

Slow but Steady Progress versus Leap Frogging: An E-government Dilemma in Africa

Hossana Twinomurinzi*
Department of Informatics
University of Pretoria
Pretoria, South Africa
twinoh@up.ac.za

Nkhangweni Lawrence Rambau
Department of Informatics
University of Pretoria
Pretoria, South Africa
nrambau@yahoo.com

Conference Paper

(Will be set by ICT4AFRICA Committee)

Slow but Steady Progress versus Leap Frogging: An E-government Dilemma in Africa

Abstract. *It is now accepted that ICT can play a significant role in making governments in Africa more efficient and effective. However, the success of e-government initiatives is far and wide in Africa. The overall reality is that despite every African country having a sophisticated e-government strategy and in many instances a dedicated ministry for ICT, e-government has not added any real value. Theory and literature on strategy suggest that ownership of strategy is significantly influential to strategy implementation. The people who are tasked with implementing strategy must be able to understand and interpret the strategy in order for them to create suitable and workable plans. This paper therefore investigated in the qualitative-interpretive paradigm the appetite for ownership of e-government strategy among a convenient sample of twelve government Chief Information Officers (CIO) in South Africa. South Africa has a robust e-government strategy whose three main driving values are to lower costs, increase productivity and achieve citizen convenience. The findings reveal a low ownership of the e-government strategy among the CIOs. The results are important for the research and practice of e-government in Africa. For practice, the results reveal the importance of African countries placing a greater emphasis on slowly and steadily growing their CIOs to take ownership of e-government strategies rather than advancing even more sophisticated ones. African countries typically lose sight of the fact that their western counterparts were first successful at creating ownership of their strategies before moving up to more sophisticated strategies. For research, the paper shows the greater importance of adopting qualitative approaches to investigating e-government in African countries in preference of quantitative approaches. Qualitative approaches are ideal for unearthing the subtle cultural and contextual intricacies that face those responsible for implementing and diffusing e-government in Africa.*

Keywords: E-government, developing countries, Africa, policy implementation, strategy

INTRODUCTION

The allure of e-government with its highly publicised benefits of greater efficiency and effectiveness of government processes, reduced costs, higher citizen participation and improved service delivery has gripped almost all governments in the world. E-government literature suggests that making a transition from traditional government to e-government along any of the prescribed maturity models ought to expose countries to greater levels of efficiency and effectiveness (Schuppan, 2009; UNPAN, 2010b).

Those countries which are deemed slow to embrace the online utopia are constantly under pressure to 'catch up'. As such, many African countries have hopped onto the e-government train and invested substantial amounts of the little human and often borrowed financial resources only to discover that the ICT artefact itself does not necessarily provide any real answers for them (Stanforth, 2006). While it is now widely accepted that ICT has a role to play, lately the main concern in African countries is how to innovate ICT towards achieving the e-government goals of socioeconomic development

amongst the billions of underprivileged people (Heeks, 2008; Sahay, 2001; Walsham, Robey, and Sahay, 2007).

The World Summit on the Information Society (WSIS) released a report that offers a high level overview of national attempts to integrate ICT as part of national development strategies (Muylkens, 2010). It shows that nearly all African governments have an e-government strategy. The WSIS report prominently recommends that strategies which bridge the digital divide will result in socioeconomic development (Muylkens, 2010, p. 1). The United Nations (UN) similarly posits that as countries transition from one stage of e-government maturity to the next they will be exposed to socioeconomic development (UNPAN, 2010a).

Problem statement and research question

The argument for narrowing the digital divide, and transitioning from one stage of e-government maturity as a means to expose people in deprivation to the same socioeconomic opportunities has been shown to be rather limited and unreliable (Avgerou, 2009; Madon, Reinhard, Roode, and Walsham, 2007; Roode, Speight, Pollock, and Webber, 2004). It takes much more than simply narrowing the digital divide or more sophisticated ICT for people in deprivation to take advantage of the opportunities available to them. It is necessary to engage beyond the digital divide to create the enabling environment that fosters development (Stewart and Deneulin, 2002; Twinomurinzi, Phahlamohlaka, and Byrne, 2010). E-government as a solution for African countries frequently gets narrowed down to the digital-divide and inadvertently focuses attention only on the ICT resource over the overall development goals of government. The execution of e-government strategy ought to involve taking advantage of all available resources, inclusive of ICT, to enable the achievement of the overall national objectives.

The extent to which a strategy is deemed successful is measured by the extent to which its prescriptions have been implemented. Within an organisation, or in government, strategy execution can therefore be measured by the extent to which the people who are responsible for translating the strategy into action are able to understand, interpret and create actionable activities which are contextually relevant to their local environment. Kaplan and Norton (2006) refer to alignment while Giles (1991) refers to ownership. This paper preferred the term ownership over alignment since ownership carries with it an appreciation of contextual sensitivity while alignment of technological determinism.

In South Africa, government Chief Information Officers (CIO) are responsible for implementing e-government in the three government spheres; national, provincial and local. This paper therefore sought to investigate the extent to which the e-government strategies of South Africa are owned among the government CIOs. We posit that investigating the extent of ownership could give a realistic view of the prospects and challenges that are faced in implementing e-government strategy in South Africa, and probably begin to generalise the challenges of e-government maturity in Africa.

Since the paper sought to arrive at generalisations based on the meanings that humans assign to their context, the research adopted an interpretive paradigm in the qualitative approach. The paper therefore develops qualitative generalisations against theory, rather than against populations as seen in positivist generalisations (M. Barrett and Walsham, 2004; A. S. Lee and Baskerville, 2003).

The remainder of this paper is structured as follows: Section 2 briefly reviews the literature on e-government, strategy execution, public policy implementation and the unique nature of developing countries. Section 3 presents the interpretive research approach giving South Africa as its case study, and the government CIOs as the units of analysis. Section 4 discusses the findings and analysis using hermeneutics. Section 5 gives the conclusions of the paper.

LITERATURE REVIEW

E-government

E-government is generally defined as the manipulation of ICT to improve the efficiency and effectiveness with which government services are made available. There are three generic constituents whose relationships with government are addressed in e-government:

- Government itself – better known as Government-to-Government (G2G)
- The business sector – as Government-to-Business (G2B) and
- Citizens and society – commonly referred to as Government-to-Citizen (G2C).

Each of the three broad constituents place high demands to manipulate ICT in increasing the effectiveness and efficiency with which they relate with government. The attractiveness of e-government to deliver better to the three constituents has driven almost all governments around the world into e-government. African countries often embrace e-government or have it pressed upon them by donors and international agencies, citing the perceived benefits that are enjoyed in the private sectors of western countries such as holistic management and greater efficient interaction with customers.

Many African countries, in adopting the utopian view of e-government, have overlooked the fact that strategies used in the private sector for customer satisfaction, retention and adoption cannot be directly applied to citizens. Citizens have rights from government and duties to government while business clients have a choice (Belanger and Hiller, 2006). Governments have a legal responsibility to serve all the citizens and the different constituents within the country (Davison, Wagner, and Ma, 2005). African countries have nonetheless been trapped in the e-government ‘business frenzy’ and have invested enormous amounts of the little borrowed financial resources and strained human capital in striving for the online utopia, often following after western countries country models rather than contextually reflecting on those models that are probably more suited for their local contexts (Schuppan, 2009).

There are at least five contextual differences between African countries and western countries: the history and culture; technical expertise; infrastructure; citizens, and; government officers (Chen, Chen, Huang, and Ching, 2006). Many western countries have been politically and socially stable since the early 1500’s and experience continuous economic growth. On the other hand African countries have only recently experienced stability or many may still be experiencing war or some form of civil unrest, drought and famine. The historical legacy of colonialism is particularly distinctive with regard to African history and culture. In terms of technical expertise, western countries have the ability to fill any skills gap especially by drawing on the expertise from African countries. The reverse is not true. The result has been a brain-drain from African countries (Ndulu, 2004) to western countries (Beine, Docquier, and Rapoport, 2008; Gibson, 2008). Further, the citizens in western countries nations are on average more literate in education and with ICT to enable them manipulate ICT to their own benefit. Also related to ICT literacy, most government officers in western countries use and may in fact be dependent on ICT. In African countries, most government officers are vaguely familiar with ICT and will in most instances prefer not to dedicate the few human capital resources to a concept which is still vague (Gupta, Dasgupta, and Gupta, 2008). The infrastructure in western countries is many times ahead that of African countries and is generally accessible to almost the entire population.

The five differences draw attention for the need to contextually adapt strategies in African countries with an appreciation of the different local realities. They also present an opportunity for a solution that is particular to African countries. In the next section, we review the prominent maturity models that are used as benchmarks to measure e-government, which models naturally locate African countries at the bottom end of the scales.

Measuring E-government

The traditional approach that has been adopted by most governments, practitioners and academics to measure e-government is through the use of maturity models. Maturity models are conceptual reference models that are used as benchmarks within a given discipline to measure the maturity of an organisation as well as to provide for the evolution of the organisation towards increased maturity (Becker, Niehaves, Poepplbuss, and Simons, 2010). There are however a number of e-government maturity models many of which are incongruent with each other (Nour, AbdelRahman, and Fadlalla, 2008).

Lee (2010) compared and contrasted the 12 most popular e-government maturity models which have been used and employed in western countries over the period 2000-2010 using a qualitative meta-synthesis analysis. The meta-synthesis resulted in a common frame of reference model which distinguished five metaphors and two themes (Table 1 and Figure 1).

Metaphors	Descriptions	Stages/concepts	
		Citizen and service	Operation and technology
Presenting	Present information in the information space	Information	
Assimilating	Assimilates (or replicates) processes and services in the information space with the ones in the real world	Interaction	Integration
Reforming	Reform the processes and services in the real world to match the information space requirements, fitting for efficiency	Transaction	Streamlining
Morphing	Change the shape and scope of processes and services in the information space as well as the ones in the real world, fitting for effectiveness	Participation	Transformation
e-Governance	Processes and service in both worlds are synchronously managed, reflecting citizen involved changes with reconfigurable processes and services	Involvement	Process management

Table 1. Metaphors, their definitions, related stages, and themes (Lee, 2010, p. 5)

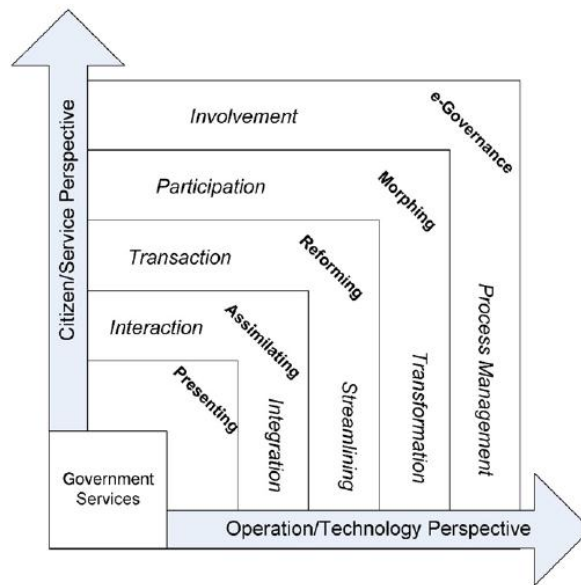


Figure 1: A common frame of reference for e-government stage models (Lee, 2010, p. 10)

The citizen and service theme relates to the services of government towards its constituencies (information, transaction, interaction, participation and involvement), and the operations/technology theme relates to the technology and/or operational characteristics of government (integration, streamlining, transformation and process management). Lee (2010) is quick to caution against the critique levelled at maturity-models not to assume that governments can linearly mature from one stage to the next stage. He warns that whilst certain technology/operations stages can be skipped over without much consequence, there are likely negative repercussions from skipping over some progressive stages in terms of the constituent services.

Maturity models are high level benchmarks which depend on strategies to enable the progression from one stage to the next. The next section therefore highlights the importance of strategy execution and its place in enabling governments to transition from one stage to the next.

The execution of strategy: ownership versus sophistication

Strategy should not be misunderstood for objectives or tactics. Objectives address the destination of an organisation. Strategies deal with how to get to the destination. Tactics are the specific practical activities that will enable the company to get to the destination along the path laid out by the strategy. Objectives drive strategies, and strategies drive tactics. Strategy execution is therefore the manipulation of available resources to clearly create the tactical path that will enable the organisation to achieve its objectives (MacLennan, 2011).

Strategy ownership, or alignment of the organisation to the strategy, is central to making strategy work (Kaplan and Norton, 2006). The people at the tactical level who are tasked with implementing strategy must be able to understand and interpret the strategy in order for them to create tactical plans which have the client in perspective (Figure 2). If the strategy cannot be understood by the implementers, it is equivalent to counter implementing strategy (Giles, 1991, p. 77).

The irony is that when organisations realise that a strategy is not being executed as laid out they often choose to expend more effort and money in making the strategy more sophisticated rather than checking whether the strategy has been owned by the implementers. Organisations mistakenly assume that increases in sophistication lead to increases in ownership (Giles, 1991, p. 77). The reality is that increases in sophistication have no effect on execution if the strategy is not owned by the implementers. Sophistication is the “competitive excellence of strategy” and ownership is the “organisation’s appetite for implementation” (Giles, 1991, p. 77). A lack of ownership usually occurs

when the strategies are created by experts away from the implementers. Sophistication follows ownership and not the reverse and senior management may in many instances have to conceal its impatience while the transition to strategy ownership occurs.

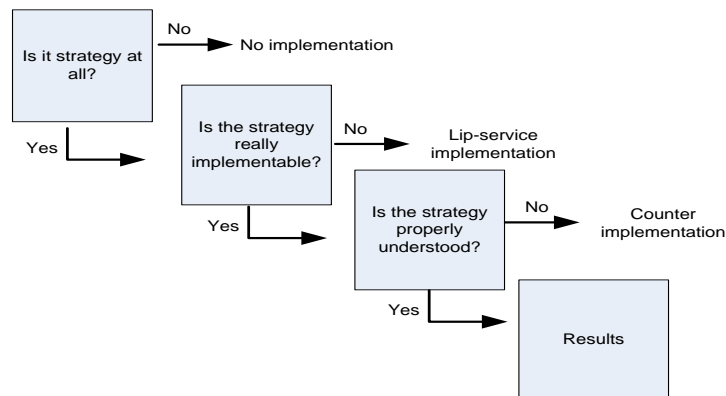


Figure 2: Strategy execution (Giles, 1991, p. 77)

In terms of strategy execution, the three key areas hence to measure for the execution of strategy are (Figure 2):

1. Is it strategy; does it address the objectives of the organisation?
2. Is the strategy implementable; is there an action plan with the client in perspective?
3. Is there implementer ownership; is it understood by the implementers?

E-government strategies are part of public policy and are therefore subject to the same dynamics that affect public policy implementation. The translation of policy into action is a highly negotiated process which depends on the interaction of a multitude of actors with separate interests and strategies (Pulzl and Treib, 2005).

Executing e-government strategies as part of Public Policy Implementation

Policy implementation is concerned with putting into effect the aims of policy decisions on an on-going basis (S. M. Barrett, 2004). At a high level policy implementation focuses on three things:

1. Establishing the objectives of the policy
2. Legislatively passing the policy decisions, and
3. Committing funds to enable the implementation of the policy

At a tactical level, policy implementation comprises of four critical aspects (S. M. Barrett, 2004):

1. Knowing what to do
2. The availability of the required resources
3. The ability to manage and control the resources to achieve the desired result, and
4. If others are to carry out the tasks, communicating what is wanted and managing their performance

There are three schools of policy implementation: top-down, bottom-up, and the hybrid (Pulzl and Treib, 2005). Top-down theories of policy implementation are underpinned by the assumption that decision makers can centrally create policy and also control the implementation of the policy. Highly structured rules are favoured for effective implementation. Bottom-up theories view the implementers as the main actors who should actively participate in developing the policies which they will implement. The bottom-up group rejects the top-down assumption that implementers will rigidly stick to central control. Their argument is that implementers who interface with clients have a measure of autonomy and power at their discretion.

Top-down advocates criticise the bottom-up approaches as over emphasising the autonomy and discretion of implementers while bottom-up advocates criticise the top-down approaches as over

emphasising the ability to control the implementers (Sabatier, 1986). The tensions between the groups gave rise to a hybrid group. The hybrid group proposed the used of theoretical models to bridge the divide and meshing the models with the strengths of both approaches while leaving out the weaknesses (Pulzl and Treib, 2005, p. 93). The hybrid advocates see policy implementation as starting in the top-down school but then recognising that changes will be made to the policy using feedback from the implementers. South Africa adopts the hybrid approach to policy implementation in creating policies and allowing for public comment (Republic of South Africa, 1996).

Drawing from the tactical level of policy implementation and strategy execution literature the paper was able to add to Giles (1991) strategy execution framework to design an e-government strategy execution framework (Figure 3).

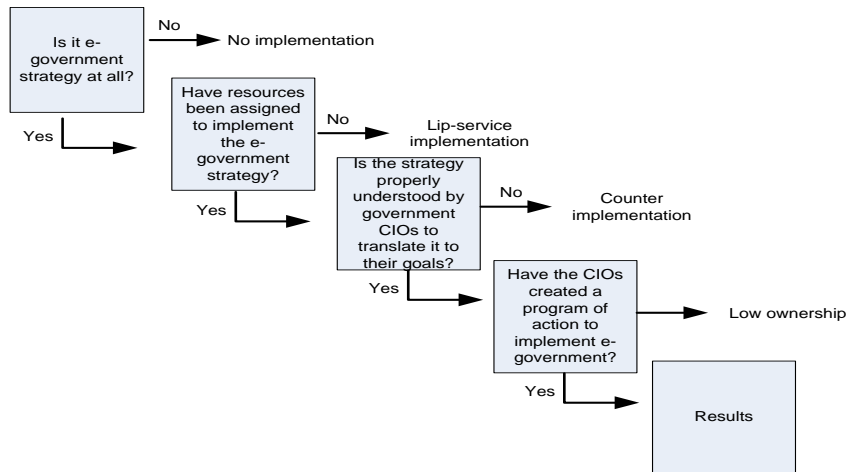


Figure 3: E-government strategy execution

RESEARCH METHODOLOGY

E-government as a field of research falls under Information Systems (IS). IS is an inter-disciplinary field of scholarly inquiry where information, ICT, humans, and the integration within the organization are studied as intricately interrelated parts of a whole system (O'Donovan and Roode, 2002). This paper in attempting to understand the nature of the e-government strategy execution basing on individual consciousness and subjectivity is positioned in the interpretive paradigm. The paper was therefore guided by the seven principles of interpretive field studies as proposed by Klein and Myers (1999). The principles are rooted in hermeneutics.

- The fundamental principle of the hermeneutic circle – continually iterate between meaning as it may be assigned to the whole context and to each of the parts of a text
- The principles of contextualization – pay close attention to deeper contextual realities
- The principle of interaction between the researcher and the subjects – pay attention to how the data was engaged with
- The principle of abstraction and generalization – findings needs to go beyond the data to make sense to the wider context
- The principle of dialogical reasoning – the requirement for a researcher to constantly check for any subjectiveness and bias, and accept any tensions with existing theories or bias
- The principle of multiple interpretations – the need to accept that there can be more than one view point represented in the data
- The principle of suspicion – be open and critical to potential bias from the data

Case Study: E-government Strategy in South Africa

South Africa has three distinctive, interdependent and interrelated spheres of government; national, provincial and local government (Republic of South Africa, 1996). E-government, as an extension of

government, can therefore be expected to be executed in South Africa at the three different spheres by the corresponding government CIOs at the different levels. There are 41 national departments, nine provinces, and 284 local municipalities (SouthAfrica.info, 2010).

The government CIOs have an inter-departmental forum called the Government Information Technology Officers Council (GITOC) which focuses on “operationalizing the government IT and IM policies and provid(ing) feedback on their implementation and updates” (GITOC, 2010).

The South African government created its fundamental e-government policy in 2001 with the three clear objectives to lower costs, increase productivity and achieve citizen convenience (Republic of South Africa, 2001). Recently GITOC has advanced the 2001 strategy, whilst maintaining the objectives, in the form of a government-wide enterprise architecture (GWEA) in an effort to fast track the implementation and diffusion of the e-government in South Africa (GITOC, 2009).

The research adopted as the units of analysis the extent to which the government CIOs at the different levels comprehended the e-government strategies and are able to create actionable activities. A six-part questionnaire derived based upon the e-government strategy execution framework (Figure 3) was circulated to a convenient sample of government CIOs – only twelve responded (Figure 4). A five-point Likert scale of agreement was used: Strongly Agree, Agree, Uncertain, Disagree, and Strongly Disagree. Participant confidentiality was assured.

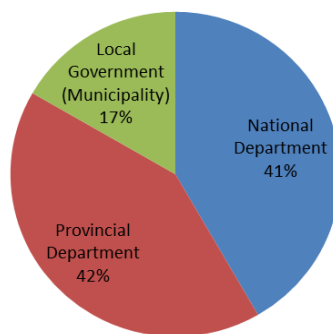


Figure 4: Representation of CIOs

Role of the researcher

The CIOs are known to one of the authors, having been a former government officer responsible for ICT.

ANALYSIS AND DISCUSSION OF FINDINGS

Political Leadership

The success of government policy implementation is intricately tied to the extent of active political leadership in it. Overall, 75 percent agreed that there is a high level of political leadership for e-government in South Africa (Figure 5). 80 percent of the national and provincial, and 50 percent at the local government CIOs agreed there was such political leadership. The others were uncertain except for one local CIO who disagreed.

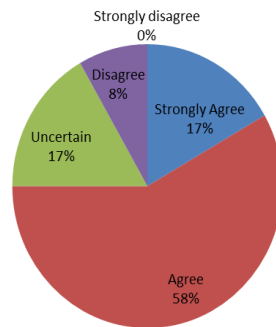


Figure 5: Political leadership

The disagreement could be that political leadership at that particular local government did not view ICT as adding any strategic importance. The comments assist us to understand this comment better.

Each of the respondents who gave comments had different perceptions of political leadership. Two of them ascribed political leadership to the National Department of Communications (DoC) and another two to the State Information Technology Agency (SITA). SITA is an agency enacted by the government to consolidate and coordinate all the ICT functions within the South African government at the national, provincial and local level. SITA is the equivalent of the dedicated national ministries responsible for ICT in government established in other countries. SITA reports to the National Department of Public Service and Administration (DPSA). One ascribed political leadership to the African National Congress (ANC) which is the ruling party.

The incongruence in perceptions of political leadership is indicative of the lack of centrality about who drives e-government in South Africa. The e-government strategy places the political leadership of e-government under the DPSA. The fact that none of the CIOs considered DPSA as politically driving e-government but rather one of its affiliate agencies or the DoC is suggestive that South Africa's e-government strategy is not centrally driven politically.

The incongruence also reveals that having a dedicated agency or ministry that operationalizes ICT in government is not sufficient evidence of political leadership for e-government.

Nonetheless, the province of the Western Cape has been the only province in South Africa that has actively shown its political support for e-government resulting in one of the few cases of successful e-government initiatives in South Africa – the Cape Gateway (Mukabeta Maumbe, Owei, and Alexander, 2008).

In summary, the analysis reveals that:

1. Government CIOs general agree that there is political leadership for e-government
2. However, the political leadership of e-government is not unified
3. Active political support for e-government does not necessarily result in successful implementation

Committed Resources

Similar to the political leadership, overall, the majority (67 percent - with one not responding) perceive that South Africa has committed resources for the implementation of its e-government strategy (Figure 6).

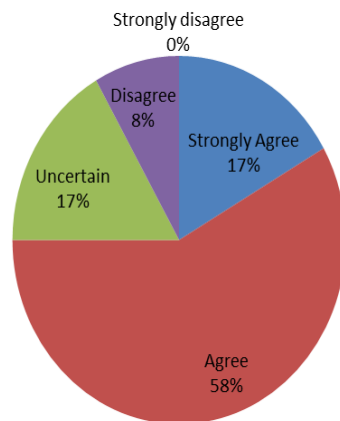


Figure 6: Extent of committed resources

Of the two that were not certain about the resources belonged to the national and provincial level. It was the same local CIO who disagreed adding that, “*ICT budgets are cut each time there is financial crisis*”. The same local CIO in general disagreed with all the questions.

It also stands out from the comments that there is significant incongruence of where the CIOs believe the source of funds for e-government initiatives resides.

SITA is a coordination and consolidation agency only responsible for enabling government departments to carry out their respective ICT action plans. The budgets come from the implementing department and not SITA. SITA notes that many of the government ICT projects are not completed because the funds dedicated to the projects are often re-directed halfway the project in preference for other more important non-ICT projects (Meerman, 2010).

The fact that one of the CIOs at the national level did not understand e-government is a direct indication that the strategy has not diffused to the CIOs. The same CIO was unsure of most of the other items in the questionnaire.

The problems of financial and resource commitments to e-government exposes very low levels of political commitment to e-government, or that the political support is more rhetoric than real. It is however understandable the dilemma that might be faced in African countries between committing resources to ICT or to more tangible development projects (Mukabeta Maumbe, et al., 2008). Countries such as Canada, Australia and the United States of America with successful e-government strategy execution have expended substantial sums of money on executing the strategies.

In summary the analysis reveals that:

1. There are generally funds committed to e-government projects
2. ICT projects are not considered as being of similar importance as other development projects
3. The CIOs are not in congruence about where funding for ICT projects emanates from

Programs of Action for e-government

A program of action is a South African term that is used to outline and evaluate actionable things to be implemented by the government (Republic of South Africa, 2010). 67 percent believed there is a program of action for e-government (Figure 7). While 17 percent were uncertain, another 17 percent did not believe there was any program of action. The latter are an indication of the low level of ownership of the e-government strategies.

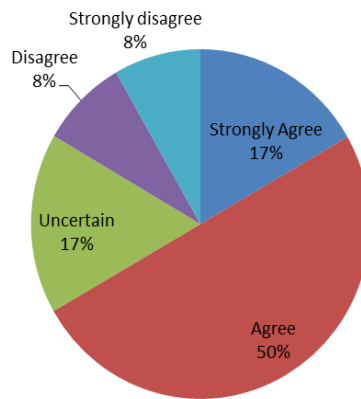


Figure 7: Programs of action

The comments reflect that one of the CIOs at the national level believed that SITA was responsible for driving e-government to the action level. The responsibility of creating action plans for e-government is with the CIOs. It is therefore significant that 34 percent are not aware of this responsibility. That one of the CIOs believes this responsibility is with SITA further reflects the low level of ownership of e-government in South Africa.

The more sophisticated GWEA does however detail to some extent a guideline that can be used to create actionable things by the CIOs. It is as such questionable whether all government CIOs participate actively in the GITOC forums from where the GWEA was released.

In summary, the analysis reveals that:

1. The CIOs are generally not aware that the responsibility of translating the e-government strategies into actions lies with them
2. There is therefore low ownership of the e-government strategy amongst the CIOs
3. The more sophisticated e-government strategy in the form of an enterprise architecture is not well understood by some CIOs

Understanding of strategy

South Africa being a developmental state is primarily driven by programs geared towards increasing the socioeconomic conditions of the majority of its citizens. Also, since South Africa has recently come out of a history of social segregation, social transformation also forms an important part of the government initiatives. These were the reasons for the last two questions.

In terms of social economic development, only 33 percent are able to link e-government to socioeconomic development (Figure 8). One was a national CIO and the other a provincial CIO. The remaining 67 percent are either not certain or do not see any link between e-government and socioeconomic development. It shows that the values of e-government in increasing productivity, lowering costs and improving service delivery are not well understood by the CIOs. It means that there is a high level of counter-implementation of the e-government strategy across the government of South Africa.

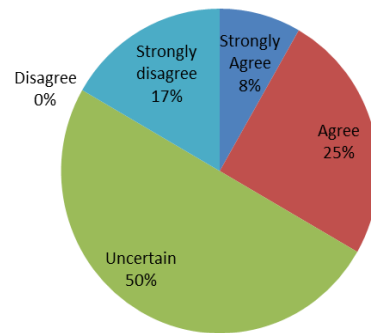


Figure 8: Connection between e-government and socio-economic issues

The comments show that one of the national CIOs see the disbursement of funds using an ICT as part of the e-government strategy is a positive sign. Nonetheless, the comments reveal that the CIOs generally are not able to relate e-government with either socioeconomic development or social transformation.

In terms of social transformation, only 17 percent link e-government with social transformation (Figure 9). The remaining 83 percent do not. It shows that there is no relationship that the CIOs are able to relate between ICT and dealing with the race relations in South Africa.

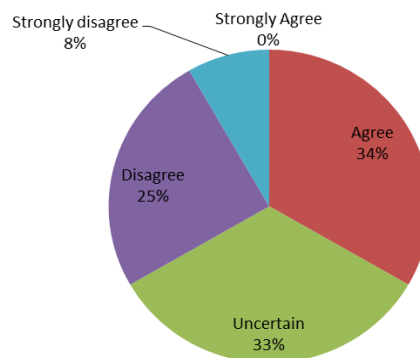


Figure 9: Connection between e-government and social transformation

In summary, the analysis reveals that:

1. The CIOs do not understand how to relate e-government to the national development goals
2. The chances of counter-implementing e-government is probably very high

CONCLUSIONS

The paper reflects on the extent to which the e-government strategy of South Africa is owned among the government CIOs. The research revealed that, although dispersed, there is some political support for e-government in South Africa. Nonetheless, it stood out that there is incongruence as to the primary political driver for e-government. It showed that the real driver, the National Department of Public Service and Administration (DPSA) needs to increase its political support for e-government. The support that DPSA places in e-government will affect whether the e-government strategy is eventually owned by the CIOs and implemented. The scanty political support is also seen in many other African countries where ICT agencies and national ministries to see to the implementation of e-government are created to please international agencies and donors.

While there are resources committed to e-government, the funds assigned tend to dry up because other important projects take precedence. The ethical dilemma that accompanies the choice between a tangible development project, such as provision of water, comes out clearly at the point of resource

commitment. On the other hand, the CIOs lack of awareness that it is their responsibility to plan for e-government initiatives within their departments means that they will probably not make provision for the resources needed to implement e-government at the local level. Some CIOs had the assumption that the planning and budgeting was done for them by the state department responsible for coordinating ICT projects in government.

There is generally a low ownership seen in the high inability of the CIOs to translate the e-government strategies into actionable things that would lead to the achievement of the national development goals of South Africa, socioeconomic growth and social transformation. If the government CIOs responsible for implementing e-government across the different sectors are reading from different song sheets, it is not a surprise that the e-government melody sounds somewhat out of tune.

Contributions to research and practice

For practice, the paper confirms that e-government strategies are only as effective as the extent to which there is a real commitment in terms of time, finances and political effort to its fulfilment. It is therefore important for African countries to play close attention to letting the implementers of ICT create their own e-government strategy to encourage high ownership of the strategies. A high ownership means that the strategies are well understood and are translatable into actionable things at the contextual level. It is futile to try and make e-government strategies more sophisticated if the implementers do not understand them.

Many African countries have created new Ministries of ICT and agencies because of pressure from donors and the international community to 'leap frog' to where western countries are. The result has been ICT agencies and ministries without any real political support. Without the important political support, e-government has failed to yield the envisaged real national value.

For research, the paper adds to the voice for more investigation of e-government in African countries using approaches that take into account the unique contextual nature of African countries.

Limitations and areas for further research

The sample of CIOs investigated was a convenient sample and may not be truly representative. It would also have been ideal to conduct the questionnaire in more than one African country.

REFERENCES

- [1] Avgerou, C. (2009, 26-28 May 2009). *Discourses on Innovation and Development in Information Systems in Developing Countries' Research*. Paper presented at the Proceedings of the 10th International Conference on Social Implications of Computers in Developing Countries, Dubai, United Arab Emirates.
- [2] Barrett, M., and Walsham, G. (2004, 15-17 July 2004,). *Making contributions from interpretive case studies: examining processes of construction and use*. Paper presented at the Relevant theory and informed practice: looking forward from a 20-year perspective on IS research: IFIP TC8 WG8.2 20th Year Retrospective, Manchester, England. Dordrecht: .
- [3] Barrett, S. M. (2004). Implementation Studies: Time for a Revival? Personal Reflections on 20 years of Implementation studies. *Public Administration*, 82(2), 249-262.

- [4] Becker, J., Niehaves, B., Poepplbuss, J., and Simons, A. (2010, 2010). *Maturity Models in IS Research*. Paper presented at the 18th European Conference on Information Systems, Pretoria.
- [5] Beine, M., Docquier, F., and Rapoport, H. (2008). Brain Drain and Human Capital Formation in Developing Countries: Winners and Losers* (Vol. 118, pp. 631-652).
- [6] Belanger, F., and Hiller, J. S. (2006). A framework for e-government: privacy implications. *Business Process Management Journal*, 12(1), 48-60.
- [7] Chen, Y. N., Chen, H. M., Huang, W., and Ching, R. K. H. (2006). E-Government Strategies in Developed and Developing Countries: An Implementation Framework and Case Study. [Research Note]. *Journal of Global Information Management*, 14(1), 23-46.
- [8] Davison, R. M., Wagner, C., and Ma, L. C. K. (2005). From government to e-government: a transition model. *Information Technology & People*, 18(3), 280-299.
- [9] Gibson, R. (2008). Rethinking innovation : pointers for South Africa. *Management Today*, 24(2), 10-11.
- [10] Giles, W. D. (1991). Making strategy work. *Long Range Planning*, 24(5), 75-91.
- [11] GITOC. (2009). *Government-Wide Enterprise Architecture (GWEA) Framework Revision 1.2*. Retrieved from www.gitoc.gov.za.
- [12] GITOC. (2010). About GITOC. Retrieved 08 December, 2010, from http://www.gitoc.gov.za/gitoc_web/index.php?option=com_content&task=view&id=13&Itemid=27
- [13] Gupta, B., Dasgupta, S., and Gupta, A. (2008). Adoption of ICT in a government organization in a developing country: An empirical study. *The Journal of Strategic Information Systems, In Press, Corrected Proof*.
- [14] Heeks, R. (2008, June). ICT4D 2.0: The Next Phase of Applying ICT for International Development. *Computer*, 41, 26-33.
- [15] Kaplan, R. S., and Norton, D. P. (2006). *Alignment : using the balanced scorecard to create corporate synergies*. Boston, Mass.: Harvard Business School Press.
- [16] Klein, H. K., and Myers, M. D. (1999). A set of principles for conducting and evaluating interpretive field studies in information systems. *MIS Quarterly*, 23(1), 67-93.
- [17] Lee, A. S., and Baskerville, R. L. (2003). Generalizing Generalizability in Information Systems Research. *Information Systems Research*, 14(3), 221-243.
- [18] Lee, J. (2010). 10 year retrospect on stage models of e-Government: A qualitative meta-synthesis. *Government Information Quarterly, In Press, Corrected Proof*.
- [19] MacLennan, A. (2011). *Strategy execution : translating strategy into action in complex organizations*. London ; New York, NY: Routledge.

- [20] Madon, S., Reinhard, N., Roode, D., and Walsham, G. (2007, May). *Digital Inclusion Projects in Developing Countries: Processes of Institutionalisation*. Paper presented at the Proceedings of the 9th International Conference on Social Implications of Computers in Developing Countries, São Paulo, Brazil.
- [21] Meerman, S. (2010). An interview on the role of e-government in reducing bureaucratic corruption. In H. Twinomurinzi and K. B. Gharthey-Tagoe (Eds.). Pretoria: University of Pretoria.
- [22] Mukabeta Maumbe, B., Owei, V., and Alexander, H. (2008). Questioning the pace and pathway of e-government development in Africa: A case study of South Africa's Cape Gateway project. *Government Information Quarterly*, 25(4), 757-777.
- [23] Muylkens, M. (2010). *National e-Strategies for Development: Global Status and Perspectives, 2010*. Paper presented at the World Summit on the Information Society, Geneva, Switzerland.
- [24] Ndulu, B. J. (2004). Human Capital Flight: Stratification, Globalization, and the Challenges to Tertiary Education in Africa. *Journal of Higher Education in Africa (JHEA) / Revue de l'enseignement supérieur en Afrique (RESA)*, 2(1), 57-91.
- [25] Nour, M. A., AbdelRahman, A. A., and Fadlalla, A. (2008). A context-based integrative framework for e-government initiatives. *Government Information Quarterly*, 25(3), 448-461.
- [26] O'Donovan, B., and Roode, D. (2002). A framework for understanding the emerging discipline of information systems. *Information Technology & People*, 15(1), 26-41.
- [27] Pulzl, H., and Treib, O. (2005). Implementing Public Policy. In F. Fischer, G. J. Miller and M. S. Sidney (Eds.), *Handbook of Public Policy Analysis: Theory, Politics, and Methods* (pp. 89-107). London: CRC Press, Taylor & Francis Group.
- [28] Republic of South Africa. (1996). Constitution of the Republic of South Africa. Retrieved 08 December, 2010, from <http://www.info.gov.za/documents/constitution/1996/index.htm>
- [29] Republic of South Africa. (2001). *Electronic Government: The Digital Future - A Public Service IT Policy Framework*.
- [30] Republic of South Africa. (2010). Program of Action. Retrieved 16 December, 2010, from <http://www.poa.gov.za/>
- [31] Roode, D., Speight, H., Pollock, M., and Webber, R. (2004). *It's not the Digital Divide - it's the Socio-Techno Divide!* Paper presented at the Proceedings of the Twelfth European Conference on Information Systems, Turku School of Economics and Business Administration, Turku, Finland.
- [32] Sabatier, P. A. (1986). Top-down and Bottom-up Approaches to Implementation Research: A Critical Analysis and Suggested Synthesis. *Journal of Public Policy*, 6, 21-48.

- [33] Sahay, S. (2001). "Introduction to the special issue on "IT and Health Care in Developing Countries". *Electronic Journal on Information Systems in Developing Countries*, 5(0), 1-6.
- [34] Schuppan, T. (2009). E-Government in developing countries: Experiences from sub-Saharan Africa. *Government Information Quarterly*, 26(1), 118-127.
- [35] SouthAfrica.info. (2010). Government. Retrieved 16 December, 2010, from <http://www.southafrica.info/about/government/>
- [36] Stanforth, C. (2006). Using Actor-Network Theory to Analyze E-Government Implementation in Developing Countries. [Research Article]. *Information Technologies and International Development*, 3(3), 35-60.
- [37] Stewart, F., and Deneulin, S. (2002). Amartya Sen's Contribution to Development Thinking. *Studies in Comparative International Development*, 37(2), 61-70.
- [38] Twinomurinzi, H., Phahlamohlaka, J., and Byrne, E. (2010, 20-23 September 2010). *Diffusing the Ubuntu philosophy into E-government: A South African Perspective*. Paper presented at the World Computer Congress 2010: E-Government and E-Services: Challenges, Techniques, Opportunities & the Road Ahead, Brisbane Convention & Exhibition Centre, Australia.
- [39] UNPAN. (2010a). Measuring e-government. In U. Nations (Ed.), *United Nations E-government Survey 2010*: United Nations.
- [40] UNPAN. (2010b). World e-government rankings. In U. Nations (Ed.), *United Nations E-government Survey 2010*: United Nations.
- [41] Walsham, G., Robey, D., and Sahay, S. (2007). Foreword: Special issue on Information Systems in Developing Countries. *MIS Quarterly*, 31(2), 317-326.