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E-governance in South Africa: are we coping?

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Governments in developed as well as developing countries are making increasing use of electronic governance to interact and communicate with one another and with their citizens, as well as to deliver more effective services. In developing countries such as South Africa, where social and developmental challenges are acute, it is particularly important to develop well-articulated public policies and ICT plans that will promote effective e-governance. This article evaluates the current and imminent efficacy of e-governance in South Africa.

E-regeerkunde in Suid-Afrika: kom ons die mas op?

Regerings in ontwikkelde sowel as ontwikkelende state maak in 'n toenemende mate van elektroniese regeerkunde gebruik om met mekaar en die gemeenskap interaksie te hê en te kommunikeer, asook om doeltreffende dienste te lewer. In ontwikkelende state soos Suid-Afrika waar sosiale en ontwikkelingsuitdagings akuut is, is dit nodig om goed geartikuleerde openbare beleid en IKT-ontwikkelingsplanne vir die bevordering van effektiewe e-regeerkunde te ontwikkel. Die artikel evalueer die huidige en toekomstige effektiwiteit van e-regeerkunde in Suid-Afrika.

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The use of information and communication technologies (ICTs) in public administration and management, along with the new administrative practices that these technologies require, have been described as e-governance. The idea of e-governance has a relatively short history, but has changed the way governments in all spheres interact and communicate with one another and with their citizens. Communication with citizens used to take place via public meetings, printed media, radio, and television. Modern-day electronic government models employ the most modern information and communication technologies — for example, the Internet and satellite relaying — to deliver efficient and cost-effective services, information and knowledge. The e-governance revolution has thus enabled citizens to access government documents and records, to pay taxes, and to renew licenses from any location.

Since its inception in 1994 the South African government has launched a number of e-governance initiatives, some involving very advanced technology. These initiatives will be discussed in this study. It should be noted that South Africa is an emerging democracy with extensive developmental challenges that must be met if the quality of life of all its inhabitants is to be improved. The question is whether the government (and other governments in similar situations) is coping with the demands of e-governance. Although e-governance has particular advantages, a number of pitfalls have to be avoided.

1. E-governance in perspective

The emergence of electronic government (e-government) promises benefits perhaps unparalleled by previous public sector reforms. Important anticipated benefits include client-centred government (made possible by new forms of public-private partnerships) and improved levels of administration (through new on-line applications and information technologies). The question, however, is whether the reality will match the rhetoric and whether the South African government will adapt successfully.

Public organisations are instituted for the purpose of governing, that is, to exercise control over society and to manage its resources for social and economic development. According to Turner (1998: 36) the terms governance and government are not synonymous, although both terms

refer to purposive behaviour, to goal-orientated activities and to systems of rule. The term government suggests activities backed by formal authority to ensure the implementation of duly constituted policies, whereas governance refers to activities backed by shared goals that may or may not derive from legal or formally prescribed responsibilities. The rise of electronic governance (e-governance) refers to new processes of transacting made possible and even necessary by the advent of technology, particularly of on-line activities. Turban *et al* (2004: 345) define e-government as the use of information technology in general to provide citizens and organisations with more convenient access to government information and services, and to ensure delivery of public services to citizens and those working in the public sector. As a result, e-government in the broadest sense refers to an IT-led reconfiguration of public sector governance, and to how knowledge, power, and purpose are redistributed in the light of new technological realities (Roy 2003: 392). There are at least three main sets of interrelated forces driving the emergence of e-governance and the search for new organisational models across all sectors, namely:

- Spatial considerations of geography and place

Globalisation is changing our notion of place as an economic and, to some degree, a social and political force for integration, while creating new interdependencies beyond national borders. As a result, identity and community are less bound by geography, and new, more complex networking patterns are emerging (Lane & Roy 2000: 26).

- Digital notions of communications and time

Secondly, instantaneous communication is changing our perception of time. The expression "Internet time" has redefined many organisational activities in the private and public sectors. A digital world implies instantaneous decisions and accessibility, with speed and responsiveness having become the hallmarks of performance (Tapscott & Agnew 1999: 36).

- Cognitive patterns of education and shifting public expectations

Changing cognitive awareness is the third set of contextual forces driving change: awareness of the benefits of the rapid expansion of information and education is motivating populations to become less passive. Organisations are struggling to define and retain the right mix of compe-

tencies in a knowledge-based workforce that is increasingly mobile, diverse, and assertive (Rifkin 2000: 68).

These simultaneous forces lie at the heart of the struggle to adapt to a new governance environment. Many potential pitfalls, posing fresh challenges, must be expected to emerge.

2. The pitfalls/challenges of e-governance

The new spatial considerations of e-governance have removed governance from the traditional order of national processes and placed it within the more complex setting of contending global and local pressures. E-government, at the national level, means interfacing outwardly on a new global scale, and inwardly on a local, regional scale. In a digital world, governance encompasses multi-level processes, heightening the need for co-ordination across previously separate systems (Weill *et al* 1998: 56).

The use of technology may engage citizens more fully in the democratic processes, but may also have the effect of making such processes slower and more complex. Using technology to engage citizens in more deliberative forms of democracy may well require more time and more patience. Modern demographic trends also signal new challenges. Driven by the so-called Internet generation, the citizenry is becoming less homogenous, less passive, less accepting of traditional forms of authority and representation, and more contradictory in its demands, thereby giving citizens more control over government services and governance itself (Papows 1998: 55; Serle 2000: 19). The struggle to define a vision of e-government reflects the search for ways to adapt to meet the new realities: e-government cannot simply involve the imposition of new technology on existing organisational models. Even as a modest starting-point, an online public sector requires new technical and managerial approaches within government as well as externally across a range of role-players (Roy 2003: 393).

Difficulties can arise in the development, implementation, and updating of e-government sites. Even the simplest error, such as neglecting to check translations, can result in confusion or embarrassment. But more serious problems can emanate from e-governance, as will be outlined below.

2.1 Security

Governments will need to protect their information and systems from breaches of computer security that threaten not only the integrity and availability of services, but also the confidence of users and the general public in the system. Security in e-governance includes protecting systems and data from hackers and viruses, ensuring the integrity of electronic records, preventing the interception or falsification of information and being able to control the authorised sharing and disclosure of information (Reylea 2002: 16). In South Africa, the legislation promulgated to ensure security includes the Electronic Transactions Act of 2002 and the Interception and Monitoring Prohibition Act of 1992.

2.2 Privacy

Even for governments with a centralised structure for protecting the privacy of citizens, e-governance presents some new and evolving challenges. The use of electronic databases to store information is rapidly eroding the concept of the individual's right to privacy, as databases share and match personal details with ease. Many e-government systems collect, store, and use the personal details of those who use their services or visit their websites. To retain user trust and to prevent fraudulent use of personal information, a government must prevent the dissemination of sensitive personal details to unauthorised individuals or organisations (Jaeger *et al* 2002: 322).

2.3 The digital divide

The disparity in access to e-governance which may result from differences in class, race, age, culture, geography or other factors — the so-called digital divide — can effectively disenfranchise certain citizens, and must be guarded against. The digital divide pertains to the ability to access both services and content. The South African government, which had an IT budget of more than $2 bn in 2002, has a central role to play in bridging and eliminating this divide. In particular, it must take care not to bar low-tech means of interaction (Stones 2000: 10; Van der Waldt 2003: 49).

2.4 Economic disparities

For both wealthy and poor nations the lack of income in the poorer sectors of society is of great concern. According to the Organisation for Economic Co-operation and Development (OECD 2003: 4) the economically disadvantaged have the lowest levels of access to e-governance, yet often have high levels of interaction with government. In countries with relatively little money for government services and limited access to Internet connections, economics will play a significant role in preventing people from using e-government. But even for wealthier nations, economic disparities can create gaps in e-government usage: the countries with the most severre income-based digital divide (the USA and Australia) have high overall income inequality (Norris 2001: 92), as is also the case in South Africa.

2.5 Education

Generally, as the standard of education rises, so does use of the Internet. At any level of income, individuals with better education have higher rates of Internet usage than others (Booz Allen Hamilton 2002: 87), while those with lower levels of education tend to show the least interest in learning to use the Internet or going online (cf Borins 2001: 12). Education, particularly training in the use of IT, seems crucial in eliminating the digital divide. Research has shown that populations educated in the use of the Internet also make relatively frequent use of e-government information and services.

2.6 Accessibility

Government must serve all members of society. For this reason, ensuring that individuals with disabilities can use e-government websites is another significant issue in developing e-governance. Meeting the needs of people with disabilities presents particular challenges, as many of the changes that generally make it easier for non-disabled people to use computers can create barriers for people with disabilities (Dept of Justice 2001: 1).

2.7 Prioritisation

There is also danger in embracing e-governance at the expense of more basic functions of government. This is especially true for South Africa, an emerging democracy with extensive developmental challenges, where long-term objectives must be weighed against immediate socio-economic needs such as the provision of water and housing for indigent inhabitants (Van Rooyen *et al* 2003: 241).

2.8 Citizen awareness and confidence

The challenges involved in creating an e-governance infrastructure are not simply technological. Creating awareness of the advantages of e-governance and persuading people to become users of the system are even bigger challenges. Governments cannot over-ambitiously assume that citizens will automatically become adept and confident in the use of e-governance. Education in such usage is an ongoing process which takes time and effort to deliver results (Jaeger 2003: 327).

2.9 Lack of leadership and management

Political leadership which lacks the necessary drive to bring about change in the public sector may be the biggest obstacle to development. Governments that do not see e-governance as a priority pay little attention to ensuring that IT policies and programmes are introduced to meet the needs of their citizens (Accenture 2003).

2.10 Bureaucratic government organisation

In many cases the flow of information between government departments and agencies is developed and operated to meet only the needs of government departments and agencies, and not those of the citizens. Governments are sometimes slow to make and implement choices relating to e-governance, which inevitably leads to delays in developing the system.

2.11 Resistance to change

Government structures are slow to change as many public officials, comfortable with the old methods and fearing the novelty of e-governance, resist change (Van Rooyen *et al* 2003: 242).

In addition to the above-mentioned pitfalls and challenges, the ongoing development of e-governance raises a variety of other questions that need to be considered, for example, whether certain forms of government lend themselves to particular e-government approaches or initiatives; whether e-governance is really a democratising influence; whether it is feasible for a government to function solely as an e-government, and whether the success of e-government activities can be measured and evaluated. Such questions have become recurring strands in any discussion of e-governance.

3. The advantages of e-governance

The greatest advantage of e-governance — and its chief benefit to society — lies in its efficiency. The cost of governing is reduced, and transactions between government and business are simplified and speeded up. Increased efficiency also leads directly to increased investment (Hobbs 2001: 46).

E-governance has the potential to provide government information and services to sectors of the population that previously tended to be neglected. By making information and services available 24 hours a day and seven days a week, e-governance has the potential to increase political involvement across economic, educational, geographical, and cultural boundaries, and to provide citizens directly with programmes and services specific to their needs. Layers of bureaucracy can be eliminated. By creating a viable Internet presence, a government can generate interest in the political process among young citizens who frequently use the Internet (MacIntosh *et al* 2003: 49). Many theoretical discussions of e-governance emphasise its egalitarian nature and its potential to facilitate universal participation in government (Prins 2001: 50). E-governance, if implemented in such a way as to meet the information needs of all citizens, offers an opportunity to make governance more egalitarian. Its ability to provide the same information and services to citizens equitably, and in a manner that is theoretically accessible to all, gives it the capacity to help increase interaction with government. By giving citizens new ways to access and use government information, e-governance provides opportunities for the previously disadvantaged to learn about political activities and interact with the government. Used to its full potential, e-governance provides the convenience of elec-

tronic voting and encourages electronic participation in public forums by all citizens, as is the case in the Netherlands (Booz Allen Hamilton 2002: 96). This is of particular benefit to those citizens who have felt disenfranchised due to erosion of social importance for any reason: they have now the potential to interact directly with government by means of electronic bulletin boards and online public forums. These electronic innovations, in their turn, help to reduce administrative procedures and bureaucracy. In addition, governments are able to increase transparency and thus decrease the possibility of maladministration and corruption (*The Economist* 2003: 38). The disadvantages consequent upon human fallibility are lessened when processes are automatic and the higher levels of accuracy and efficiency achieved will be appreciated most in performing important routine activities such as the collection of taxes and customs duties.

It is important to investigate ways in which e-governance can be expanded to meet the information needs of all citizens. Such activities can be examined in terms of the interactions between sectors of government, between government and businesses, and between government and the citizenry (Weber *et al* 2003: 32). Government-to-government (G2G) initiatives enable the public service to work together, eliminating duplication and facilitating the speedy, efficient exchange of information between government departments (Van Rooyen *et al* 2003: 250). Government-to-business (G2B) initiatives, which include the sale of government goods and the procurement of goods and services for the government, benefit both businesses and governments. Interaction is encouraged by businesses' increased awareness of the opportunities of working with government, as well as by cost savings and by the ease and efficiency of transactions. For governments, G2B interactions offer benefits in reducing the cost and increasing the efficiency of procurement processes, and in providing new avenues for selling surplus items (Kakabadse *et al* 2003: 46).

Though e-governance has clear benefits for business and for government, the greatest benefit is likely to be felt by the citizens. Government-to-citizen (G2C) initiatives can facilitate the involvement and interaction of citizens, enhancing the degree and quality of public participation in government and informing citizens more effectively about laws, regulations, policies and services (Muir *et al* 2002: 175). Geographically

isolated citizens are given a greater chance of participating in the political process by being connected with the government and other citizens. Government-to-external (G2E) initiatives provide for broader interaction with external entities and facilitate foreign investment by being transparent, providing up-to-date information and being readily accessible.

E-governance, if implemented properly, can thus improve current government services; increase accountability; result in more accurate and efficient delivery of services; reduce both administrative costs and time spent on repetitive tasks by government employees; facilitate greater transparency in the administration of government, and allow better access to services due to the round-the-clock availability of the Internet. The question, however, is whether these advantages are being put to use in South Africa.

4. The status of e-governance in South Africa

In addition to the general pitfalls mentioned above, which should be taken into consideration when discussing the status of e-governance in South Africa, Van Rooyen *et al* (2003: 241) note that cognisance should also be taken of South African realities such as the internet infrastructure, literacy levels and *per capita* income.

Although South Africa is ranked 65th in the world and first on the African continent as far as e-government capacity is concerned, such statistics do not reflect the fact that infrastructurally disadvantaged areas, especially rural areas, have limited access to electricity and telephone lines (UN 2002). This impacts on the level of internet connectivity and on the utilisation of e-governance facilities.

Adult literacy, which may indirectly reflect levels of computer literacy, is estimated at 85.1%; but there are vast differences between rural and metropolitan areas (RSA 2005). Public servants must also have the necessary skills to utilise information and communication technologies properly in their working environment. According to the South African Department of Public Service and Administration (DPSA) the ICT literacy levels of officials and the current patterns of access to computers indicate that fewer than 20% of public sector functionaries are computer literate or computer users (Fraser-Moleketi 2002).

As a consequence, reading and comprehension proficiency relating to the utilisation of e-government facilities is limited.

The 2004 figures estimate the South African *per capita* income at R14 285 (Berman 2004: 180). Taking into consideration that half of total spending is directed towards food (22%), housing (14%), income tax (9%), and transport (10%), not much is left for ICT-related expenditure (Van Rooyen *et al* 2003: 241).

The South African e-governance initiatives are set out in a project dubbed Information Communication Year 2025. In terms of this project, building blocks will be put in place over the next few years to improve service delivery. Some basic steps have been taken, including the installation of public information terminals for Internet and e-mail access in certain rural centres as part of joint public/private sector initiatives, and the funding of computer centres in rural communities by companies such as Microsoft (Van der Waldt 2003: 44).

The State Information and Technology Agency (SITA) has been formed to streamline existing technologies and to implement new systems in all government departments. SITA is a company providing Information Technology (IT), Information Systems (IS) and related services to the South African government. It has been adapting computer systems within different departments so that data can be more readily shared. This first phase of system improvement will be followed by a second phase which will create easy access to government services by making information available to people using a telephone or an information terminal (*Mail & Guardian* 2004). Considerable impetus for the introduction of e-governance was provided by the *Green Paper on electronic commerce for South Africa* published in November 2000 (RSA 2000). This paper regulates the conduct of monetary transactions online, a vital part of e-governance that influences every aspect of the relationships between government institutions and employees, businesses, citizens and other governments.

In February 2001 the South African government introduced a document drawn up by the Department of Public Service and Administration, *Electronic government: the digital future; a public service IT policy framework* (RSA 2001). The framework established by this document can be regarded as a major step towards guiding government institutions into the digital age and thus making South Africa more competitive.

The framework specifies guidelines for making government more productive and more effective in delivering services. It provides indications of how the government intends to address the challenges of interoperability, IT security, the economy of scale, and the elimination of duplication. Other initiatives include e-filing to facilitate the electronic submission of tax returns and payments by taxpayers and tax practitioners in order to improve operational efficiencies; e-justice to improve the effectiveness and efficiency of prosecutors and to transform the justice administration from a manual to an automated system; the National Automated Archival Information Retrieval System (NAAIRS), providing extensive information and documentation about the national archive services to the public and to government bodies, and the Department of Home Affairs National Identification System (HANIS) project, which has initiated an automated identification database of fingerprints to combat crime and supply such information for the purposes of policing, elections, population registration and emigration (Kuye 2002: 87).

In the light of the initiatives mentioned above, it can be argued that South Africa has already laid a sound foundation for effective e-governance, measured against the criteria set by the United Nations Global Readiness Report (UN 2004) for the implementation of e-governance in any country, namely an improved quality of information and information supply; a reduction in process time, administrative burdens, and costs; improved service levels; increased efficiency, and greater customer satisfaction.[1] Although beyond the scope of the current study, the data support the above-mentioned findings in respect of the current status of e-governance in South Africa. The future of e-governance may thus be considered.

5. The future of e-governance

Whether the e-governance of the future will include more citizens in government or exclude less technologically educated citizens remains a concern. The following information policy issues are likely to present further significant challenges to the development of e-governance.

1 Empirical data on these aspects are available *inter alia* on <www.dpsa.gov.za>, <www.cpsu.org.uk>, <www.pmg.co.za>, <www.sita.co.za> and <www.statssa.gov.za>.

5.1 Ensuring the ability to use the requisite technologies

Electronic governance relies on the use of information technology and if a person is unable to use such technologies — due to lack of education or for any other reason — that person will need assistance in accessing government information and services. For such persons other channels to government must be maintained or established (Gupta *et al* 2003: 367).

5.2 Educating citizens about the value of e-government

Unless citizens know what is available from e-governance, they are unlikely to use the facility, which will defeat the purpose of developing e-governance information and services. According to Jaeger (2003: 324), people who are more aware of and comfortable with an e-governance initiative will be more likely to use it.

5.3 Ensuring access to useful information and services

In order for e-governance efforts to succeed, there should be both universal service (indicating the necessary level of telecommunications infrastructure and universal access) (indicating a minimum standard of ability to access the services offered through the telecommunications infrastructure) (Bertot *et al* 2003: 318). However, e-governance websites must contain more than just quantities of information; e-governance planning and implementation should focus on activities that use e-governance to expand current services and promote new ones.

5.4 Co-ordinating local, regional, and national e-government initiatives

Lack of co-ordination between various levels of government can significantly reduce the success of e-governance efforts as such initiatives can be undermined if different levels of government have conflicting goals for e-governance. In order to achieve effective e-governance, all levels of government must co-operate in developing and implementing the strategy (Jaeger *et al* 2003:392).

5.5 Developing methods and performance indicators to assess services and standards of e-governance

Methods must be developed to measure and evaluate the success of e-governance initiatives. Any such test would require a profile of the population, including details of the needs of citizens and their capacity to find and comprehend IT information. Assessments of e-governance should also investigate information behaviour that inhibits the utilisation of e-governance (OECD 2003: 5).

Further important information policy issues that are likely to influence the development of e-governance include the following:

5.6 The provision of consistent and reliable access to electricity, telecommunications, and the Internet

For e-governance to be effective within a nation, the necessary technological infrastructure must be present and offer a service to all citizens. However, care should be taken not to let e-governance grow at the expense of more basic services, thereby exacerbating the digital divide (Snellen 2002: 197).

5.7 Addressing issues of language and communication

South Africa has eleven official languages. Effective e-governance requires standardisation of spelling, word usage, and a common language or languages in which citizens can communicate comfortably. Significant variations in spelling and word usage in the official language of a nation may lead people in many areas to avoid the Internet (Jaeger *et al* 2003: 392). Other obstacles are illiteracy, or refusal on the part of citizens to use the Internet if it is not in their home language.

5.8 Preventing e-government from lessening responsiveness and responsibility of government officials

Electronic interaction between a government and its citizens cannot be allowed to reduce the responsibility of government employees for behaving appropriately towards citizens. If government officials become less responsive because they are not physically interacting with the citizens they serve, then e-governance is failing in its purpose of delivering transparent, responsive administration. For the same reason e-

governance must not create ways in which government officials can use technology to avoid taking responsibility for their duties or as a standardised excuse for inadequate services.

Many issues must still be resolved but it seems likely that e-governance will continue to grow. However, close scrutiny is needed, to ensure that e-governance in South Africa — like elsewhere — develops effectively. The crucial issue is that governments must understand e-governance and regulate its development wisely.

6. Conclusion

The planning and implementation of e-governance, as it continues to grow and develop around the world, will have to focus on finding methods to address a variety of issues. Some of the most important sources of information on meeting the challenges to effective e-governance are the currently operational actual e-governance initiatives. The lessons that can be learned from ongoing projects, as to what works and what does not, will provide meaningful guidance in developing and refining e-governance.

However, it should be remembered that technology is not a panacea for all service delivery challenges; it is an enabler. The move to full e-governance does not pose only a technological problem, but also a management problem. Technological, financial and political hurdles must still be cleared before the potential of e-governance can be fully realised.

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