

# **E-Government and the E-Readiness of Non-Profit Organisations in the Western Cape, South Africa.**

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# **E-Government and the E-Readiness of Non-Profit Organisations in the Western Cape, South Africa**

## **ABSTRACT**

This paper reports on a study investigating the e-readiness of NPOs in the Western Cape. The two main objectives were to identify potential constraints to their greater ICT-adoption and to determine if geographic location inside or outside the City of Cape Town Municipality has an influence on NPO e-readiness. The report reviews the literature associated with the related topics, including the digital divide, e-readiness models and the current state of ICT initiatives in South Africa.

A quantitative survey approach, based on the Bridges.org real access to ICT framework, was followed and the findings for each real access factor used in the study are described. The study finds that proximity to Cape Town has an influence over a number of real access factors and that there are definite constraints to the greater ICT-enablement of the sector.

## **KEYWORDS**

E-Government, Non-profit organisations, E-readiness.

## **INTRODUCTION**

ICT is becoming an essential tool for success in every sector: private, public and non-profit, but ensuring its widespread adoption is a very difficult task for Government given the economic, geographic, social and political barriers that exist. Any e-government initiative to improve ICT-adoption must be done in a way that is sensitive to local needs and implemented in a way that ensures inclusion for all stakeholders in the community. There is a real danger of helping only some and not others, thereby contributing to the digital divide.

The issues that constrain ICT-enablement, and the factors that differentiate the needs of communities – such as urban/rural settings – must be studied in order to make effective strategic recommendations. This report is based on a descriptive research study of non-profit organisations (NPOs) in the Western Cape Province of South Africa.

While research has been done on the non-profit sector in South Africa, as well as the e-readiness of the citizens, businesses and organisations of Cape Town, a focussed investigation into the e-readiness of NPOs in the Western Cape has not been conducted. This is also the first study in South Africa on the influence that proximity to a major urban centre has on e-readiness of NPOs. The research will inform South African e-government strategies and thereby makes a potentially significant social contribution. Because it identifies constraints to greater ICT-enablement, it offers government departments throughout South Africa an input on how to begin removing those barriers. It thus has significance on a national, provincial and local level, and for stakeholders in other developing countries that wish to improve the e-readiness of the non-profit sector.

## **KEY CONCEPTS**

### **The Digital Divide**

In the same way that there are economic and social divides between rich and poor countries, in the field of ICT there are also divides between those who can access and use ICT to gain the associated benefits, and those who do not have access to technology or cannot use it for one reason or another (Bridges.org 2002b). These digital divides exist between countries (the 'international divide') and between groups within countries (the 'domestic divide').

The divide between technology 'haves' and 'have nots' is painfully wide. For example, only 1.1% of Africa's population has internet access, compared with 66.1% in North America (Internet World Stats 2004). Within the African continent South Africa is relatively well connected, for example, it has 60 times the number of main telephone lines than its neighbour, Mozambique (International Telecommunication Union 2004). Because the 'haves' are better equipped to use ICTs and adopt new technologies, the gap between them and the 'have-nots' grows exponentially as new technologies appear, further compounding the problem (Bridges.org 2001b).

### **E-Readiness**

There is no one-size-fits-all solution to bridging the digital divide for countries. An important first step is to establish how e-ready a given population currently is. Kirkman, Osorio & Sachs (2002) define e-readiness as 'the degree to which a community is prepared, and has the potential, to participate in the Networked World'.

Since 1998 a number of e-readiness assessment models and measures have been developed, some even include indices to compare the e-readiness of different countries. When Harvard University's Networked Readiness Index (NRI) was originally created, a short term goal was to enhance 'public policymakers' understanding of the factors contributing to ICT advancement, so that business practice and public policy could be shaped in the most informed manner possible' (Kirkman, Osorio & Sachs 2002). In a comparison of e-readiness assessment models and tools, Bridges.org (2001a) showed that while there is overlap between them – e.g. most consider physical infrastructure, levels of ICT use, human capacity and training, policy environment, and the local ICT economy – each has its own definition of e-readiness and something unique about its measurement criteria. This diversity of individual standards of e-readiness means that there is no objective way of measuring e-readiness and therefore no one 'correct' tool.

Bridges.org identified a need for a more comprehensive model than was available, one that offers a holistic view of the need for ICT and the constraints that hamper ICT access and use. The organisation realised that the actual nuts and bolts of computers and network cables are only one small part of access measurement: peoples' understanding of the potential of ICTs and laws that may limit the growth of the ICT-sector are just some of the other important issues to consider. The concept of *real access* to ICT, made up of twelve interrelated factors, was thus proposed (Bridges.org 2002a). The factors are physical access; appropriate technology; affordability; capacity and training; relevant content; integration into daily routines; socio-cultural factors; trust in technology; legal and regulatory framework; sustainability and the local economic environment; macro-economic environment and public support and political will. Because the twelve factors touch on technical, social and economic issues, their interdependence is complex. The Bridges.org framework is particularly relevant because it can be applied to any community – such as NPOs in the Western Cape – and offers a balanced view of e-readiness, whereas other models usually focus on specific population groups, e.g. whole countries or cities, or are biased towards a particular aspect of e-readiness, e.g. such as the economy or communications infrastructure.

### **Non-profit Organisations in South Africa**

To help structure the sector, the *Non-Profit Organisations Act* defined a South African NPO as an organisation that operates for 'public purpose, the income and property of

which are not distributable to its members or office bearers, except as reasonable compensation for services rendered'. To further formalise the sector, the NPO Directorate within the Department of Social Development voluntarily registers legally formed organisations as NPOs.

In an empirical research study on the state of civil society in South Africa (Camay & Gordon 2001), 78% of civil society organisations (CSOs) – which included NPOs – felt that there was not enough cooperation between them and other CSOs, and almost as many felt that they should cooperate more with government. Another major study of the non-profit sector in South Africa revealed that 53% of organisations surveyed rated lack of government support as their most serious problem (Russell & Swilling 2002).

Interestingly, survey respondents in rural CSOs, which also had the least access to information, skills and resources, felt marginalized since most legislative processes take place in urban areas.

NPOs are an important bridge between the citizens and government of any country, especially acting as channels of information flow between communities and authorities (Schilderman 2002). NPOs perceive themselves as playing an 'interface role between the people and the bureaucracy' and acting as 'agents of change' (Camay & Gordon 2001). Eighty seven percent of NPOs agree that they are closer to the needs of the people than government is (Russell & Swilling 2002). In order to play the role of information broker they need timely access to accurate information from Government, NPOs and other sources. It is clearly important to strengthen the non-profit sector and address its needs to achieve greater access to, communication with, and influence over government.

## **ICT in South Africa**

South Africa is consistently placed in the middle band of most global e-readiness indexes. For example, it was positioned 33<sup>rd</sup> in the Economist Intelligence Unit's 2002 e-readiness rankings, out of a possible 60 countries from the developed and developing world (Economist Intelligence Unit 2002). South Africa is often compared to Brazil and India, which ranked 34<sup>th</sup> and 43<sup>rd</sup> respectively.

From a broad perspective, the country has an environment conducive to ICT growth:

- It has a progressive ICT policy and legislative process.
- E-government is fully functional.
- Market conditions are supported by a liberal, free market economic policy.

However, domestic divides still exist between 'rural and urban areas, suburbs and informal settlements, men and women, racial groups, and income and education levels' (Bridges.org 2002b). Within South Africa there are wide regional differences: unlike the more rural provinces, Gauteng and the Western Cape have a relatively strong ICT infrastructure, including a burgeoning ICT sector (Bridges.org 2002b). Overall, only 7% of South Africa's population is online. Telkom, the only national telecommunications operator, is widely seen as stifling the potential of broadband and low-cost access through a monopolistic stranglehold on the sector.

### **E-Government in South Africa**

E-Government applies ICT within a public administration in order to provide service delivery, public participation in governance, policy development and its implementation (United Nations Department of Economic and Social Affairs 2003). On the whole, e-government is taken seriously in South Africa; various task teams have been set up to keep abreast of international ICT best practices and inform ICT policy makers and strategists – including the President – on issues ranging from online privacy to open source software. Currently, most of South Africa's e-government programs still fall into the initial "publish information" category, although a move towards the more advanced "interactive" and "transactional" e-government categories is underway.

### **Government and ICT**

The national and provincial governments have recognised the strategic importance of ICT and the ICT sector in 'enhancing the country's competitiveness and meeting development challenges' (Cape IT Initiative 2003).

The Western Cape provincial and local governments, including the City of Cape Town, are responsible for a number of successful and award-winning ICT initiatives. The PGWC has formed the Centre for e-Innovation, which is tasked with the building of a knowledge economy in the Western Cape and implementing e-government initiatives. Its flagship project is Cape Gateway, a Web portal with over 25,000 pages of government information, that was invited to the 2003 United Nations World Summit for the Information Society in Geneva, as an example of a successful ICT for Development project.

However, it should be noted that for ICT to play an important and beneficial role in the relationship between Government and NPOs, both parties must be sufficiently e-ready.

It is not within the scope of this survey to investigate the e-readiness of Government, but rather to note the importance of healthy ICT-utilisation within Government. Within the PGWC in 2000, an estimated 68,000 employees had 8,100 computers (7,480 of which were connected on a wide area network). Eighty percent of these computers were located in the Cape Peninsula (Vlachos 2001). While these figures are dated they indicate the need for a continued drive to make Government more e-ready.

## **RESEARCH OBJECTIVES**

There is a severe lack of empirical research statistics on the e-readiness of NPOs in the Western Cape. This study focussed on one external factor – geographic location – and set out to identify any constraints to greater ICT adoption among NPOs in order to produce a number of recommendations to the PGWC.

The following were the research objectives:

- To determine if the geographic location of NPOs – inside or outside the City of Cape Town Municipality – had an influence on any of the *real access* to ICT factors.
- To determine the constraints to the greater ICT-enablement of NPOs.
- To make appropriate recommendations to the PGWC that will improve NPO e-readiness levels.

The study attempted to meet these objectives by couching the research questions within the Bridges.org *real access* to ICT framework. The Bridges.org *real access* to ICT model is a tool to obtain a broad view of the factors that affect the e-readiness of a target group.

## **RESEARCH METHODOLOGY**

This quantitative, cross-sectional study was descriptive and interpretive. The primary data collection method was a survey questionnaire sent to sampled NPOs, made up of mostly quantitative but also some qualitative questions. While the overall research followed the Bridges.org *real access* to ICT framework, not all of the twelve *real access* factors were covered in this study. The study focussed on: physical access, affordability, capacity and training, relevant content, integration into daily routines, trust in technology, and public support and political will.

The target population of the study was all legally formed NPOs in the Western Cape that are registered with the national Department of Social Services. In September 2004

this comprised 2,328 NPOs, based on a list that is freely available from the Department of Social Services (at <http://www.welfare.gov.za/NPO/NPO.htm>). The authors selected a simple random/probability sample, stratified on a single variable: geographic location. The sample differentiated between NPOs located inside and outside the City of Cape Town Municipality. The sample included 250 NPOs from within and 250 NPOs from without the City of Cape Town Municipality. NPOs outside of Cape Town Municipality are located in a variety of environments, ranging from larger settlements such as George and Worcester, to very small towns and even rural farmlands. The sample size of 500 was determined by the research budget from the PGWC, which was the sponsor of the study.

To avoid ICT-bias the questionnaire was paper-based. A printed copy of the questionnaire, including a return envelope, was posted to 500 organisations. A fax number was also provided to which replies could be sent. The letters were addressed to a specific person in the organisation (the list of registered NPOs has a contact person for every organisation). Somewhat unfortunately, the Western Cape Networking Aids Community of South Africa (WC NACOSA) circulated the questionnaires to 20 HIV/Aids NPOs at one of their workshops, which increased the total sample size to 520 but skewed the initial stratification marginally.

A response rate of 5-10% was expected, which translates to 25-50 respondents. In the end, the somewhat magical number of 100 questionnaires were returned (19% response rate).

The research instrument was based on the Bridges.org Digital Divide Assessment of the City of Cape Town 2002 questionnaire, which was designed within the Bridges.org *real access* to ICT framework. It was slightly modified to make it more focussed on NPOs and includes three questions from the Tanzanian NGO IT-Utilisation Survey. Another change to the instrument was based on the feedback from pilot participants who suspected that most NPOs do not know the correct definition of 'ICT' and recommended that using the term *computer* would produce the best results.

## **DATA ANALYSIS AND RESEARCH FINDINGS**

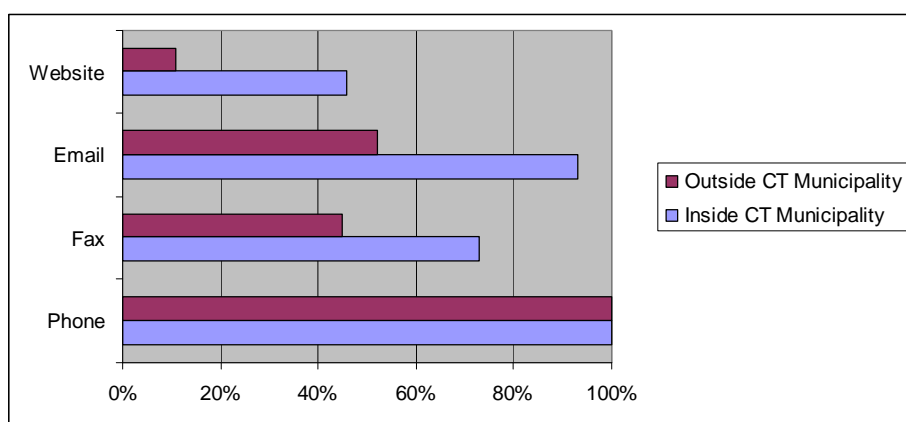
### **Demographic Analysis**

Of the 100 respondents, 56 NPOs are located inside Cape Town Municipality and 44 NPOs are located outside of Cape Town Municipality.

Respondents were asked to indicate the primary types of activities and programmes their organisation engaged in. The top five items are Training/education/capacity building (53%), Community development (49%), Health/Aids (39%), Children's issues (36%) and Youth (29%).

**Physical Access: is technology available and accessible to people and organisations?**

Based on the contact details given by the respondents, all organisations have telephones (see Figure 1) although fewer NPOs have fax machines (only 45% of NPOs outside of Cape Town Municipality). Email access is very prevalent for organisations inside Cape Town Municipality (93%) but a worrying 52% for NPOs outside Cape Town Municipality. Only 11% of these organisations have a website, while of those inside the municipality almost half (46%) have an online presence.



*Figure 1: Access to basic ICTs (n=100)*

Eleven percent of all sampled NPOs do not have a computer, while half of NPOs have from 1 to 5 computers. However, the profile for NPOs inside and outside of Cape Town Municipality is different. Forty-four percent of NPOs sampled that are situated inside Cape Town Municipality have more than four computers, while just more than half (51%) of NPOs outside Cape Town Municipality have zero or one computer. A chi-square test (Chi-square:17.625; DF:3; p-value<0.05) confirms that there is an association between location of NPO and number of computers.

Worryingly, 45% of NPOs outside Cape Town indicated that they did *not* have Internet access, as opposed to only 4% of those inside Cape Town. The instrument didn't distinguish between email and Web or other types of Internet access. This difference is statistically significant. (Chi-square:25.188; DF:1; p<0.001).

The instrument also asked whether NPOs shared email/Internet acquired knowledge with non-connected stakeholders. Seventy-four percent of NPOs situated inside Cape Town Municipality shared information with outside stakeholders as opposed to only 40% of those outside of the municipality (Chi-square:8.272; DF:1; p-value<0.01).

Table 1 shows how they share knowledge with non-connected stakeholders.

Hardcopy distribution, e.g. circulating printouts, via fax or via post	46%
By forwarding emails (to NPOs who don't have WWW access)	42%
Verbally, e.g. discussions, debates or telephonically	31%
Through reports, documented research, newsletters, etc.	15%

**Table 1:** *Sharing of Internet acquired knowledge (n=26). Multiple responses possible.*

### ***Affordability: Is technology affordable for people to use?***

Respondents were asked to indicate how they acquired any computer equipment that they own. Of the 81 responses, on average almost half of all equipment is self-funded (48%), while 36% is donated by South African donors or has been purchased with money from South African donors. Only 16% is donated by international donors or has been purchased with money from them, and no respondents took bank loans to finance their equipment purchases. There is no statistically significant difference in sources for NPOs located inside or outside Cape Town Municipality

NPOs ranked the constraints to increased computer use (in order of importance). The three highest rated constraints are the high cost of computers, Internet charges and lack of training on how to use computers.

However, although theft and cost of security was only ranked fifth, it remains an important factor. This is especially pertinent to organisations located in economically depressed areas, where theft is common (Bridges.org 2002b). A study (Benjamin 2001) of a national government-sponsored telecentres rollout in the late 1990's found that four telecentres had major burglaries where all or a majority of the equipment was stolen. As there was no insurance or alternative source of equipment, these centres disbanded. This clearly demonstrated that theft is a real threat to any ICT investment.

### ***Capacity and Training: Do people have the training and skills necessary for effective technology use?***

For ICT to be used effectively the employees of an organisation must have the necessary skills. Of 70 respondents who answered this question, 20% have never used a

computer, 18% are still learning basic tasks on a computer, 52% are skilled at using a computer and 10% are experts at using a computer.

In order to increase the overall ICT skill levels within an organisation training must be provided. However, of all NPOs, only 35% provide some form of computer training (in-house or outsourced to an external training provider), whether it is for newly hired employees only or throughout their career, as needed. The profile for NPOs located inside and outside Cape Town Municipality is very similar.

***Relevant Content: Is locally relevant content available?***

In terms of *real access* to ICTs, it is as important for there to be online content that can be accessed as it is to have the ability to access it. Of the NPOs that have Internet access just over half (52%) access government information on the Web (n=73). There is no statistically significant relationship between location of NPOs and their online browsing of government websites (Chi-square:0.555; DF:1; p-value>0.45). The reason why NPOs don't access online government information was unfortunately not explored in the questionnaire.

The government sites that NPOs most visit are (in order of popularity) [www.gov.za](http://www.gov.za), [www.sars.gov.za](http://www.sars.gov.za) and [www.labour.gov.za](http://www.labour.gov.za). The Cape Gateway portal to government information and services in the Western Cape offers content in English, Afrikaans and Xhosa. However, because the product was only launched in March 2004 only 17% of respondents knew of it (n=93).

***Integration: Is technology use integrated into daily routines?***

ICT is a tool that should enable NPOs to communicate and operate more effectively and efficiently. But when ICTs are not, or cannot be, integrated effectively they become a liability in daily operations, for example, using slow and faulty equipment.

It was found that location of NPOs has a statistically significant influence over frequency of the following tasks: sending and receiving emails, finding information on the Internet, Internet banking, book-keeping, 'stakeholder' relations, e.g. communicating with members or funders. However, no significant influence of location was found for typing documents and other administrative tasks.

***Trust in Technology: Do people have confidence in technology and understand its privacy and security implications?***

Respondents were asked to rank a number of computer-based tasks in terms of *very safe*, *safe*, *somewhat unsafe*, or *very unsafe*. Based on the medians of the responses all organisations thought it safe to use a computer to send messages to colleagues or stakeholders (n=78), pay accounts (n=71), file government forms (n=70) and purchase goods or services (n=63). Location of NPOs has no statistically significant influence over their view of the ‘safety’ of using computers.

## **CONCLUSION**

The study examined e-readiness elements of 100 NPOs in the Western Cape by focussing on specific Bridges.org *real access* to ICT factors. The findings were collectively discussed through the lens of e-government, which is one of the broad enablers of ICT adoption. By using the *real access* framework the study was able to meet the research objectives. Because of random sampling of the respondents there are grounds to generalise the findings to the greater NPO sector in the Western Cape. Geographic location of NPOs – inside or outside Cape Town Municipality – has an effect on the following ICT factors:

- Access to basic ICT
- Number of computers within an NPO
- Level of email/Internet access
- Sharing of email/Internet acquired information with non-connected stakeholders
- Level of computer integration into daily routines

For all these factors NPOs situated inside Cape Town Municipality are ‘better off’ in terms of e-readiness. In terms of recommended activities for the PGWC, they want more affordable computing and Internet access as a first priority, whereas NPOs outside of Cape Town Municipality want computer training.

NPOs are aware of the benefits of ICTs and take responsibility for their own greater ICT adoption. Perhaps an indication of their enthusiasm is the high response rate to the study and that 74% of respondents indicated that they were willing to be contacted for further discussions.

## Recommendations for Future Research

If the *real access* to ICT framework produced a *real access* index, or had categorical levels of e-readiness, respondents could be ranked, grouped and easily compared. A beneficial project would involve working with Bridges.org to create a checklist and categorical scale and then to categorise respondents using the existing primary data. This would enable NPOs and Government to set e-readiness goals to work towards, based on the current placings.

Another possibility is to conduct qualitative research on the NPOs that have expressed a desire to provide input to its future technology initiatives. What exactly can they offer? Exactly what opportunities exist and how can Government work with them? By exploring the best practices of similar case studies potential projects for government initiatives could be identified and, if implemented, researched in a longitudinal study.

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