government implementation in Zambia.

## **E-GOVERNMENT CONCEPTUAL FRAMEWORK**

Pronouncements of the positive impacts of e-Government on public service delivery and its ability, the political and socio-economic landscape, have been grandiose. For example, huge chunks of information generated on a day-to-day basis from government's business processes can now be appropriately archived for future references. In addition, e-Government facilitates affluent information management practices within public service delivery platforms. E-Government also provides an appropriate platform for governments to engage the private institutions through the Public Private Partnerships (PPP) arrangements to partner for development programmes, and acts as intuitive decision support tool for informed public service decision making (Fang, 2002). In its entirety, e-Government should benefit the community by drawing together the civil society, public sector, international partners, and other stakeholders with a view of encouraging a participatory process of governance and decision making (Navarra & Cornford, 2004).

Accruable benefits of successful e-Government implementation culminate into enabling citizens to participate in decision making processes regarding issues of national importance, enabling participatory democracy and social inclusion, reducing the cost of public service delivery, reducing corruption, and encourages an efficient public service delivery system (Navarra & Cornford, 2003; Cho & Choi, 2004; Heeks, 2004; Wong & Welch, 2004; Kumar & Best, 2006; Bwalya & Healy, 2010). On the part of businesses, e-Government comes with creating business sense and value so that cordial relationships between the government and the different businesses are maintained.

The 'adolescence' of e-Government adoption models can be readily seen from many studies (Schedler & Summermatter, 2007; Shareef et al., 2009; Tung & Rieck, 2005; Wang & Liao, 2008, ; Ebrahim & Irani, 2005; Gilbert, Balestrini, & Littleboy, 2004; Klievink & Janssen, 2009; Kumar, Mukerji, Butt, & Persaud, 2007) that have attempted to provide direction on adoption of ICT in public service delivery domains. Most of these adoption models have not been subjected to thorough and adequate empirical testing to guarantee acceptance of the many assumptions and validation, thereof. Further, most of these models lack through references from prior work to integrate discourses from technical, social, organizational, political, and cultural perspectives. This is necessary to develop their ontological and epistemological paradigms of model validation doctrine (Akhter-Shareef, 2011).

To successfully implement e-Government, there are certain prerequisites that need to be in place. For example, cardinal to e-Government implementation initiatives is the information architecture which is responsible for integrating all the other processes in the e-Government domain (Navarra & Cornford, 2004). This is in conformance with requirements of recent e-Government research which emphasise the importance of inter-organizational information sharing in the public domain (Schooley & Horan, 2007). These assertions were also echoed by Bekkers (2009) who posited that

a major bottleneck in the implementation of e-Government is the establishment of a shared infrastructure. A lack of shared standards and a compatible infrastructure between departments and agencies can impede interagency collaboration. This is achieved by having in place an affluent information infrastructure.

It should be noted that ICT is just an enabler of e-Government and does not carry objective characteristics but rather the aims and goals of the e-Government policies which shape its choice, design, and adoption. Information management in the public sector has evolved from having its focus on technological into the information paradigm and finally the process management domain (Mutula & Van Brakel, 2006). This places technology to be seen just as an enabler of e-Government and not the focal point. Since e-Government is implementable using ICT, it is common knowledge that the lifespan of technologies is short, it is imperative that the organisational framework of e-Government should constantly change to be at pace and compatible with the latest technologies and their applications. An organisation that continually repositions itself to adopt its operational roadmap towards re-aligned goals and purposes is better placed to survive and sustain itself over time (Malhotra, 2001). This directly suggests that it is imperative for organisations to continuously re-invent themselves by utilising non-linear innovation models in order for them to be placed at a competitive advantage and for sustenance for a long time (Ndou, 2004). In an e-Government environment, this change is achievable by continuously changing the different e-Government processes using process re-engineering.

### **E-GOVERNMENT ADOPTION METRICS**

The anticipated change brought about by e-Government can only happen at an incremental pace and so should adoption. For example, Stemberger and Jaklic, (2007) posit that the progression of the activities in an e-services introduction project should be: first inside processes and then activities in which customers take part. Further, Arduinin et al., (2010) posit that adoption of e-Government should not be conceived as a single and straight forward thing to achieve because of heterogeneity adoption factors. Because of this, e-Government has different levels of maturity (Bovaird, 2003). Complete adoption of e-Government is a function of two attributes: individual and organisations. Both these entities have to be ready to adopt e-Government for meaningful e-Government to happen.

Individual e-Government adoption depends on the user satisfaction which may have a decisive influence on large-scale adoption and use of e-Government services (Verdegem & Verleye, 2009). Further, the e-Government implementation environment should convince the user that his/her critically sensitive information will not be compromised against data confidentiality, integrity, and availability, at all costs (Zissis & Lekkas, 2011). Many critics claim, though, that the development of e-Government has until now been primarily guided by supply side factors and that technological

possibilities rather than user needs have determined all too often the design of online public services (Bertot, Jaeger, & McClure, 2008; Verdegem & Verleye, 2009).

Meaningful adoption, to a lesser or larger extent, depends on how much the local context has been integrated into the e-Government implementation model and strategy. Despite the major e-Government initiatives throughout the world, the relationship between an e-Government initiative and its context has not received adequate attention in the e-Government literature (Nour, AbdelRahman, & Fadlalla, 2008). For example, Rorissa and Demissie (2010) report that the current status of e-Government services in African countries are not well documented and that most e-Government initiatives in Africa are informed by models from the developed world with different contexts altogether.

Worse still, the few documented cases show that they have not adopted the local contexts, multiple partnerships, and are not citizen-centric as desired (Verdegem & Verleye, 2009). For example, Maumbe, Owei and Alexander (2008) report that e-Government in South Africa has not adopted multicultural approaches, and is implementing e-Government which is not underpinned by national development priorities. This makes e-Government not to be prioritised as one of the core governance programmes.

In an environment like South Africa where political leaders keep changing, and with each regime coming in with different agendas, prioritization and consolidation of e-Government programmes becomes a major challenge. E-Government development initiatives in Africa should not utilise a linear simple-to-seamless progression but should be purged along the socio-economic development agendas. In an African perspective, e-Government should not be seen as seamless integration of government business processes to facilitate efficient service delivery, but rather as part of an inherent development process. It is therefore desired that e-Government should be aligned to the long-term development programmes.

Adoption of e-Government services is also partly dependent on the value attached to it by its constituent stakeholders and consumers. The public in general are going to adopt e-Government services if they are perceived as a 'public good' and if they bring forth public good. The attention to public value was first drawn in the 1980s during the worldwide wave of public sector reforms (Raus, Liu, & Kipp, 2010). Since then, a new management philosophy (known as New Public Management - NPM) has been used by governments to modernize the public sector and provide efficient public services. Closely related to public value is the social value. Social value is achieved when resources, inputs, processes or policies are combined to generate improvements in the lives of individuals or society as a whole (Raus, Liu, & Kipp, 2010). However, quantification of the public and social values is very difficult to measure. In efforts to quantify the public value, Cresswell,

Burke and Pardo (2006) presented the Public Return on Investment (PROI) framework for evaluating IT investments of the government. The PROI identifies two sources of public returns: (1) value to the public that results from improving the government itself from the perspective of the citizens and (2) value that results from delivering specific benefits directly to persons, groups or the public at large (Raus, Liu, & Kipp, 2010). Concerning the redesigning (re-engineering) of e-Government business processes, pure social economic value is considered. In all, the real value of any e-Government implementation is obtained by finding the mean of the three values presented here.

The proliferation of different e-Government adoption models in major studies conducted worldwide suggest that e-Government has basically been universally accepted, through linear process development models. However this being the case, e-Government penetration in Africa has been slow. This is because most of the African countries have not drawn any dedicated e-Government strategies to harness e-Government implementation. The assumptions taken by most African countries (e.g. Malawi, Zambia, Angola) is that e-Government is one of the generic ICT applications and mere mention of e-Government in one or two places in the national ICT policy document is adequate for it to develop. In other words, there is literally no need for a separate e-Government policy or strategy to be in place. It is wrong to estimate that all countries in Africa do not have strategic initiatives towards e-Government. For example, Mauritius is one of the countries in Africa whose government has invested largely in e-Government interventions and ranks high in as far as e-Readiness is concerned amongst all the countries in Africa (Shalini, 2009).




Conclusively, it can be stated that alignment of technology and business processes, integration of resources into core business activities, integrating stakeholders' trust and commitment, and better understanding of the role of organizational learning, has enhanced the adoption and institutionalization of e-government initiatives (Kim, Pan, & Ling-Pan, 2007). The next section presents the current status of e-Government adoption as inferred from the study of e-Government adoption in Zambia.

## **E-GOVERNMENT ADOPTION IN ZAMBIA**

Ascertaining the general development status of e-Government in Zambia is referenced from the UN e-Government surveys carried annually. The UN e-Government survey (2010) presents the major findings emanating from a survey carried out to identify the current status of e-Government adoption worldwide measured with standard indexes. E-Government in Zambia is showing signs of developing at a faster rate regardless of the lack of an e-Government strategy in place. In 2008, Zambia had no online presence (UN e-Government survey, 2008) and currently, the country's national sites are now readily available and can easily be accessed (UN e-Government survey, 2010:12).

The 2010 survey shows that Zambia's e-Government, despite happening spontaneously, is developing at an increasing rate. Zambia has jumped 15 places to 143<sup>rd</sup> in the 2010 survey (UN e-Government survey, 2010:21). However this being the case, in the 2010 survey, Zambia is also mentioned as a country without e-Participation data. This shows that Zambia has a huge potential for e-Government which can be greatly improved once an e-Government strategy, or any e-Government implementation plan or adoption model is designed and closely followed. Table 1 shows the standing of Zambia and some of the African countries using the e-Government Development Index.

*Table 1: e-Government development in Zambia*

Rank (Africa)	Country	e-Government Development Index value		World e-Government development ranking	
		2010	2008	2010	2008
2	Mauritius	0.4645	0.5086	77	63
4	South Africa	0.4306	0.5115	97	61
8	Botswana	0.3637	0.3647	117	118
					
N/A	Zambia	0.2810	0.2266	143	158
N/A	Mozambique	0.2288	0.2559	161	152

(Source: Government survey, 2010:12)

From table 1, it is evident that e-Government has been developing at a faster rate over the years. This is testimony that despite not having a well-rounded e-Government strategy at the moment, the other policy initiatives are spilling over to encouraging e-Government proliferation as a whole.

Zambia has a Human capital Index of 0.7008, adult literacy rate of 70.6% and the combined gross enrolment ratio for primary, secondary and tertiary schools of 69.05%. Higher literacy levels promote easier adoption of any technologies that may be introduced. Table 2 shows the basic online levels in the Least Development Countries (LDC). With a rank of 145, it is clear that Zambia may not be doing very well in as far as accessing online information is concerned. In fact, the total percentage of people accessing online services (e-Participation) is not even available (UN e-Government report, 2010).

*Table 2: Online service levels in the LDC*

Rank (World)	Country	Emerging information services	Enhanced information services	Transactional services (stage 3)	Connected services (stage 4)	Total
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		(stage 1)		(stage 2)							
		Points	(%)	Points	(%)	Points	(%)	Points	(%)	Points	(%)
95	Lesotho	52	76	29	25	1	1	1	2	85	21
120	Senegal	32	47	14	12	3	2	7	14	58	14
135	Cambodia	25	37	13	11	2	1	3	6	45	11
145	Zambia	21	31	8	7	..	..	4	8	37	..
146	Uganda	18	26	11	9	..	..	3	6	33	...

(Source: Source: UN e-Government survey, 2010: 20)

In essence, Zambia is at the emerging stage of e-Government development. It is worth mentioning that the institutional, regulatory and legal framework of e-Government is not adequately developed in Zambia as policies are just being developed to harness the advantages of the digital economy. Plans are underway in putting in place appropriate ICT infrastructure such as optical fibre to fast-track the harnessing of ICT in various socio-economic frameworks.

Generally, citizens and businesses have not taken advantage of the few e-Government services (such as access to draft constitution online) and there is a feeling of very low levels of e-Government adoption (Habeenzu, 2010). Drawing any e-Government strategy to fast-track e-Government development in Zambia should be informed by empirical findings from the grassroots of potential e-Government users.

The document analysis revealed that there are some interventions on the part of the government such as enactment of Acts of Parliament on the development and harnessing the potential of ICT. Further, some novel ICT infrastructures such as optical fibre are currently being constructed. Despite having these interventions, there is no dedicated e-Government strategy and any e-Government development is happening out of spontaneity.

Conclusively, the UNDESA e-Government assessment mainly focuses on the supply side of e-Government (in essence) although it claims to capture data on e-Participation, a claim which is not validated in any case. To understand the true penetration of e-Government and to compile an affluent e-Government adoption model for Zambia, there is a need to carry out community and individual assessment of e-Government penetration.

Other successful ICT endeavours in Zambia are designed from the community level. Therefore, it is fair to ascertain that e-Government may stand a chance to succeed in Zambia if the different e-Government programmes start at the community level employing community informatics principles (Mutula, 2010).



## **FUTURE DIRECTIONS**

E-Government research, and its implementation complexity, is still in its infancy. As outlined above, there are many cornerstone principles that need to be utilised when designing e-Government implementation or adoption strategies. Many authors have so far concentrated on developing context-aware adoption models which aim to test some aspects of other models (such as the Technology Acceptance Model – TAM or Unified Theory of Acceptance and Usage of Technology – UTAUT). This presents a conceptual mismatch because by limiting adoption models with reference to earlier models may mask unique aspects of a local context. So far, no research has attempted to unleash the concept of three-stage recursive design (reference to earlier models; surveying local context and designing model; empirical testing of model in local and contextually similar environment for complete validation) of e-Government adoption models. Future research should aim to conceptualise this research theme with adequate theoretical fundamentals and integrate the principle with context-awareness.

On another front and in agreement with Kim, Pan and Ling-Pan (2007), future research should seek to formulate more generalised explanations as to why certain sequences lead to certain outcomes, or more specifically, why certain interventions during the different stages of ICT diffusion, lead either to success or failure. Future research should also aim to investigate how efficient monitoring and evaluation of e-Government application with time, and what project management techniques should be utilised for any one specific context. Engaging stakeholders after system rollout would enable managers to correctly assess stakeholders' overall acceptance, and the feedback gathered could form the basis of continual improvement so that the e-Government system remains relevant with time (Kim, Pan, Ling-Pan, 2007).

## **CONCLUSIONS**

This paper has outlined the different conceptual and logical principles that need to be considered when implementing e-Government. Some of these principles include the involvement of the PPP model in financing e-Government applications for sustainability, design of monitoring initiatives, and context-aware e-Government adoption models. It is clear from the discussion that e-Government is a multi-dimensional entity which depends on many factors for it to be implemented successfully. The paper posits that because of lack of strategic frameworks and appropriate ICT resources, implementation of e-Government in Africa has intermittently faced difficulties. Since e-Government depends on ICT as its main interaction platform and the common knowledge that technologies' lifespan is short, there is need to put in place appropriate monitoring and process re-engineering plans so that e-Government remains relevant at all times.

The study on e-Government adoption conducted in Zambia reveal that the global UNDESA e-Government survey leaves a gap in its quest to understand the actual penetration of e-Government in a given area. For the case of Zambia where the majority of would-be consumers are found at the local level, there is a need to go down to the individual and community level to understand the actual penetration of e-Government. For this to be achieved, it calls for community informatics principles in the design of e-Government interventions. In addition the survey showed that there are conceptual flaws in the implementation of e-Government in Zambia such as lack of appropriate awareness campaigns, lack of strategy to guide the e-Government implementation roadmap, and lack of local-relevant content on the e-Government websites.

This paper posits that there is a lot that needs to be done in future in order to achieve context-aware e-Government implementation in Africa and other developing countries. In essence, e-Government researchers in the developing world are urged to develop e-Government adoption models informed by the local context of their countries.

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