

**AN EVALUATION OF e-GOVERNMENT WITHIN THE
PROVINCIAL GOVERNMENT WESTERN CAPE
(PGWC)**

**A research study presented to the
School of Public Management and Planning**

**in partial fulfilment of
the requirements for the degree of
Master of Public Administration
at the University of Stellenbosch**

The crest of the University of Stellenbosch is centered behind the text. It features a shield with a blue and red design, topped with a crown and a banner. The Latin motto "Pacta sunt ovis recti" is visible on a scroll at the bottom of the crest.

by

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DECLARATION

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ABSTRACT

Electronic government or e-Government has become a global phenomenon and is seen as a tool to strengthen the performance of government and public administration. An efficient and effective state administration is a necessary requirement for economic and social development. This study describes to what extent the e-Government policy of the PGWC compares with other e-Government policies internationally and in particular the Australian e-Government policy.

South Africa as a young democracy can use the transformational power of the e-Government approach to the benefit of government, business and the citizens of the country if this approach is applied appropriately. e-Government offers the opportunity to improve public services and can even reduce the gap that exists between those who are computer literate and those who are not.

E-Government in the PGWC is still in the beginning phases compared to e-Government in Australia, which has developed rapidly over the last decade. The PGWC can learn from the Australian e-Government development process, with Australians being regarded as one of the leading e-Government nations in the world, according to the United Nations Organisation.

Even though the e-Government policy of the PGWC and the Australian e-Government policy use a comparatively similar approach within the demographic boundaries in which they exist, it was found that the socio-economic challenges of South Africa as a developing country, still have an enormous influence on the optimal application of the e-Government policy.

OPSOMMING

Elektroniese regering of e-Regering het 'n wêreldwye verskynsel geraak en kan gesien word as 'n maatstaf vir die versterking van regeringsoptrede en publieke administrasie. 'n Effektiewe en doeltreffende staatsadministrasie is 'n noodsaaklike vereiste vir ekonomiese en sosiale ontwikkeling. Hierdie studie beskryf tot watter mate die e-Regeringsbeleid van die Wes-Kaapse Provinsiale Regering met ander internasionale e-Regeringsbeleide vergelyk, veral met betrekking tot die e-Regeringsbeleid van Australië.

As 'n jong demokrasie kan Suid-Afrika die transformerende invloed van die e-regerings benadering tot die voordeel van die regering, besigheid en die burgers van die land gebruik indien hierdie benadering korrek toegepas word. e-Regering bied die geleentheid om publieke dienste te verbeter en kan selfs die bestaande gaping vernou tussen diegene wat rekenaargeletterd is en diegene wat nie rekenaargeletterd is nie.

e-Regering in die Wes-Kaapse Provinsiale Regering is nog in 'n betreklike vroeë stadium vergeleke met e-regering in Australië waar dit oor die laaste dekade snel ontwikkel het. Die Wes-Kaapse Provinsiale Regering kan vanuit die ontwikkelingsproses van die Australiese e-Regering leer, daar Australië deur die Verenigde Volkere-organisasie as een van die voorste e-Regeringnasies in die wêreld beskou word.

Selfs al toon die beleide van die Wes-Kaapse Provinsiale Regering en die van Australië 'n relatief eenderse benadering tot e-Regering binne die demografiese grense waarin hulle bestaan, is gevind dat die sosio-ekonomiese uitdagings van Suid-Afrika as 'n ontwikkelingsland steeds 'n enorme invloed op die optimale aanwending van e-Regering het.

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TABLE OF CONTENTS

DECLARATION.....	ii
ABSTRACT.....	iii
OPSOMMING.....	iv
ACKNOWLEDGEMENTS.....	v
LIST OF TABLES.....	x
LIST OF FIGURES.....	x
LIST OF ACRONYMS AD ABBREVIATIONS.....	x
GLOSSARY.....	xii
CHAPTER 1: INTRODUCTION AND STATEMENT OF THE PROBLEM.....	1
1.1 Introduction	1
1.2 Rationale for the study.....	3
1.3 Research problem and objectives.....	4
1.4 Research design and methodology.....	4
1.5 Outline of chapters.....	5
1.6 Summary.....	7
CHAPTER 2: THE THEORETICAL FRAMEWORK FOR e-GOVERNMENT.....	8
2.1 Introduction.....	8
2.2 e-Governments globally.....	8
2.2.1 Defining e-Government.....	8
2.2.2 The development of e-Government globally.....	10
2.3 The internet and the impact of globalisation.....	12
2.4 Globalisation.....	14
2.5 The digital divide.....	15
2.6 Summary.....	18
CHAPTER 3: THE AUSTRALIAN e-GOVERNMENT POLICY.....	19
3.1 Introduction.....	19

3.2	Economic Review.....	19
3.3	The Australian e-Government policy.....	20
3.4	The Australian e-Government readiness (e-Readiness).....	24
3.5	The Australian government information management office (AGIMO).....	25
3.5.1	The Australian ICT infrastructure.....	26
3.5.2	ICT infrastructure initiatives.....	26
3.6	ICT skills.....	28
3.7	The internet and broadband internet access.....	29
3.8	The Australian e-Government satisfaction services study (2007).....	30
3.9	e-Governance.....	30
3.10	Summary.....	31

CHAPTER 4: THE SOUTH AFRICAN ELECTRONIC e-GOVERNMENT STRATEGY AND THE DIGITAL DIVIDE.....33

4.1	Introduction.....	33
4.2	A historical background to e-Government in South Africa.....	33
4.3	The e-Government process in South Africa.....	35
4.3.1	e-Governance.....	37
4.3.2	e-Services (delivery and feedback).....	37
4.3.3	e-Business.....	37
4.4	Government stakeholders in the South African ICT arena.....	38
4.5	The ICT infrastructure of South Africa.....	40
4.6	Monitoring and evaluation of e-Government in South Africa.....	41
4.7	Internet utilisation in South Africa.....	41
4.8	The digital divide in South Africa.....	42
4.9	Examples of e-Government initiatives in South Africa.....	43
4.10	Summary.....	45

CHAPTER 5: THE LEGISLATIVE FRAMEWORK FOR THE INTRODUCTION OF e-GOVERNMENT IN SOUTH AFRICA.....46

5.1	Introduction.....	46
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5.2	Policies, standards and documents.....	47
5.2.1	The Constitution of South Africa, Act 108 of 1996.....	47
5.2.2	The Promotion of Access to Information Act (PAIA), Act 2 of 2000.....	47
5.2.3	The Electronic Communications Transaction Act, Act 25 of 2002..	48
5.2.4	The Public Service IT Policy Framework (DPSA, 2001).....	49
5.2.5	The Electronic Communications Act, Act 36 of 2005.....	49
5.2.6	The Public Service Act, Act 103 of 1994.....	50
5.2.7	Minimum Information Security Standards (MISS).....	51
5.2.8	Minimum Interoperability Standards (MIOS).....	52
5.2.9	The Batho Pele principles.....	53
5.2.10	Free and Open Source Software use for the South African Government.....	54
5.2.11	The Presidential Review Commission (PRC) Report (1998).....	55
5.3	Summary.....	55

CHAPTER 6: CASE STUDY: THE PGWC AND THE APPLICATION OF e-GOVERNMENT.....57

6.1	Introduction.....	57
6.2	A historical overview of the Provincial Government Western Cape (PGWC).....	57
6.3	The creation of a knowledge society.....	58
6.3.1	The knowledge society.....	58
6.3.2	e-Commerce.....	59
6.3.3	Transformation of the PGWC.....	61
6.3.3.1	The CE-Is e-Government programme goals	61
6.4	The PGWC e-Government readiness.....	63
6.4.1	ICT strategy and infrastructure.....	64
6.4.2	The internet population.....	65
6.4.3	The ICT sector with high potential for growth.....	65

6.4.4	Environment conducive to government facilitation and intervention.....	66
6.5	The Cape Online Strategy.....	68
6.5.1	The strategic developmental process.....	68
6.5.2	The vision and mission	69
6.6	The Cape Online Programme.....	69
6.6.1	Facets of the Cape Online Programme.....	70
6.7	Core projects.....	71
6.7.1	Cape Gateway.....	72
6.7.2	Cape View.....	72
6.7.3	Cape Change.....	72
6.7.4	Cape Net.....	73
6.7.5	Cape Procure.....	74
6.8	Online communities.....	74
6.9	Summary.....	74
CHAPTER 7: RESEARCH FINDINGS.....		76
7.1	Introduction.....	76
7.2	Evaluating the PGWC and the Australian Application of e-Government....	76
7.2.1	Transformation.....	76
7.2.2	Literacy levels.....	78
7.2.3	ICT skills levels.....	79
7.2.4	ICT infrastructure.....	80
7.2.5	Internet access.....	81
7.2.6	Internet population.....	82
7.2.7	Investment in ICT.....	84
7.2.8	Political support.....	85
7.2.9	Open source software (OSS).....	86
7.2.10	e-Government readiness.....	87
7.3	Summary.....	88

CHAPTER 8: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.....	90
8.1 Summary of study.....	90
8.1.1 Introduction.....	90
8.1.2 The theoretical framework on e-Government.....	90
8.1.3 The Australian e-Government policy.....	91
8.1.4 The South African e-Government policy and digital divide.....	91
8.1.5 The legislative framework for the introduction of e-Government in South Africa.....	92
8.1.6 Case study: The PGWC and the application of e-Government.....	92
8.2 Conclusions to the study.....	92
8.3 Recommendations.....	94
References.....	97

LIST OF TABLES

Table 3.4: e-Readiness table of the Oceanic countries as per UN e-Government survey 2008.....	25
Table 6.3.1: The transition from the Industrialised Society to the Knowledge Society.....	59
Table 6.4.4: The CID Readiness Guide stages of e-Government advancement...	67

LIST OF FIGURES

Figure 2.3.1: World Internet Users and Population Stats.....	13
Figure 6.6.1: Facets of the Cape Online Programme.....	71
Figure 6.7.4: The proposed logical architecture.....	73

LIST OF ACRONYMS AND ABBREVIATIONS

ACS – Australian Computer Society
 APS – Australian Public Service
 APSC – Australian Public Service Commission
 ATM – Automatic Teller Machine

ADSL – Asymmetric Digital Subscriber Line
AGIMO – Australian Government Information Management Office
CEI – Center for e-Innovation
CEO – Chief Executive Officer
CITI - Cape Information Technology Initiative
CPU – Central Processing Unit
DESA – Department of Economic and Social Affairs (DESA) (United Nations)
DPSA – Department of Public Service and Administration
e-Gov – Electronic Government
ECT – Electronic Communications and Transactions Bill
Email – Electronic mail
GDP – Gross Domestic Product
GITO – Government Information Technology Office
GITOC – Government Information Technology Officers Council
HR – Human Resource
HRM – Human Resource Management
ICT – Information and Communication Technology
IDP – Individual Development Plan
IEC – Independent Electoral Commission
IPDP – Individual Performance and Development Plan
ISDN – Integrated Services Digital Network
ITU – International Telecommunications Union
LAN – Local Area Networks
LDC – Less Developed Countries
NEPAD – New Partnership for Africa’s Development
NACI – National Advisory Council on Innovation
NGO – Non-Governmental Organisation
NOIE - National Office for the Information Economy
OECD – Organisation of Economic Co-operation and Development
OSS – Open Source Software
Performance Appraisal – Process of evaluating people’s duties

PERSAL – Personnel and Salary Administration System
PC – Personal Computer
PRC – Presidential Review Commission
PSI – Public Sector Information
PSR – Public Service Regulations
PT – Provincial Treasury
RSA – Republic of South Africa
SA – South Africa
SABC – South African Broadcasting Cooperation
SADC – South African Development Council
SARS – South African Revenue Services
SMME – Small and Medium Enterprises
SITA – State Information Technology Agency
UK – United Kingdom
UN – United Nations
UNDP - United Nations Development Network
UNPAN - United Nations Public Administration Network
USA – United States of America
PGWC – Provincial Government Western Cape
WAN – Wide Area Networks
WEF – World Economic Forum
WWW – World Wide Web
WITFOR – World Information Technology Forum

GLOSSARY

Digit – Number

Employee – Any person employed in terms of the Public Services Act, 1994

Performance Appraisal – Process of evaluating people's duties

egov4dev – e-Government for Development

CHAPTER 1

INTRODUCTION AND STATEMENT OF THE PROBLEM

1.1 Introduction

With South Africa (SA) having entered the 15th year of democracy, South Africans celebrate the successes and accomplishments achieved and investigate the failures and losses that were suffered in the quest to lay the foundation for freedom and democracy, for which millions of South Africans have fought. While the South African nation is coming to grips with the changing world, the government is continuously giving consideration to information and communication technology (ICT) as an important part of the transformation process.

The democratically elected government is ready now to redress the legacies of the past with a new, all-inclusive approach towards the citizens of the country. The South African government utilises ICTs in all three tiers of government to improve service delivery. The ICT sector is an important partner in the South African and the global economic society, and South Africa has a fairly well developed technological and communications infrastructure, compared to other less developed countries (LDCs) around the world.

While the e-Government status of specific individual projects within the PGWC has been evaluated by various authors, organisations and institutions, not much has been done to evaluate the e-Government policy of the PGWC against the e-Government policies of other provincial and national departments, or any international government. The PGWC cannot determine the performance of its e-Government by only focusing on itself. It was therefore seen as necessary to undertake an investigation such as the present study to compare the e-Government policy of the PGWC with e-Government policies of other well developed governments.

Msimang (as cited in ITWEB Informatica, 2006:3) has stated that many South African cities, provinces and national departments are among the leading departments in this country as far as harnessing the power of technology to redress the wrongs of the past and improve accessibility and service delivery are concerned. The Tshwane and Ethekewini Municipalities, the City of Cape Town, the South African Revenue Services (SARS) and many other government entities are frontrunners when it comes to usage of open source software. Under the new economic and political dispensation, the middle-class income group in the country is rapidly expanding year by year, but the ever-widening disparity of income between the rich and the poor, because of the historically unequal distribution of wealth and income to the people remains a great concern.

As one of the leading nations in Africa, South Africa is at the forefront when it comes to the usage and development of electronic ICT. However, apart from South Africa and a few other countries on the continent, the usage of technology is limited to certain sectors of government or is non-existent. Governments either do not have the necessary capacity or are economically and financially too poor to obtain information and communication technology at affordable costs.

Former State President Nelson Mandela emphasised the need for socio-economic development in the information and communication technologies sector during the International Telecommunications Union (ITU) conference in 1995 (Van Audenhove as cited by the HSRC, 2003:3). Mr Mandela also warned against the dangers of the 'digital divide', referring to the gap between those with and those without access to the contemporary information society.

Government has realised that technology can be used to bridge the gap between rulers and constituencies; bring information and services to people; and improve the way in which they operate, to the benefit of all (Msimang as cited in ITWEB Informatica, 2006:3). The South African government is proactively embarking on a process of utilising ICT to reach out to the citizens of the country in adhering to the

principles as set out in the South African Constitution, Act 108 of 1996 regarding the provision of public sector information to citizens. The government utilises technology on a 24-hour basis to assist departments to communicate with individuals or to support the corporate sector through electronic devices like desktop computers, telephones, mobile phones, kiosks and automatic teller machines (ATMs).

Prins (as cited in Aichholzer & Burkert, 2004:52) have stated that allowing citizens and businesses to have access to public information ensures participation in the democratic processes of a country. This right to have access to public sector information is a fundamental right and is essential for any democratic society functioning in an information age.

The application of the electronic government approach by government not only allows government to communicate electronically with the citizens of the country, but also encourages people who are not computer literate to become skilled and develop themselves by becoming equipped with the necessary ICTs. Government has an enormous task on its hands and aspires to develop ICT effectively to ensure that the level of service delivery is improved in all spheres of government. Government is therefore contributing to bridging the digital divide, as well as to improving service delivery by the government to the people.

1.2 Rationale for the study

Many countries around the world have introduced and implemented the e-Government approach. It is a way for government to inform citizens of government activities and to improve the delivery of services. Most countries consider e-Government to be part of a democratically elected governance system in aid of the citizens of the country.

This study was aimed at evaluating the e-Government policy of the Provincial Government Western Cape, describing its origin, purpose and development. The PGWC, as a provincial government within the national government, is playing a significant role in the introduction and application of e-Government in the Western Cape. The study also aimed to show how the e-Government policy of the PGWC compares with the e-Government policies of other countries that have taken the lead in e-Government, and in particular the e-Government policy of Australia. South Africa and Australia have a parallel history of exploration, colonial conquests, settlements and nation building.

1.3 Research problem and objectives

The primary objective of the research was to describe how the PGWC is using electronic government or e-Government, as a new means of communication, but also as a way of transforming and improving management processes and outcomes. The secondary objective of the research was to evaluate the e-Government policy of the PGWC against the e-Government policy of the Australian government. The aim of the research was to establish to what extent or degree the e-Government policy of the PGWC is different or similar to that of the Australian government. This evaluation of the e-Government policies of the PGWC and Australia against each other was undertaken because the Australian e-Government policy is very advanced and is highly regarded by the United Nations. The expectation was that South African government, and particularly the PGWC, with its own e-Government processes could learn a great deal from the Australian e-Government policy.

1.4 Research design and methodology

The research design comprised a literature review consisting of examining various texts, including a study of relevant books, journals, legislation and publications, to provide a clear understanding of the existing lines of thought of various individuals,

groups and institutions on the subject of e-Government, as well as the concept of 'bridging the digital divide'.

The study followed a descriptive approach and used the PGWC as a case study for the research. The analysis in essence took the form of a non-empirical study, as it was based on the ideas and writings of various authors and sources.

1.5 Outline of chapters

The following chapter outlines serve as a guide to the content of the different chapters in the thesis.

Chapter 1: Introduction and statement of the problem

In this chapter the introduction and the statement of the problem is presented. The rationale for the research is discussed briefly. The research methodology explaining the research design for the subject of electronic government is also stated.

Chapter 2: The theoretical framework for e-Government

This chapter provides a theoretical perspective on e-Government. The concept of the 'digital divide' and its relation to globalisation are also interpreted and explained by referring to a number of world-renowned researchers, academics and authors in the related field of study.

Chapter 3: The Australian e-Government policy

In this chapter, a theoretical perspective of the e-Government policy of Australia is provided. A historical background to the Australian e-Government approach including a description of where the approach towards e-Government originated, is also provided.

Chapter 4: The South African e-Government policy and the digital divide

This chapter presents the theoretical perspective of the e-Government policy of the South African government, the stakeholders involved and the benefits of e-Government. The views of various scholars who are experts in their field are presented with regard to the 'digital divide', which is extremely predominant in the South African society, as it is in many other developing countries.

Chapter 5: The legislative framework for the introduction of e-Government in South Africa

The chapter provides an overview of the legislative framework that is in place for the introduction and implementation of the e-Government policy in South Africa. The relevant legislation and regulations to ensure that there are no barriers or obstructions to providing e-Government services are discussed.

Chapter 6: Case study: The PGWC and the application of e-Government

In this chapter, the theoretical perspectives of the e-Government approach of the South African government are explained. A brief historical background to the e-Government approach in South Africa is also provided. The e-Government process and the major stakeholders within the information technology sector in government are identified, with a brief description of their functions with regard to the implementation of the e-Government IT policy and the provision of ICT and other related tools for improving service delivery.

Chapter 7: Research findings

The differences and similarities in the e-Government policies of the PGWC and those of the Australian government are examined in this chapter. These e-Government policies are evaluated against the views and writings of local and international experts and institutions in the field of e-Government.

Chapter 8: Summary, conclusions and recommendations

Chapter 8 describes the findings of the research study which was undertaken to determine various differences and similarities found in the e-Government policies of the PGWC and the Australian government. A brief description of the differences and similarities are provided.

1.6 Summary

This chapter primarily provides an introduction to the research topic and the statement of the problem. It also discusses how South Africa is affected by changes around the world and the need for an e-Government approach by government. The rationale for the research study in e-Government is briefly discussed. The research methodology for conducting the research is stated in explaining the research design for the subject of electronic government.

The next chapter, Chapter 2, explains the theoretical framework within which the research was conducted. Definitions of e-Government by various scholars and experts are presented and the concept of the 'digital divide' is explained.

CHAPTER 2

THE THEORETICAL FRAMEWORK FOR e-GOVERNMENT

2.1 Introduction

This chapter provides a theoretical perspective on e-Government as defined and explained from the point of view of various scholars around the world who are experts in the field of electronic government. With the internet having paved the way for the process of e-Government, the 'digital divide'-concept and its relation to globalisation are also interpreted and explained by referring to various world-renowned researchers, academics and authors in the related field of study.

2.2 e-Governments globally

Generally, the status of the e-Government approach as introduced and applied in various government systems around the world can be distinguished either as at a very advanced stage in well-developed or First World countries or as under-developed or non-existent in LDCs or Third World countries. By defining the term 'e-Government' a wider understanding is gained of the extent to which the ordinary citizen in the street can benefit from this.

2.2.1 Defining e-Government

Different authors and academics have defined the term 'e-Government' in particular ways. Heeks (2008) defines it as the use of ICTs to improve the activities of public sector organisations. He believes that the definition of e-Government must not be restricted to internet-based applications or to interactions between government and outside groups only, but that the definition should also include all digital ICTs.

Haricharan (2003) states that governments all over the world are embracing e-Government. In every part of the globe, from developing countries to industrialised countries, local and national governments are putting critical information online, automating previously cumbersome processes and interacting electronically with their citizens.

e-Government services are a reality for citizens in countries like China, Brazil, Mexico and Singapore and in highly industrialised countries such as the United Kingdom, Canada, Australia and the United States of America (USA) (Haricharan, 2003), while Volman (as cited in Aichholzer and Burkert, 2004:100-102) believes it is fully concerned with improving government services effectively and efficiently. E-Government is focused on utilising the tools of the information society well enough to enable public services to be made faster, more available and more responsive through electronic interaction.

Katzen (as cited in Gibson, Römmele & Ward, 2004) describes e-Government as the accessibility to government information and services on a 24-hour-a-day, 7-days-a-week basis by the citizens of the country. Khosrow-Pour (2005:vi-23) sees the e-Government concept as a new process with unlimited potential in the rapidly expanding global environment, but which can provide online access to information, communications, services and participation to the citizens of the country.

The World Bank Group (2009) states that e-Government is the use of “agencies of information technologies” like wide area networks (WAN) and the internet that are able to transform the relations with citizens, businesses and other sectors of government. The German government aims to have citizens participate in the activities of government (Khosrow-Pour, 2005:22).

The State Information Technology Agency (SITA) has indicated that “e-Government seeks to render services utilizing technology as an enabler through partnerships with stakeholders” (SITA, 2002:9) and the New-Zealand government states that the benefits of e-Government include:

- The easy participation of the citizens in government;
- Improved service delivery from government to the citizens;
- Increased integrated services between different government departments due to effective communication strategies between each other; and
- Better informed citizens because of up-to-date and comprehensive information about government legislation, policies as well as services (Khosrow-Pour, 2005:23).

2.2.2 The development of e-Government globally

E-Government has developed and expanded so rapidly that international organisations and agencies like the United Nations and the European Union are monitoring, evaluating and reviewing the status and development of e-Government across the world on a regular basis.

A United Nations (UN) survey was conducted amongst 192 member countries to determine the e-Readiness status of governments to introduce and apply the e-Government approach successfully. The UN member countries were evaluated on the application of ICT by governments in the European, Asian, Oceanic, American and African regions. According to the results of the UN survey, Sweden is considered the leading nation in e-Government readiness and is now ranked above the USA, the former leading e-Government readiness country. The Scandinavian countries – Sweden together with Denmark and Norway – are the top three countries, with the USA in fourth position (UNPAN, 2008:12-20).

According to the UN e-Government Survey 2008 (UNPAN, 2008:19), the governments of seven of the top ten countries have invested heavily into deploying broadband infrastructure and increased e-Government applications for their citizens. The only countries in the top ten that are not in Europe are Australia, Canada, the Republic of Korea and the USA (UNPAN, 2008:19).

The Department for International Development in the United Kingdom (UK) also contributes towards the development of e-Government around the world. This department initiated an online resource material and electronic discussion forum which aims to build and exchange knowledge for e-Government practitioners in developing and transitional countries. The forum addresses various topics including:

- e-Government successes and failures;
- ICTs for government transparency;
- Public Health Information Systems;
- m-Government; and
- Building e-Government websites (Heeks, 2008).

The World Bank introduced an e-Government development initiative in response to the need of its client countries that have been adopting transformational principles of e-Government as a conceptual and technical framework for governance and public management reforms. This initiative termed “e-Government practice @ the World Bank’s information solutions group” stems from the recognition that fundamental technology changes have occurred with decisive impact on all forms of institutional work and that the new technologies are not only entirely compatible with, but can magnify the gains from governance and public management reform efforts. The World Bank wants to use this programme to support the application of e-Government across the operational portfolio of the bank through technical assistance, lending and sharing of best practice knowledge (The World Bank Group, 2009).

Recent engagements of the World Bank's e-Government Practice group include the e-Sri Lanka Development Project, e-Rwanda Project and the e-Bharat Project in support of the National e-Governance Action Plan of India (The World Bank Group, 2009).

2.3 The internet and the impact of globalisation

Singh and Sahu (2007) state that, as the internet is the fastest growing communications medium in history, it has become the most important tool for delivery of e-Government. Governments are trying to popularise the use of the internet by offering various subsidies, providing incentives and by installing public internet kiosks in public places like libraries and shopping malls.

With integrated information systems, products and services worldwide are now increasingly becoming available to the smallest of enterprises and the remotest of regions. While it took 75 years for the telephone to reach 50 million users after it was invented, it has taken the World Wide Web (WWW) only four years to reach the same number of users. IT advances are changing the way the world interacts (UN, 2005a:1). The internet can simplify communication, thereby facilitating important and broad changes in electronic communication (Blank, as cited in Garson, 2000:37).

The internet forms a global network not centrally controlled by anyone and with intrinsically empowering characteristics – costless, space-less, and timeless. The technologically advanced benefits of the internet, such as allowing electronic messages to be received from and sent to other people at home, or viewing news updates at work or at home, prompted the increasing and enthusiastic usage of internet technology to communicate and co-ordinate activities of political parties and pressure groups in representative democracies (Gibson *et al.*, 2004:1).

The World Internet Users and Population Stats (2007) states that the powerful potential brought about by the utilisation of the internet and the World Wide Web has opened up the world with the push of a button. While the internet is still feared by some due to their own lack of understanding of the internet and the WWW in the early stages of their contact with this, it has grown so fast that it has transformed the information society as South Africans know it. Figure 2.1, below, shows the number of internet users in the world as standing at 1,244,449,601 as of 30 September 2007.

INTERNET USAGE STATISTICS

The Internet Big Picture

World Internet Users and Population Stats

Internet Usage by World Region

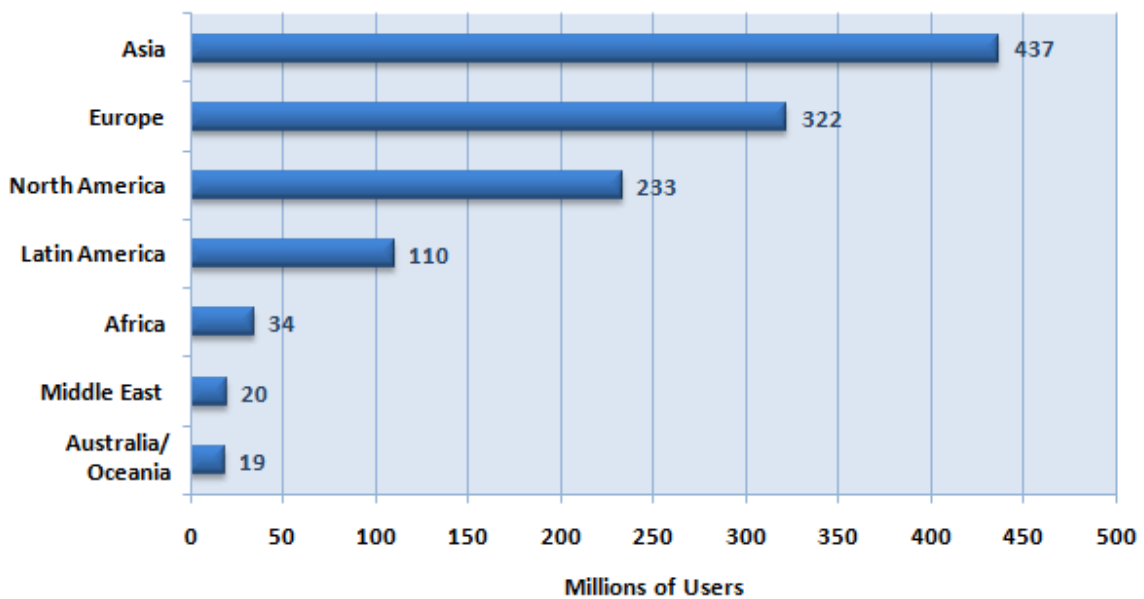


Figure 2.3.1: World Internet Users and Population Stats (Internet World Stats:2007)

Feenberg and Barney (2004:183) suggest, however, that the internet as a powerful source of information negatively affects the impact of direct contact relationships, threatens traditionalism and continues to extend the views and structures of Western imperialism to all the corners of the world. The relatively easy availability of the internet allows governments to communicate their message by electronic means, whilst the need for information allows citizens, where this is available, to access the internet and to obtain the necessary or available information.

2.4 Globalisation

Globalisation has led to a world of shrinking time, shrinking space and the erosion of borders. The phenomenon of globalisation is exacerbating human insecurity in both the rich and the poor countries. Kennett (2004:50-57) stresses that, because of the complexity and contradictory nature of the global processes, the information age has opened up opportunities for certain countries and the people in such countries while other countries have been marginalised and excluded from this process. The information age was mainly brought about by globalisation and every country deals with globalisation in its own way.

The term 'globalisation', according to the African Development Forum (1999:2-3) has become one of the most contested of recent times. Globalisation has different meanings for different people. Many people see it as a synonym for 'Americanisation'. Globalisation can be seen as the increasing interconnectedness of people and places as a result of advances in communication and information technologies that cause political, economic, and cultural convergence.

Globalisation, according to Steiner and Steiner, concerns the situation created when various inter-dependent networks including economic, political, social, military, scientific or environmental networks, develop in such a way that worldwide distances are covered. Multinational corporations, which are rapidly growing larger across the world in their assets and operations, are the main forces of globalisation (Steiner & Steiner, 2003:31).

Okot-uma (as cited in Murelli, 2002:ix-xi) is of the opinion that the main reasons for the lack of preparedness to meet the challenges of the advancement of ICT include:

- The lack of full appreciation for ICT;
- Deficiencies in the physical infrastructure, hardware and software;
- The shortage of the necessary skills and capacity; and
- Deficiencies pertaining to formulation and implementation of policy frameworks for the new ICTs.

Global tendencies have a significant impact on public management practices and outcomes and inter alia include the increasing numbers in population; the increasing diversity in culture; the increase in social mobility; globalisation; the increase in systemic complexity; decreasing political instability; increases in information needs; and an increase in technological development (Cloete, 2003:25-26).

2.5 The digital divide

Compaine (as cited in Tavani, 2007:296) defines the digital divide as the perceived gap between those who have access to information tools and those who do not have such access, as well as between those who have the ability to use the tools and those who do not have the ability to use these tools. Accessibility to technology is not sufficient, as people require the knowledge and ability to use the technology (Tavani, 2007:296).

According to Msimang (2004:41), the digital divide refers to the gap that exists in opportunities available to those with limited access to technology. Msimang says that the digital divide is the divide between technology 'haves' and technology 'have-nots'. Bradley (2006:84) defines that the phrase 'digital divide' as a descriptive and analytical term that represents an important problem in society which requires urgent action today. The 'digital divide-theme' is the theme that is debated and discussed on various conferences and seminars across the world.

The dramatic advances of ICT have significantly contributed to globalisation, as information is available at any time on any day in any part of the world. Okot-Uma (Murelli, 2002:ix-xi) sees the 'digital divide' as a fundamental phenomenon which relates to a lack of preparedness for information and communication technologies of mainly developing countries due to a combination of operational, contextual and strategic problems.

The digital divide is understood to be a multidimensional phenomenon, which encompasses three distinct aspects:

- The *global divide*, which refers to divergence of internet access between industrialised and developing societies;
- The *social divide*, which refers to the gap between the information rich and poor in each nation; and
- The *democratic divide* existing within the online community, which refers to the difference between those who make full use of, and those who do not fully make use of digital resources to engage, mobilise and participate in public life (Norris, 2001:1).

Hanappi-Egger (as cited in Aichholzer & Burkert, 2004:238) suggests that accessibility to ICT largely depends on the willingness and the ability of public institutions to put the relevant information on the internet so that people who are interested can access such information. Hanappi-Egger also suggests that, even though internet users across the world are growing in numbers, there still are

certain sectors of society, like women, older people and even young, underprivileged people, who are unable to utilise the internet. It is suggested that the reason for the inaccessibility to the internet of these groups is due to lack of technical equipment or a lack of qualification.

The United Nations' ICT task force was established in 2001 to provide a platform for encouraging dialogue and partnerships between public, private, civil society, and non-profit and multilateral stakeholders in order to find ways of bridging the digital divide (UN, 2009). The process of addressing phenomena of the 'digital divide' must be facilitated by way of policies and action strategies globally and the public should be given easier access to information and have better and more efficient electronic service (Bradley, 2006:197-230).

Giri (2002:13), of the International Center for Applied Science in Information Technology at the George Mason University, has formulated a strategic model that can reverse the widening gap of the digital divide. This strategic model is based on reviews and observations from several literature studies, recent approaches at national and international level, news, and research findings.

The UN suggests that access to ICT needs to be arranged by the national governments, the private sector and the civil society of a country, as well as by international organisations and the donor community, to formulate new initiatives for ICT-led development. It should be a primary objective that all citizens of a state have equal access to opportunities. New developments are to employ ICT applications across the board for promoting access and inclusion (UN, 2005a:4).

According to Bradley (2006:90), ICT should facilitate access to information for all. ICT should also play a role in supporting individual learning and be used in contributing to a 'digital unit' rather than contributing to a digital divide, which exist both within and among all contemporary societies (Kennett, 2004:400).

2.6 Summary

From this chapter it is clear that e-Government has been adopted and implemented by various countries around the world to improve government services to citizens and enable citizens to participate in government activities, as well as for informing citizens about government legislation and other matters.

A discussion on e-Government cannot be considered complete without referring to the internet as a main component of e-Government. Globalisation as defined by a number of authors is also discussed in the chapter. Globalisation is also defined by various authors. The technologically advanced benefits of the internet have allowed user totals to increase considerably, thereby opening the doors of the world to everyone utilising it.

As the progress and status of e-Government countries are reviewed and monitored by international bodies, the e-Government approach of certain governments was explored in the light of rapid advancement in the field of e-Government.

In the current chapter the digital divide is also defined from the point of view of various scholars concerned with bridging this divide, which has been exacerbated by the phenomenon of globalisation. Suggestions as to how ICT could be effectively applied towards closing the digital divide have also been provided.

The next chapter provides a theoretical perspective on e-Government by the Australian Government as Australia is one of the countries in the world where e-Government is advancing most rapidly.

CHAPTER 3

THE AUSTRALIAN e-GOVERNMENT POLICY

3.1 Introduction

This chapter provides a theoretical perspective on the e-Government policy of Australia. A historical background is provided which describes where the approach towards e-Government originated.

The federal government of Australia is based on six states which were colonised by the British Empire in the 19th century. The federal government administers matters which bear interest on a national level, such as defence and international affairs, communications, transport, shipping and economic wellbeing in general. The states have residual authority to administer and maintain police services and public transport, as well as the educational and health needs of the citizens (Ellis, 2005:1).

In recent decades, Australia has transformed itself into an internationally competitive, advanced market economy. It boasted one of the Organisation of Economic Co-operation and Developments' (OECD) fastest growing economies during the 1990s, a performance due in large part to economic reforms adopted in the 1980s (The World Factbook, 2008).

3.2 Economic Review

The World Factbook entry on Australia states that:

Australia has an enviable, strong economy with a per capita gross domestic product (GDP) on par with the four dominant West European economies. Robust business and consumer confidence and high export prices for raw materials and agricultural products are fuelling the economy, particularly in

mining states. Australia's emphasis on reforms, low inflation, a housing market boom, and growing ties with China have been key factors behind the economy's 16 solid years of expansion. Drought, robust import demand, and a strong currency have pushed the trade deficit up in recent years, while infrastructure bottlenecks and a tight labor market are constraining growth in export volumes and stoking inflation. Australia's budget has been in surplus since 2002 due to strong revenue growth (The World Factbook, 2008).

Australia has an estimated labour force of 10,95 million (2007) workers, which is made up out of the agriculture, industry and the services sectors, with an unemployment rate estimated to be only 4,4% in 2007 (The World Factbook, 2008). The literacy level in Australia, which is determined by citizens of the age of 15 years and older who can read or write, was made up of 99% of the total population, with male and female literacy levels estimated to be equal at 99% (The World Factbook, 2008).

3.3 The Australian e-Government policy

The initial broad agenda of Australian e-Government policy, Better Services Better Government, was established in 2002 to chart the move towards a more comprehensive and integrated use of new technologies for government information, service delivery and administration (Australian Government Information Management Office (AGIMO), 2006:8). Most Australian Government departments in the 1990s had formal policies in place to promote the creation of online information services within the various agencies. Government websites these days are more vigorous and offer updated and configured forms of information obtained from various sources of information, as well as integrated services for citizens to perform transactions with government (Ellis, 2005:1-2).

The first phase of Government Online strategy was to move the current sources of information online. The e-Government stage was designed to bring about benefits for Australians from improved accessibility at any time of the day, to improved transparency in government. The Australian government envisaged an e-Government approach that integrates and coordinates information and services to all service outlets efficiently (NOIE, 2002:IV - 4).

Competitiveness and acceleration of economic reform was introduced as far back as the 1990s with innovativeness and competence as the main drivers to make Australia's economy more competitive. Successful e-Government is at most 20% technology and at least 80% about people, processes and organisations (infoDev, 2008). It is in view of its successfully implemented transformational processes that Australia is regarded as one of the leading e-Government nations of the world (infoDev, 2008).

The continued restructuring in almost all sectors of government led to the Australian government in 1997 suggesting that all appropriate services of departments and agencies must be made available through the internet by 2001. Using technology in conjunction with self-help facilities has extended the reach of services in remote areas by providing access points through agents as well as electronically. It is now possible, for example, for anyone with internet access to apply for jobs electronically (APSC, 2003b).

The Australian government in 2006 further expanded the e-Government policy to meet four priorities: meeting user's needs; establishing connected service delivery; achieving value for money; and enhancing public sector capability. The new e-Government policy is regarded as evolutionary rather than revolutionary, as it builds on Australia's existing e-Government strategies and frameworks (AGIMO, 2006:14).

The vision of the Australian government, as set out in the 2006 e-Government policy document, was to maintain its position as a leader in e-Government, demonstrating how effective use of technology transforms government into a more efficient and client-oriented sector of the economy. The Australian government committed itself to the effective use of technology to ensure the improvement of its structures and processes. Online, electronic and voice-based services were to become fully integrated into government service delivery. Electronic delivery was planned to underpin all other delivery channels, ensuring a consistent base to all activities and providing consistent service, no matter how government was approached (AGIMO, 2006:8). The Australian e-Government policy encompassed six main aims.

- ***Achieving better efficiency and a profit on capital invested***

Investment in developing an effective e-Government was seen as very important. Government improved development policies, operations, delivery of services and accessibility. This effectively meant changing conventional procedures, harmonising technological improvements to the new changes and administering assignments to ensure a profit on capital investment (NOIE, 2002:5-10).

- ***Guaranteed suitable accessibility to government services and information***

Users preferred e-Government to allow citizens and business to transact with government on various matters, at any time, without any pre-conditions. Government services were to be more accessible and more convenient to people who live in rural areas as well as those who have difficulty in gaining access to government buildings during office hours. The four main means to access government services and information are electronically online were to be visiting government offices; via telephonic correspondence; and via mail (NOIE, 2002:5-10).

- ***Providing services which meet the clients' needs***

In the new age of e-Government, results for the citizens, businesses and government alone became the force behind it. Managing information effectively and improving the business procedures would be the way of government to ensure the needs and demands of citizens were met. An individual would be able to access government information and services via a distinct point of entry. With e-Government individuals and the corporate sector could facilitate work with government effectively and efficiently as well as make available more integrated services (NOIE, 2002:5-10).

- ***Integrate related services***

It is normal for an individual or business to perform various distinct government transactions to accomplish a single result. e-Government would develop innovative, universal infrastructures transversely in all government departments so that similar services could be grouped together and be presented as one service at the delivery point, even when other departments were operating in the background. e-Government aimed to improve integration of associated services, policies and programmes. A detailed assessment of ordinary customer needs and the advantages for citizens and government itself were determined (NOIE, 2002:5-10).

- ***Build user trust and confidence***

An ever increasing number of government services could be offered and utilised online. The advantage of transacting business online was increasing the demand for similar services. Reliance and assurance had to be the foundation when transacting business online. Much emphasis was placed on privacy, security and authentication with the movement of government services online (NOIE, 2002:5-10).

- ***Develop closer citizen deliberation***

The internet could be utilised to improve transparency of deliberative government procedures and to engage more widely with the public by offering information on policies, responses and discussions online. People would subsequently expect an improved standard of deliberation with government. Government could benefit tremendously by the opportunity provided through online services by improving their target groups when engaging with society, and when discussing new policies (NOIE, 2002:5-10).

3.4 The Australian e-Government readiness (e-Readiness)

The United Nations (UN) in 2008 placed the Australian government in the eighth position on the list of 192 member states during a survey of e-Government readiness. The survey represented a comparative assessment of the UN member States' response to the demands of citizens and businesses for quality government services and products. The UN report found that, while certain governments were moving towards e-Government development, only a few had invested in the move from applications for specific initiatives to an overall integrated connected governance program (UNPAN, 2008:20).

The UNPAN report (2008:9) also found that Australia's efforts in reducing the government's administrative burden and improving efficiency was commendable, hence the high UNPAN e-Readiness ranking (2008:41). Table 3.1, below, shows the Oceanic countries' e-Government readiness rankings.

Table 3.4: e-Readiness table of the Oceanic countries as per the UN e-Government survey 2008

Country	2008 Ranking	2005 Ranking
Australia	8	6
New Zealand	18	13
Fiji	105	81
Tonga	112	104
Samoa	115	91
Solomon Islands	147	140
Vanuatu	154	165
Papua New Guinea	166	142
Kiribati	-	-
Marshall Islands	-	177
Micronesia (Federated States of)	-	176
Nauru	-	179
Palau	-	175
Tuvalu	-	178

Source: UNPAN, 2008:41

3.5 The Australian government information management office (AGIMO)

The Australian government information management office (AGIMO) is part of the Department of Finance and Administration. AGIMO provides ICT strategy, standards, and technical architecture within the Australian government and in consultation with other governments. In some cases the strategies prepared by AGIMO are adopted as mandatory government policy, but AGIMO mostly relies on consultation and persuasion.

Since its move to the finance portfolio in 2004, AGIMO is also able to use central purchasing procedures and input to the budget to influence agency actions. AGIMO produces a series of guides to encourage online service delivery across the public sector (Worthington, 2006:2).

3.5.1 The Australian ICT infrastructure

It emerged during a UN survey conducted amongst the member countries of the UN in 2008, that the ICT strategy and infrastructure of Australia are well implemented and developed in all the structures of government. AGIMO, by which the e-Government policy and strategy in Australia is regulated, fights for the integrated use of ICTs in government and the Department of Finance and Deregulation, through AGIMO, facilitates access to cost-effective ICT infrastructure for government agencies (AGIMO, 2008). According to the Australian Trade Commission of (2009:1), the extensive and advanced Australian telecommunications infrastructure is well placed to meet the needs of modern businesses. The liberalisation of the industry in 1997 brought in competition, extensive investment in new technology infrastructure and enhanced services. Healthy competition, in turn, has lowered prices for long-distance and international calls, mobile services and broadband internet access. Australia has the fifth largest ICT market in the Asia Pacific region and the fourteenth largest in the world. The country, furthermore, is well connected internationally by means of fibre-optic cables and satellites, with high potential transmission capacity provided by multiple access points to the national and international network. Domestically, Australia benefits from a modern optical fibre backbone, an extensive mobile network and complete satellite coverage.

3.5.2 ICT infrastructure initiatives

ICT infrastructure initiatives by AGIMO include business continuity and open source software; Fedlink; the intra-government communications network (ICON); the Australian government domain administration and an agency website search service.

Business continuity and open source software

The online business continuity project will develop a complete government-business continuity framework for the continued delivery of government services in the event of a disruption and/or failure of government-operated ICT (AGIMO, 2008). Open source software refers to software with a freely available source code, and which may be used, copied, extended, and redistributed with or without modifications, and may be offered either with or without a fee. A number of Australian government agencies already use open source software across a range of operations (AGIMO, 2008).

FedLink

FedLink is an innovative and cost-effective, fully meshed, virtual private network (VPN) which allows Australian government departments and agencies to transmit and receive information securely to protected levels using the internet, and the national restricted security classification. FedLink uses existing agency internet gateways and the connectivity provided by the internet to create a secure government intranet (AGIMO, 2008).

Intra government communications network (ICON)

ICON is a communications system that provides dedicated point-to-point links for Australian government agencies in Canberra. Internet protocol version 6 (IPv6) has been developed to increase the size of the available IP address space. It has several benefits, including increased end-to-end security of systems and automated address allocation for internet-connected devices (AGIMO, 2008).

Australian Government Domain Administration

AGIMO, in consultation with state and territory governments, administers the second-level domain gov.au. AGIMO has also been delegated the responsibility of approving gov.au domain names (AGIMO, 2008).

Agency Website Search Service

The agency search service allows Australian government agencies to leverage the australia.gov.au government search service to provide a high-quality internet search across government websites (AGIMO, 2008). Alston, in NACI (2002), says that ICT and the internet are the catalysts for transforming the procedures of governments, businesses and households.

3.6 ICT skills

ICT skills in government

The Australian government needed to expand the skills base of its general managers, mostly. The duty to promote the online programme involves more than just ICT managers – general managers in government must be empowered with the knowledge and skills that might be required to comprehend the use of the internet (Worthington, 2006:4). The total number of ICT workers during the month of February in 2009 in Australia, according to the Australian Computer Society (ACS) was 532 500, which shows a slowing but steadily growing trend with apparent shortages of ICT workers (Australian Computer Society, 2009:6).

ICT skills challenges

The Australian Public Service Commission (APSC) has proposed that the ICT skills shortage in the APS should be addressed. The APS has the responsibility to manage and sustain the APS workforce. In addressing the ICT skills problems, every APS agency was expected to implement the following series of tactical responses:

- A systematic workforce planning to identify emerging issues and challenges in relation to recruitment, development, advancement and succession of their employees;
- An effective process for attracting and recruiting new staff, including both new entrants to the labour force and experienced employees from other sectors;

- Smarter approaches to attract graduate recruitment and development, such as using the flexibilities available by entering into agreements;
- Learn and develop opportunities to ensure new employees have the required skills and capabilities;
- Promotion of mobility and exchange opportunities for those employees who need them;
- Strategies to ensure that the increasingly diverse current and longer-term career needs of the APS workforce are met; and
- Investing in identifying and developing the future leaders of the APS, including ensuring they have the breadth and depth of experience to provide leadership in a whole of government context.

(APSC, 2005).

3.7 The internet and broadband internet access

The Australian nation adopted technology, including the utilisation of the internet, very early. In 2005, research ranging over the previous decade showed a steady increase in the number of citizens both utilising the internet and vigorously using it to perform business transactions with government. In 2001 the state-run opinion poll results showed that 63% of the citizens of Australia utilises the internet.

Results in a study conducted by AGIMO in 2003 on the advantages of e-Government, showed that the overwhelming majority of Australian internet users performed transactions with government online. Results indicated that 57% of business and 46% of non-business participants utilised e-Government services. Simultaneously, various other studies on the development and adoption of e-Government positioned the government of Australia inside the top five countries with similar or comparable economies (Ellis, 2005:1-2). In 2007, Australia had an estimated 9 458 million internet hosts whilst, in 2006, it had approximately 15,3 million internet users (The World Factbook, 2008). Currently, the Australian government is expanding their broadband network at an estimated cost of up to

\$4.7 billion of taxpayer funding. The aim of the broadband expansion is to have high-speed internet access that will reach 98% of Australians (Bingemann, as cited in the Australian Information Technology News, 2008).

3.8 The Australian e-Government satisfaction services study (2007)

During a study conducted in 2007 by AGIMO to determine the citizens' use of and their satisfaction with e-Government services, it was found that the internet has become the preferred way to contact the Australian government (AGIMO, 2007:5).

The major findings of the study were that:

- Two in five (41%) people would now prefer to contact government by the internet. This is a substantial increase from 2004–05, when less than a third (31%) nominated the internet as their preference;
- At the same time, there has been an ongoing decline in preference for in-person contact; this has fallen from 33% in 2004–05 to 20% in 2007; and
- There is a strong linear relationship between age and preferred means of contacting government. The younger the person, the more likely they are to prefer the internet, while the older the person, the more likely their preference is telephonic and, to a lesser extent, in-person contact (AGIMO, 2007:5).

(AGIMO, 2007:5)

3.9 e-Governance

Ellis (2005) has indicated that, since 2002, the broad framework for managing the government online services in the Australian federal government has been led by the government's initial e-Government policy. In terms of this framework, various dependent approaches were developed to manage and coordinate the convenient implementation strategies that state agencies had to introduce. The e-Permanent guidelines provide assistance to government departments regarding their lawful duties, the management risks, and stabilise their procedures by way of good record

keeping. These strategies, set off in the 1990s, are revised on a continuous basis and are developed to enable government departments to easily implement it through the provision of tools and best practice directives (Ellis, 2005:3).

It is said that citizens do not, in general, like government. Attempts to put an efficient and friendly face on government are doomed to failure. As the Australian e-Government policy points out, a better approach is to minimise interaction with government, with fewer letters and form filling. The ultimate approach to communication would be an invisible interface (Worthington: 2006).

3.10 Summary

This chapter has presented a theoretical perspective on e-government in Australia and a brief overview of the Australian Federal government has been provided. In view of the successful transformational processes implemented, Australia is now regarded as one of the leading e-Government nations around the world. The initial e-Government policy of 2002 is described as a measure to regulate and develop the online information services that were available in most Australian government departments. The e-Government policy objectives therefore have also been discussed briefly and insight into the new e-Government policy of Australia that was released in 2006, has been given. This follow-up e-Government policy built on past achievements and set strategic goals and targets. A detailed description of the important role the AGIMO plays in the Australian e-Government process has been given.

The 2008 UN survey has also been discussed in terms of Australian e-Government readiness. The positive United Nations survey outcomes of the Australia e-Government policy described in this chapter clearly shows that Australia is now reaping the benefits of transformation that was introduced during the early 1990s.

The following chapter will provide a theoretical perspective on the e-Government policy of the South African government, the stakeholders involved, as well as the advantages of e-Government.

CHAPTER 4

THE SOUTH AFRICAN e-GOVERNMENT POLICY AND THE DIGITAL DIVIDE

4.1 Introduction

With globalisation also having a direct impact on the socio-economic development of the South African nation, the government cannot ignore the efficient use of ICT and the advantages available through the implementation of e-Government. This chapter provides a theoretical perspective on the e-Government policy of the South African government, the stakeholders involved and the benefits of e-Government for this country. The views of various scholars who are experts in their field are presented with regard to the 'digital divide', which is extremely dominant in the South African society, as it is in many other developing countries.

4.2 A historical background to e-Government in South Africa

According to Cloete (2004:5-6), the mechanisation revolution of the nineteenth century in the agricultural, industrial and manufacturing sectors in many industrialised countries was generally facilitated by the successful implementation of integrated and synchronised policy strategies.

The adoption of these new policies by these manufacturers considerably contributed to the efficiency and effectiveness of processes, products and services at the time. The progress and development of societies that did not adopt the emerging technologies at an early stage was much slower than societies that adopted the new strategies. Many of the societies and developing countries in which the adoption of these technologies, in particular, lagged far behind and never caught up with their more progressive neighbours (Cloete, 2004:5-6). At the turn of the 21st century, the South African government was rocked by the challenges of an information society into new ways of doing things, brought about

by the technologically advanced ICT (Green paper on e-Commerce, 2000:8). The information society developed through a dramatic increase in the use of knowledge and information technologies in society. The application of electronic technologies is only a recent phenomenon because the first mass-produced personal computer was introduced only as far back as the 1980s, but it was clear that electronic technology was the way of the future (Cloete, 2004:7).

Globalisation meant that businesses networked with each other in such a rapid manner electronically that government could not keep up with the new trend. The South African government had to transform its approach towards service delivery to its citizens. This was done by drafting policies and procedures with the objective of using ICT and the internet to provide information and services online. Various government departments and institutions came together to initiate a broad-based consultative process to gain support for and cooperation towards an e-Government policy.

The South African government, under the leadership of President Mbeki, recognised the potential benefits to be gained from harnessing the power of ICT, which could be used to create a workforce to contribute to a dynamic economy and participate in the information society (Bridges.org, 2002a:1). Government departments and agencies like the Department of Public Service and Administration (DPSA) and the State Information Technology Agency (SITA) conducted stakeholder-briefing sessions on the Gateway Project. This project was aimed at providing 24-hours-a-day, 7-days-a-week government service delivery to citizens, no matter what their geographical location might be (Bridges.org, 2002b:2).

The South African government developed an e-Government policy aimed at the citizens of the country as well as the corporate sector. With 'transformation' as the buzz word on all fronts of society, this literally meant the changing of the old information technology (IT) to the new information and communication technology

(ICT). The implementation of the e-Government approach in South Africa did not work instantaneously with everyone at the time, however, but had to contend with a number of restrictions (Trusler, 2003).

In the light of the South African political setup of the time after the dismantling of Apartheid and its legacy to the society, the limitations on the implementation of the e-Government approach included:

- A high level of inequality and digital illiteracy;
- A weak ICT infrastructure (particularly in rural areas);
- A general lack of government ICT readiness; and
- Other (apparently) more pressing demands on the public service, which made of ICT development a lower priority in budgetary terms (Trusler, 2003).

4.3 The e-Government process in South Africa

The democratic South Africa heralded an open and free society within which government had to pass the necessary laws to ensure their aspiration to create an open and transparent society. By introducing the electronic government approach, the government enabled ordinary citizens of the country to share in the principle of an open and free society, as enshrined in the Constitution (Republic of South Africa (RSA), 1996:15).

The Batho Pele principles, which include e-Government as one of the guiding public service transformational tools, were adopted to ensure a public service for all in South Africa. The government by way of its IT Policy Framework introduced its intention to deviate from the traditional, bureaucratic, silo-type processes followed in other departments and agencies and to modernise their role and functions according to the needs and requirements of the citizens of the country (Department of Public Service and Administration (DPSA), 2001).

According to Msimang (2004:40-43), government had to move away from the obsolete ways of service delivery and develop innovative strategies to meet the enormous needs of the citizens of the country. Further emphasis was given to the process of transformation with the establishment of two ICT advisory councils by the government, which also recognised that ICT is a vital catalyst for social change and economic development and is increasingly considered as an important tool for developing countries (World Economic Forum, 2002:2; Bridges.org, 2002a:1).

In 2002, a five-year e-Strategy for South Africa was developed, which aimed to address:

- The development of a national e-Transactions strategy;
- The promotion of universal access;
- e-Readiness;
- Human Resource (HR) and Small and Medium Enterprises (SMME) development;
- Empowerment of disadvantaged persons and communities; and
- Set definable objectives and time frames

(Bridges.org, 2002a:1).

The South African government, as part of the Southern African Development Council (SADC), also played a critical role in the region by ensuring that e-Readiness was placed high on the regional and national policy agendas (World Economic Forum, 2002:2). The Electronic Communications and Transactions Bill (ECT) that was enacted in 2002 paved the way for a wide range of public services that became faster, more efficient and more secure and exposed many South Africans to ICT. The e-Government strategy was led by the Centre for Public Service Innovation (CPSI) in partnership with the DPSA and SITA (Bridges.org, 2002a:2). In terms of the South African government's vision, the e-Government policy was to address at least three major issues, i.e. e-Governance, e-Services and e-Business.

4.3.1 e-Governance

e-Governance involves the application of IT to intra-governmental operations, including the interaction between central, provincial and local government. This includes paperless messaging and reporting; electronic document management and archiving; integrated systems for finance; asset and human resource management (including training); as well as systems for real-time collaboration and project management, conferencing, decision support and executive information (DPSA:2001).

4.3.2 e-Services (delivery and feedback)

e-Services involve the application of IT to transform the delivery of public services from 'standing in line' to online: anytime, anywhere, by any means, and in *interactive* mode. The services affected include general information and regulations; education and culture; health consulting and telemedicine; benefits and taxation. The new delivery vehicles also offer the opportunity for people to participate in government by collecting direct and immediate public input in respect of policy issues, specific projects, service delivery problems and cases of corruption (DPSA, 2001).

4.3.3 e-Business

e-Business is the application of IT to operations performed by government in the manner of business-to-business transactions and other contractual relations. An obvious example is the procurement of goods and services by government. *e5 procurement* covers the steps from electronic tendering to electronic payment. More cases become available for IT application with the spread of outsourcing and the development of public-private partnerships (DPSA, 2001).

All provinces, in addition to the central government's websites, have websites that provide provincial information and are interactive. The Western Cape and Gauteng provinces, however, are well ahead of the other provinces in terms of the development of their communication infrastructure, due to being economic hubs to the country (SITA, 2002:14). The Western Cape Province websites are available in three languages, while the Gauteng Province website contains a number of e-Services and information on vacancies and tenders in the province.

e-Government holds several benefits for governments. Cloete (2004:5-6) believes that e-Government increases the productivity, efficiency and effectiveness of processes and products in different sectors. Cloete also believes that e-Government ensures higher levels of developmental outcomes and that it contributes to a spectacular rise in the quality of life and general empowerment of people (Cloete, 2004:5-6).

e-Government, according to Cloete (2004:5-6), also has negative consequences, which include an increase in the unemployment rate caused by mechanisation. Cloete also states that e-Government might cause impersonal, mass-based social lifestyles that might alienate individuals from their families and from each other and that it has also turned out to be the primary cause of global pollution, with detrimental effects on personal and environmental health (Cloete, 2004:5-6).

4.4 Government stakeholders in the South African ICT arena

e-Government has been prioritised as a key point on the agenda of the government, and the DPSA was tasked to formulate an e-Government policy for South Africa and the entire region.

The major stakeholders within the information technology arena within government are discussed below (DPSA, 2001:12-13):

- **The Department of Public Service and Administration (DPSA)**

The DPSA has the task of overseeing the deployment of information technology within the entire public service and of managing SITA. The DPSA is also tasked with improving accessibility to all government services by providing a single, 24-hour IT gateway, readily accessible by all citizen. It is mandated to manage SITA in driving and delivering e-Government service delivery.

- **State Information Technology Agency (SITA)**

SITA is responsible for providing ICT, information systems and related products to enable the public service to improve service delivery to the citizens. SITA has the enormous task of encouraging the greater majority of citizens to participate in economic activities and undertakes research and supporting initiatives to the underprivileged sector of society (Msimang, 2004:42).

- **Government Information Technology Officers Council (GITOC)**

GITOC has the task to serve as an IT co-ordination and consolidation vehicle in Government, and as radar that will assist in informing the Government, on a continuous basis, when and how to intervene in the interest of enhanced service delivery to citizens. GITOC focuses on e-government policy and strategy and IT procurement guidelines (DPSA, 2009).

- **The Department of Communications (DoC)**

The DoC manages portfolio organisations that are IT-intensive, such as the South African Broadcasting Cooperation (SABC), Telkom, the Post Office and Sentech. The DoC deals mainly with policy formulation for its portfolio organisations, all of which operate throughout the country, and also focuses on the roll-out of communications infrastructure throughout the country, especially to previously disadvantaged communities.

- **The Department of Trade and Industry (DTI)**

The DTI deals with information technology within the economic sector, for instance, the South African Information Technology Industry Strategy (SAITIS), the Council for Scientific and Industrial Research (CSIR) and the diffusion of technology within the economic sector.

- **The Department of Arts, Culture, Science and Technology (DACST)**

The DACST is responsible for the promotion of science and technology in South Africa. This involves the development of school syllabi and research in institutions of higher learning. DACST is the department that signs international agreements on science and technology on behalf of Government. Most of these agreements include IT as a major area of interest.

- **Department of Public Enterprises (DPE)**

The DPE manages all State-Owned Enterprises (SOEs), especially the 'big four': Transnet, Eskom, Telkom and Denel. The DPE has recently taken great interest in the information technology capabilities and activities of the SOEs, especially with preparations for licensing a second national telecommunications operator to rival Telkom.

4.5 The ICT infrastructure of South Africa

With governments globally recognising the significance of e-Government, a properly designed communications infrastructure must be implemented to guarantee that a government can deliver services online (InfoDev, 2008). In South Africa, the government and the corporate sector have invested millions of rands over the last decade to build an appropriate ICT infrastructure, but ICT service providers often do not have an incentive to invest in rural areas (InfoDev, 2008).

While certain challenges do exist in various areas, South Africa, on the whole, acquired the compulsory lawful structure and governance model, infrastructure, and personnel required for e-Government (Farelo & Morris, 2006:4).

Bill Gates (Microsoft, 2007), former chairman of the Microsoft Corporation, has committed himself to helping to bridge the digital divide by developing and implementing innovative solutions that transform the way people work, learn and communicate. The Microsoft Corporation also committed itself to utilise their resources and expert advice to build social and economic prosperity in South Africa. This Corporation is empowering ordinary people through technology in order to promote sustained social and economic opportunities to billions of people internationally.

4.6 Monitoring and evaluation of e-Government in South Africa

In terms of the DPSA e-Government framework (DPSA, 2001), all e-Government projects are managed through a systems development life cycle which requires the implementation of applications to go through a process from the conception phase, design and development phases and final implementation. Monitoring and evaluation tools such as benchmarks; key performance indicators (KPIs); user satisfaction surveys; and other assessment tools can be used to measure the progress of e-Government in government (InfoDev, 2008).

4.7 Internet utilisation in South Africa

Internet usage in South Africa increased from 2,4 million users in 2000 to approximately 5,1 million users in July 2008 (The world internet users and population stats, 2008). This represents a 112,5% increase in the number of internet users over the last eight years, of an estimated population of 43,7 million South Africans. This number also represents 10% of the total internet users of Africa. The Gauteng Province in South Africa, which hosts nine of the twelve major

internet service providers, is where the majority of the country's internet users are concentrated (Epnet, 2009). Most hotels are online, and all but the smallest businesses have access to internet cafes, particularly in areas where tourists congregate. The majority of the country's internet users are concentrated in larger cities like Johannesburg, Cape Town and Durban (Thridax, 2007).

Technology options in the local market include wireless and broadband; Asymmetric Digital Subscriber Line (ADSL); and Integrated Services Digital Network (ISDN), which are better established. Johannesburg International Airport, for example, offers wireless internet access to anyone seated in the airport's retail and dining section (Epnet, 2009).

4.8 The digital divide in South Africa

South Africa, according to Martindale (2002) has one of the greatest divides between rich and poor in the world and this is most evident in the area of technology. The IT world unwittingly has excluded the masses, as technology has raced on, leaving many behind (Martindale, 2002). Socio-economic circumstances, imbalanced education policies under the apartheid regime, as well as language barriers, are some of the factors recognised in this exclusion. Martindale (2002) reiterates that the gap between those empowered by technology and those who have been excluded must not widen and that the only thing that needs to be broadened is the thinking of those who believe technology is for the privileged few.

According to Gudmundsdóttir (2005), more emphasis should be placed on the skills and opportunities required to utilise technology because giving people access to the internet does not necessarily guarantee the ability to use or make use of the technology in order to bridge the digital divide. Gudmundsdóttir (2005) opposes the belief held by certain apprentices that the digital divide is decreasing due to the greater access to computers and the internet, as well as cheaper software and

hardware. Influencing factors such as language and other social, cultural and historical factors must first be addressed to a greater extent.

According to Msimang (2004:40-43), the biggest challenge for the government is to bridge the gap between the two economies in South Africa with the government and the corporate sector contributing considerably in making the government and government services accessible to all the citizens. This would reduce the growing gap between those sectors of society that have and those that do not have. The enormous differences in the living conditions of South Africans continue to be an alarming reminder of the extent of the problems of inequitable allocation of resources that still prevail (Msimang, 2004:40-43).

People at all levels need to be aware of how ICT can empower them to help themselves. To conquer the digital divide, government, the private sector and civil society must work together. No one section of society can be singled out for attention lest others fall further behind as a result of this (World Economic Forum, 2002:6).

4.9 Examples of e-Government initiatives in South Africa

SARS e-Filing was launched in 2003 as an online replacement process for the manual submission of tax returns. This free service allows individual taxpayers, tax practitioners and businesses to register for free and submit tax returns, make payments and perform a number of other interactions with SARS in a secure online environment. The e-Filing service is on a par with international standards, being comparable with services offered in the US, Australia, Singapore, Ireland, Chile and France. SARS has seen e-Filing in South Africa grow significantly since it was initiated in 2003. By 2008, almost 2 million individual tax returns were submitted through e-Filing and over 7.5 million returns annually are submitted by businesses and tax practitioners (SARS, 2009).

The Department of Home Affairs promotes the vision of re-defining the relationship between government and citizens. A smartcard-ID, which is under development, will focus on the electronic capturing and storage of human fingerprints and the development of an electronic population registry. Through its Home Affairs National Information System (HANIS) project, citizens will be able to access birth and death registration forms online. To the extent that increased transparency, accountability and predictability (of rules and procedures) are made priorities, e-Government may even offer a weapon against corruption (Farelo & Morris, 2006:4).

The Independent Electoral Commission (IEC) is mandated to promote and protect democracy in South Africa by way of strengthening the constitutional democracy through the delivery of free and fair elections for the electorate. The IEC developed an automated software application for the electronic and geographic delimitation of the country into a number of voting districts, using enumerator areas and their population statistics as building blocks and the commission has received a major international award for their innovative application of ICT (ITWEB Informatica, 2006).

The Departments of Justice and Constitutional Development have reviewed the criminal justice system and adopted long-term solutions with the help of new technology in their primary objective to have a criminal justice system that meets the needs of society. The manually processed information systems of the past will now be replaced with advanced information systems, which can speed up processes, replace paper-based administration and overcome huge backlog challenges and the loss of documents. The review of the criminal justice system should also benefit from a reliable criminal justice system database, which can provide timely information to all stakeholders. Currently, a system is being developed whereby arrested persons can apply for bail with the Legal Aid Board while they are at the police stations. This can be done via a special electronic link which can be accessed with the aid of the necessary ICTs (Department of Justice and Constitutional Development (DOJ and CD), 2008:1-4).

Various other departments nationally, provincially and on local level have adopted the electronic government approach to give effect to the government's objective of effective and efficient service delivery to the citizens of South Africa. In this regard, the provincial governments of the Western Cape and the Gauteng Province have played a leading role in the implementation and development of e-Government.

4.10 Summary

In this chapter, the theoretical perspectives of the e-Government approach of the South African government have been explained. A brief historical background to the e-Government approach in South Africa has been provided. The e-Government process and the major stakeholders within the information technology sector in government were identified, with a brief description of their functions with regard to the implementation of the e-Government IT policy and the provision of ICT and other related tools for improving service delivery.

Reference was also made to the infrastructure, as well as the monitoring and evaluation of e-Government; internet usage in South Africa was identified and discussed and the digital divide in South Africa was defined by referring to various experts in the field of reducing this electronic divide and the challenges that are confronted in the process. Examples of e-Government initiatives by various public entities in South Africa have also been provided.

The next chapter presents an overview of the legislative framework that is in place for the introduction and implementation of the e-Government policy in South Africa.

CHAPTER 5

THE LEGISLATIVE FRAMEWORK FOR THE INTRODUCTION OF e-GOVERNMENT IN SOUTH AFRICA

5.1 Introduction

Before the implementation of e-Government strategies, the legislative framework had to be examined to ensure that there were no barriers or obstructions to providing government information and services online (InfoDev, 2008). Legal issues that had to be addressed include:

- The sharing of data within departments and with other departments;
- The legal validity of electronic documents;
- Privacy and security obligations;
- Electronic payments; and
- Criminal laws defining cyber attacks and other crimes affecting electronic data or networks.

(InfoDev, 2008).

The South African government policy on e-Government was formulated as a result of the rapid development in the area of ICT, both internationally and locally. Because government usually operates within a highly regulated framework, it was important that the necessary ground rules for managing the process of e-Government were set. Information policies enable the sharing of information with the public across government departments. In South Africa, the Promotion of Access to Information Act (PAIA) enables the constitutional right of access to information. A number of policy measures were identified as critical to ensure a suitable environment for implementing e-Government (Farelo & Morris, 2006:5).

It was important that the formal requirements for the introduction of e-Government should be determined in consultation with all stakeholders and should be legally binding with regard to all involved in achieving a unified vision.

5.2 Policies, standards and documents

The following policies, standards and documents have been put in place to assist the smooth implementation of e-Government:

5.2.1 The Constitution of South Africa, Act 108 of 1996

The Constitution is the cornerstone of democracy in South Africa and is categorised as supreme over all other laws in the country. The Constitution furthermore instructs government to draft legislation that will give effect to the right of access to state information. The Promotion of Access to Information Act (RSA, 2000) was enacted by the South African parliament in 2000 to give consequence to this constitutional right. This right to access information is enshrined in Chapter 2, section 32(1-2) of the Constitution, which provides that the citizens of the country have the right to access information held by the state, as well as information held by another person necessary in the protection of any rights in an open and democratic society (RSA, 1996:10-11).

5.2.2 The Promotion of Access to Information Act (PAIA), Act 2 of 2000

The Promotion of Access to Information Act enables the constitutional right of access to any information held by the state and any information that is held by another person and is required for the exercise or protection of any rights. With this act, the state is giving effect to the instruction in the Constitution in terms of Chapter 2, section 32(2) that provides for this legislation to be enacted. In terms of the PAIA Act (RSA, 2000), a person is at liberty to ask for information from a public or private body. The right to information, in terms of the PAIA, is limited to the effect that the state must respect and protect all the rights of the Bill of Rights. This

right to information is also limited to the extent the information held by a public or private body is reasonably and justifiably restricted in an open and democratic society. The right to information is limited to the reasonable measures the state may impose to limit the administrative and financial burden the state might bear to giving effect to the PAIA Act (RSA, 2000:2).

The particular Act aims to foster a culture of transparency and accountability in public and private bodies and to ensure that the citizens of the country have effective access to information to fully exercise and protect their rights (RSA, 2000:2). The South African Human Rights Commission (SAHRC) is responsible for monitoring the use of the PAIA (2006) and has published a guide on how to use it (RSA, 2000:11).

5.2.3 The Electronic Communications Transaction Act, Act 25 of 2002

This Act provides the regulatory framework within which e-Government services are performed and promotes electronic communications and transactions with public and private bodies, institutions and citizens of South Africa.

The Act also provides for the development of a national e-Strategy for the Republic and for human resource development in electronic transactions. It aims to promote universal access to electronic communications and transactions and the use of electronic transactions by SMMEs. The prevention of information systems abuse is also a priority. The Act therefore, in aiming to encourage the use of e-Government services, makes provision for matters connected to this (2002:2).

Chapter 2 of the Act required that the Minister of Communications, in consultation with the Cabinet, had to develop a five-year national e-Strategy for South Africa within 24 months of the promulgation of the act (2002:18-20).

5.2.4 The Public Service IT Policy Framework (DPSA, 2001)

In 2001, The Department of Public Service Administration (DPSA) issued a public service IT policy framework to provide the structure within which government could implement and develop its e-Government policy in 2001. The IT policy framework, called *Electronic Government The Digital Future*, was drafted because e-Government required both strategic and in-depth planning, major co-ordination and consolidation of government IT projects and resources, process re-engineering, introduction of new business models and public-private partnerships.

The IT policy framework inter alia spelled out the e-Government vision and clearly defined how progress was to be measured, in other words, what benefits were to be achieved in the process. This policy framework set priorities by identifying focus areas for immediate attention and defined the generic prerequisites (in areas like human resources, research and legislation) that had to be in place for advancements in the key areas to succeed. The framework also provided specific recommendations on how to deliver results in each focus area (DPSA, 2001:5).

Information technology can powerfully enable the delivery of services to the public, but the needs of the customer must first be identified before deciding how IT should be used in an economic and effective way (DPSA, 2001:7).

5.2.5 The Electronic Communications Act, Act 36 of 2005

The Electronic Communications Act inter alia makes new provision for the regulation of electronic communications services, electronic communications network services and broadcasting services.

This Act therefore aims to ensure the transformation of the telecommunications industry in SA by promoting and facilitating the convergence of telecommunications, broadcasting, information technologies and other services contemplated in this Act. The Act also aims to promote and facilitate the development of interoperable and interconnected electronic networks, the provision of the services contemplated in the Act, and to create a technologically neutral licensing framework. It furthermore aims to promote the universal provision of electronic communications networks, electronic communications services and connectivity everybody (RSA, 2005:20).

5.2.6 The Public Service Act, Act 103 of 1994

The Public Service Act, by way of Chapter 5 of The Public Service Regulations (RSA, 2003:60), makes provision for the management of information technology within an electronic government mode of service delivery.

The Act, which promotes the effective and efficient management of information technology in departments, requires the head of a department to ensure that the acquisition, management and use of information technology by the department improve the productivity of the department. There should also be an improvement in the direct or indirect service delivery to the public. This includes, but is not limited to, equal access by the public to services delivered by the department. The acquired IT should also ensure cost-efficiency in the department (RSA, 2003:60).

Other policy measures identified for the provision of an environment for the implementation of e-Government includes the Minimum Information Security Standards (MISS) and the Handbook on Minimum Interoperability Standards (MIOS) which present the technical standards and policies that serve as the foundation of e-Government policy (RSA, 2003:61).

5.2.7 Minimum Information Security Standards (MISS)

Chapter 5, part 2 of The Public Service Regulations (RSA, 2003:61) makes provision for the security of information in the public service by way of the Handbook on Minimum Information Security Standards (MISS).

As the security of information in components of the e-Government value chain will become more and more important, government has decided to issue a set of security standards to be implemented in the public service. These minimum information security standards are issued in the form of a Handbook on Minimum Information Security Standards. The MISS handbook lays down the terms by which any person working with public service information resources must abide (RSA, 2003:61)

The MISS lays down a minimum standard for the handling of classified information in all government institutions to enable institutions to send classified information from one institution to another in the knowledge that the risk of compromising such information is eliminated. An effective security system must be based on certain principles. Security prescriptions must be simple, comprehensible and capable of being carried out in practice. Such prescriptions should not needlessly interfere with the actions of the individual. If this happens, the goodwill of the individual, which is essential for effective security, can be repressed. This can also lead to individuals treating security measures with disrespect (DPSA, 2004:8).

MISS also strives for reconciliation between the requirements of sound administration and those of effective security. Importantly, it is necessary to constantly guard against both the over-classification and the under-classification of information. Misuse of classifications can result in the system being treated with contempt. The consequence will be carelessness with respect to the security system (DPSA, 2004:8).

5.2.8 Minimum Interoperability Standards (MIOS)

Chapter 5, part 2 of The Public Service Regulations (RSA, 2003: 61) also makes provision for the management of interoperability of ICT, ICT products and services by way of the Handbook on Minimum Interoperability Standards (MIOS). The information on minimum interoperability standards was issued in the form of a handbook: the Handbook on Minimum Interoperability Standards. The MIOS makes provision for standards and specifications for interconnectivity, data integration and access to information by browsers and viewers (DPSA, 2007:17-21).

The selection of MIOS standards was driven by interoperability, market support, scalability and open standards.

- ***Interoperability***

Only standards that are relevant to systems interconnectivity, data interoperability and information access are specified.

- ***Market support***

The standards selected are widely supported by the market, and are likely to reduce the cost and risk of government information systems.

- ***Scalability***

Standards selected have the capacity to be scaled to satisfy changed demands made on the system, such as changes in data volumes, number of transactions or number of users.

- ***Open Standards***

The specifications for the standards are documented and available to the public at large (DPSA, 2007:12-13). All public service departments are mandated to comply with MIOS for seamless and integrated service delivery.

5.2.9 The Batho Pele principles

The Department of Public Service and Administration (DPSA) has introduced Batho Pele (people first) to ensure that e-Governance transforms the public service at provincial and national level (Kyama, 2005:9). The eight principles of Batho Pele are:

- **Consultation**

Citizens should be consulted about the level and quality of the public services they receive and, wherever possible should be given a choice about the services that are offered.

- **Service standards**

Citizens should be told what level and quality of public service they will receive so that they are aware of what to expect.

- **Access**

All citizens should have equal access to the services to which they are entitled.

- **Courtesy**

Citizens should be treated with courtesy and consideration.

- **Information**

Citizens should be given full, accurate information about the public services they are entitled to receive.

- **Openness and transparency**

Citizens should be told how national and provincial departments are run, how much they cost and who is in charge.

- **Redress**

If the premised standard of service is not delivered, citizens should be offered an apology, a full explanation and a speedy and effective remedy; and when complaints are made, citizens should receive a sympathetic, positive response.

- **Value for money**

Public services should be provided economically and efficiently in order to give citizens the best possible value for money.

(Kyama, 2005:9)

The Batho Pele White Paper sent a strong message of government's commitment to a citizen-centred approach to service delivery (Rapea, 2004).

5.2.10 Free and Open Source Software use for the South African Government

In 2003, Government adopted the Free and Open Source Software (FOSS) policy recommendations of the Government IT Officer's Council (GITOC). GITOC is an advisory body to the Minister of Public Service and Administration and has been formed to encourage and facilitate a forum for consultation and deliberation for ICT-related matters as part of the ICT governance structure of the DPSA (Farelo & Morris, 2006:5-8). The FOSS policy aimed to address the technical performance and security of ICT, as well as direct cost or performance issues. Issues of cost and other matters pertaining to the selection, implementation, support and enhancement of FOSS IT systems are also dealt with in the FOSS policy (DPSA, 2006:1).

With the FOSS policy, the SA government is promoting the use of non-proprietary solutions. Open-sourced software (OSS) may be freely probed, customised and modified and is the cheapest way of generating software suited to the country's needs. OSS provides both an opportunity and an important resource and is an especially useful tool to allow developing countries to leapfrog into the information age. South Africa now has the opportunity to participate in, and benefit from, the OSS movement (NACI, 2002:1-3).

The major benefits of OSS and open standards are the following:

OSS reduces costs and is less dependent on imported technology and skills. OSS is affordable software for individuals, enterprise and government and can be universally accessed through mass software rollout, without costly licensing implications. OSS also provides access to government data without the barrier of proprietary software and data formats, and has the ability to customise software to local languages and cultures. OSS has lower barriers to entry for business

software and participates in a global network of software development (NACI, 2002:1-3).

5.2.11 The Presidential Review Commission (PRC) Report (1998)

The publishing of the White Paper on the Transformation of the Public Service (WPTPS) in 1995 led to the creation of the PRC to promote the transformation process in consultation with public service staff, unions and civil society. In 1998, the PRC, in Chapter 6 of its report, recommended that government seriously consider migrating to completely electronic communication within a time frame of five years. According to the commission, the implementation of e-Government in SA would be the best way to build capabilities that enable the public not only to access information but to conduct transactions with government departments (PRC, 1998:30-31).

The PRC's main role was to assist in the processes of transforming the state and its principal executive arm, the public service, from an instrument of discrimination, control and domination to an enabling agency that would consolidate democracy and empower communities in ways that were demonstrably accountable and transparent (PRC, 1998:1-5).

With all the legislation in place, the government's aim was to modernise public services, increase transparency and ensure access to ICT infrastructure.

5.3 Summary

The legislative framework in South Africa provides the right to continue the transformation process in the public service by way of the implementation of the e-Government policy. Deriving from the need to change the public sector and maximise service delivery, the principles of the SA Constitution (1996) have laid

the foundation for the further provision for other laws, policies, standards and strategies necessary to ensure the legitimate implementation of e-Government.

The information policies of the SA government enable the public and government departments, as well as government departments with one another, to share public information on request. A number of other policy measures has been drafted and implemented to ensure an environment conducive to the implementation of e-Government. Government has also provided the necessary legal framework for the creation of the required governance structures, like SITA and GITOC, each of which plays a vital role in the e-Government implementation and development process.

The next chapter, which comprises the case study, presents an investigation of e-Government policy that has been adopted and implemented in the PGWC.

CHAPTER 6

CASE STUDY: THE PGWC AND THE APPLICATION OF e-GOVERNMENT

6.1 Introduction

This chapter starts with a brief historical overview of the PGWC. This is followed by a description of how the creation of a knowledge society, the provision of improved service delivery and the e-Commerce online transaction phenomena in the business sector have influenced the PGWC in its quest to develop its own e-Government policy. Following this, the PGWC e-Readiness level for the implementation of an e-Government process is discussed in detail, before the Cape Online strategy and its respective programmes are briefly outlined. In conclusion, the core projects of the PGWC e-Government and online communities are named and briefly discussed.

6.2 A historical overview of the Provincial Government Western Cape (PGWC)

The Provincial Government Western Cape (PGWC) is one of nine provincial governments of the Republic of South Africa which are governed in terms of Chapter 6 of the Constitution (RSA, 1996). The Western Cape Province is the second-highest contributor to South Africa's GDP and all departments of the PGWC have to implement provincial and national laws to ensure that services are provided to the approximately five million citizens of the Western Cape. In 2003, the PGWC adopted the Ikapa Elihlumayo strategy as part of its provincial growth and development strategy (PGWC, 2008a:1).

An important aspect of the Ikapa Elihlumayo strategy is the improved communication between government and the citizens by way of transformed processes and relationships within government. This process has been

implemented to ensure improved service delivery and to ensure that government communicates with the citizens in an efficient and customer-orientated manner, whilst also ensuring social and economic development in the region (PGWC, 2004:2). The PGWC established the Cape Gateway portal project as part of its e-Government Cape Online Programme in 2001. The Cape Gateway project is the flagship e-Government project of the PGWC and was designed to provide, manage and maintain easy access to government information, resources and services (eGov4dev, 2008).

6.3 The creation of a knowledge society

With South Africa entering into the new millennium and the globalisation phenomenon increasingly affecting all sectors of society, the PGWC committed itself to change the Western Cape Province from an industrial society into a 21st-century knowledge society. In an industrial society, more focus is placed on capital and other resources with central and hierarchical management structures in place.

6.3.1 The Knowledge Society

The PGWC accepted the fact that knowledge is power and that more focus should be placed on people and their knowledge, instead of capital and / or other resources, as this was expected to eventually lead to sustainable growth in the economy and development in the Western Cape (PGWC, 2001:4). In achieving its goal, the PGWC had to fundamentally transform from an industrialised social order according to the imperatives of the knowledge society, which involved working differently; managing in new ways; encouraging new capabilities amongst the workforce and new governmental roles for its regulatory agencies (PGWC, 2001:5). The PGWC needed to 'change drivers' for the Cape Online e-Government strategy to be successful. The table below highlights the important transformations and outcomes for government that were driven by this change.

Table 6.3.1: The transition from the Industrialised Society to the Knowledge Society

	<u>Industrialised Society</u>	<u>The Knowledge Society</u>
Impact on the Market	Nationwide competition Competition on price Standardised products Mass utilisation Separate services & manufacturing industries Separated technology	Global competitiveness Competition on quality Customised products Market segmentation Integration of service & manufacturing industries Integrated technologies
Effects on production and organisation	Mass production Focus on costs Job differentiation and departmentalism Seniority gives job security Centralised and hierarchical management structures Well-established routines	Flexible production Focus on innovation Projects and cooperation, and multi-skilling Capability gives job security Managing structures are evenly levelled and spread out Steady development of innovative practices
Effects on the means of production	Fixed capital as most essential asset Physical labour IT as a helpful instrument Individual knowledge Separated technologies	Human capital as most essential asset Knowledge work IT as a creative tool Shared knowledge Integrated technology

Source: PGWC, 2001:5

6.3.2 e-Commerce

Flowing from the successes of the e-Commerce online transactions phenomenon in the business sector, the SA government considered applying the same principles, tools and techniques to the completion of tasks in government (PGWC, 2001:5).

e-Commerce was promoted in SA after the Electronic Communications and Transactions Act came into effect on 30 August 2002. This Act deals with the facilitation and regulation of electronic transactions (RSA, 2002). The main feature

of e-Commerce is that it allows individuals and or businesses to network with each other via a global marketplace to conduct business transactions electronically. This process of transacting electronically via the internet has an economic benefit for businesses due to the relatively low cost of concluding transactions. Another advantage of e-Commerce is the fact that it improves customer relationships. In addition, leading financial institutions, mining, chemical and manufacturing businesses conduct business globally and have thus kept pace with the demands of global customers.

Government decided to apply the overarching values of the e-Commerce phenomenon in government also to interact with the general public, and with commerce along with other government sections. The opportunities and successes of the e-Commerce trend therefore had to be converted into genuine gains for the government, the corporate sector and the general public. This process of translating the appreciation and eagerness for e-Commerce into schemes to ensure genuine and concrete differences for the general public had to be done speedily (PGWC, 2001:5-6).

The key forces for governments to investigate the utilisation of e-Commerce technology are classed in five categories (PGWC, 2001:6-7):

- **Service to citizen and business:** It has already been established that cost reductions can be achieved by moving government services online.
- **Cost efficiencies:** The same infrastructure that delivers services can be used to enhance internal operations.
- **Economic Development:** The creation of an environment for economic development is of key importance to government. This can be done by enabling local businesses to participate in the online economy; by providing infrastructures that attract inward investments by companies; and migration by knowledge workers.
- **e-Communities:** Developing communities of interest and dialogue between individuals and groups can be done via e-Government infrastructures.

- **Digital democracy:** The exchange of democratic principles and values through e-Government infrastructure is an increasingly important component.

6.3.3 Transformation of the PGWC

With the creation of the Centre for e-Innovation (Ce-I) in April 2004, the PGWC wanted to transform the provincial government administration externally and internally. The internal information and communication environment of the PGWC was to be changed to enable internal users to profit evenly from the arrangement (Bridges.org, 2002b:3). The Ce-I aimed to advance the quality and effectiveness of government service delivery and increase community input in government by motivating ICTs within the PGWC (Cape Gateway, 2006).

The Ce-I uses technology as a tool to make sure that the correct information reaches its target quickly (both internally and externally). Improving communication with the people of the province is intended to increase public knowledge of government services. Used together, technology and other resources can help build sustainable socio-economic development. This will make government more accountable, and increases the number of people accessing government services, especially people who have previously been unaware of or unable to do this (Cape Gateway, 2006).

6.3.3.1 The Ce-I's e-Government programme goals

- **Create a better business environment**

Tenders and related information are available on the [Cape Gateway portal](#). Increased access to government tendering information, contacts for tender advice centres and up-to-date procurement procedures allow the government-to-business environment to open up further. This improves fairness and competition (Cape Gateway, 2006).

- **Customers online, not in line**

People needing services from government are able to access help via call centres. These are set up for all departments, most of which can be reached through one main gateway 0860-number. There are also face-to-face channels, like walk-in offices and web support, for example questions@capegateway.gov.za. A streamlined process for employees to access internal IT services helps ensure that problems are solved quickly. Internet access will increasingly be provided at service points through strategic planning and partnerships with structures across government spheres (Cape Gateway, 2006).

- **Strengthening good governance and broadening public participation**

Transparency and accountability in government through ICT in management and operations strengthen good governance. Informed decision-making also opens opportunities for citizens to be more actively involved in the policy and decision-making processes of government (Cape Gateway, 2006).

- **Improving the productivity and efficiency of government departments**

Large-scale re-engineering processes cut red tape and facilitate service delivery. e-Government increases government savings. On a basic level, this involves ensuring the day-to-day functioning of the core network infrastructure (WAN and LAN) and core cross-departmental services like BAS, PERSAL and LOGIS. Technology support to big departmental projects like the Health Information System (HIS) is also important. The Ce-I is also centrally involved in developing departmental ICT plans with a strong focus on the delivery of [iKapa Elihlimayo](#) goals (Cape Gateway, 2006).

- **Improving the quality of life for disadvantaged communities**

ICTs help government to reach marginalised groups/ communities and improve their quality of life. This means empowering them through their participation in the political process, as well as delivering much-needed public information and services. Ultimately, the goal of e-government is to enhance the interaction between government, citizens and business to stimulate political, social and economic progress in the Western Cape (Cape Gateway, 2006).

6.4 The PGWC e-Government readiness

In proceeding to the next stage of drawing up an e-Government policy, the PGWC had to determine its own level of e-Government readiness and also take into account the number of other e-Government initiatives that had already been introduced in all three spheres of government in SA (PGWC, 2001:7-8). According to Dada (2006), the definition of e-Readiness is a measure of the degree to which a country, nation or economy may be ready, willing or prepared to obtain benefits which arise from ICTs, or how ready the country is for participation in electronic activities such as e-Commerce or e-Government. The UN (2005b) defines e-Readiness as a composite measurement of the capacity and willingness of countries to use e-Government for ICT-led development (UN, 2005b:14).

Many e-Government and portal projects are at varying phases of formulation and performance nationally, provincially and at local government level in SA. The PGWC agreed to an e-Government e-Readiness evaluation to determine how current national e-Government projects would relate with provincial governments' endeavours to synchronise e-Government services (Bridges.org, 2003). Various national government departments gave attention to the commitment by drafting documents to address the issue of e-Government by way of legislation, IT policy frameworks and the Batho Pele principles. The SA President showed the necessary political will in the e-Government process by committing SA not only to participate but to compete internationally in the Information Society (Farelo & Morris, 2006:7). Support for the PGWC's Cape Online e-Government Strategy and Programme was received from the Minister of Finance and Economic Development as well as the Premier of the Western Cape (egov4dev: 2008).

The SITA Act (Act. No. 2 of 1998) made provision for the establishment of the State Information Technology Agency (SITA), which provides IT services to all government departments. Since SITA was established in 1999, the PGWC has utilised it for the bulk of outsourced services. Nearly all national government

departments have well-developed websites and expansion of SITA's is envisaged to include the management of IT department facilities (PGWC, 2001:7).

6.4.1 ICT strategy and infrastructure

The PGWC has a strong ICT and telecommunications infrastructure which is supported by the vision and strong political will of the SA government (Farelo & Morris, 2006:1). The PGWC in 2001 introduced ICTs in all its Provincial Departments after a comprehensive study was undertaken by the Cape IT Initiative (CITI) and other stakeholders in the field of ICT. The study inter alia determined the potential of the ICT-industry in the economy of the Western Cape. The CITI is widely recognised as an important champion of the ICT sector in the WC and, together with the PGWC, promotes the use of ICTs to achieve optimal G2G, G2B and G2C relations (PGWC, 2004:9).

The findings of the research recognised that the ICT industry is a key growth and development area of the WC economy and that the importance of ICTs in public service delivery is being realised by way of a variety of e-Government initiatives (PGWC, 2004:2). It was suggested that the application of ICTs by government should therefore be utilised within the context of citizen orientation towards access to services and service delivery itself.

ICTs will enable government to become more transparent and allow citizens to be more participative electronically in what is also known as e-Democracy. It is also expected to ensure the necessary skills and knowledge capacity to support the information society, as well as to provide support for the developing and competitive local ICT industry. ICTs have a role to play in ensuring that all citizens have the necessary skills to participate in and benefit from the knowledge economy (PGWC, 2004:9-10).

At the time of drafting the e-Government policy, the PGWC had approximately 68 000 employees, of which 7 480 had desktop computers linked to a broad regional network. The vast majority of these personal computers were located in the Cape Peninsula, although less than 8% had access to e-mail (PGWC, 2001: 8). To enable the smooth implementation of the IT policy en route to e-Government, every stakeholder acknowledged that the utilisation of an effective IT infrastructure had to be more efficient. The PGWC infrastructure has a website which can be accessed at <http://www.westerncape.gov.za>. IT infrastructure services of the PGWC include skilfulness and labour services, and services like servers and networks to maintain a suitable internet presence (PGWC, 2001:8).

6.4.2 The internet population

The Western Cape, next to Gauteng, has the most internet users on the African continent. According to the number of internet users and internet accessibility statistics available in 2001, businesses and citizens were prepared to engage with government online. PriceWaterhouseCoopers suggested that around 2,35 million people made use of the internet in South Africa in 2000, while BMI-TechKnowledge estimated the figure to be 2,6 million (PGWC, 2001:8). Several of the poor areas in the Western Cape were excluded from using the internet, however. The PGWC therefore implemented the Cape access project that aims to improve accessibility to ICT and to ICT-based information and services in such communities (egov4dev, 2008).

6.4.3 The ICT sector with high potential for growth

SA is rated as the twentieth largest marketplace for ICT goods and services worldwide and this market is growing by 10% each year. The Western Cape is a favourable ICT investment location, especially for software improvement, network services, subcontracting and training. This region has a powerful ICT-services component which includes local and overseas corporations which mostly centre on

wide local and worldwide marketplaces as the local economy is fairly tiny (PGWC, 2001:9).

ICT is used as an enabler that is based around the Web as a publishing tool. All functional and user interface specifications have been developed to be technology neutral and standards compliant (egov4dev, 2008).

6.4.4 Environment conducive to government facilitation and intervention

At the time of the formulation of its e-Government policy, the PGWC was ranked between stages two and three of the Readiness Guide of e-Government development, a situation that was primarily brought about by ad hoc initiatives within the province. The Readiness Guide, which was published in 2001 by the Centre for International Development (CID) at Harvard University, describes four phases in the growth of e-Government in the networked economy (PGWC, 2001:9). The table presented below depicts the stages of e-Government advancement in the CID's Readiness Guide.

Table 6.4.4: The CID Readiness Guide stages of e-Government advancement

Stage One	Stage Two	Stage Three	Stage Four
<p>No government resources are online. There is no awareness of online government, and all dealings between government and citizens or businesses are in person or are paper-based. Limited information is available by phone.</p>	<p>A few governmental websites exist, providing basic information, often directed at parties outside of the community. This information is static and infrequently updated.</p> <p>Some limited interaction with the government is possible by telephone or fax.</p> <p>The government distributes some information about services, procedures, rights and responsibilities in hard copy.</p>	<p>Some governmental agencies post key information on websites, including directories of services, hours of operation, and down-loadable forms. Information is often not kept current and relevant.</p> <p>Transactions take place primarily in person, by fax or by telephone, though electronic mail may expedite the process.</p> <p>The government manages relationships with some service providers and traders online or through other electronic intervention.</p>	<p>All governmental agencies post key information on websites and some have incorporated the Web into their strategy for interaction with the public.</p> <p>Interactive government websites allow the public to conduct transactions (e.g. apply for permits, pay taxes) online.</p> <p>Much government procurement and many interactions with suppliers take place online or with other electronic mediation.</p>

Source: PGWC, 2001:9

The PGWC e-Government stage of development was supported by a report published by the DevelopmentEx.com agency, which identified 3 'waves' of e-Government programming along with implementation. Firstly, the 'wave' shows governments setting up an online existence, with sites that can be viewed on the web and down-loadable documents, as well as providing common information on the website. During the second phase of e-Government initiatives, a few developing countries were focusing on performing business dealings and continuous online government service delivery (PGWC, 2001:9-10). In the third place, this 'wave' of e-Government expects governments to highlight mutual technology and programmes that simultaneously connect a meaningful level of governmental agencies, services and information which are considerably more flexible, competent and citizen-friendly. The Western Cape was well-placed with regard to worldwide research work and did not need to start all over to go towards an e-Government situation (PGWC, 2001:10).

6.5 The Cape Online Strategy

The long-term approach of the PGWC was aligned to benefit from the information world and acknowledged the prospective of efficient employment of ICT. The PGWC was therefore in a good position to initiate the Cape Online Strategy of ICT-supported projects (egov4dev, 2008).

6.5.1 The strategic developmental process

The Cape Online Strategy was initiated via a thorough course of investigation in which resources and information were made available and examined. The exploratory stage concerned liaising with all the main players to determine the general state of activity at the time and to gain enhanced awareness of the perspectives and main concerns of stakeholders. During the decision-making phase, important programmes and duties were identified. Initially the specific resources necessary to implement an e-Government policy for the PGWC was also identified.

The Cape Online programme consists of a range of programs and duties that were recognised and joined to create the strategy embodied in the Cape Online Strategy (PGWC, 2001:10-11). With the intention of defining the required organisational framework formation to implement, the various projects identified had to be categorised. Proposals as to how these projects were to be resourced were included as part of the strategy, all of which together formed the business plan (PGWC, 2001:11).

In 2001, this policy was presented to various key stakeholders at a number of conferences and received positive feedback and support. Stakeholders included SITA, the local government of Cape Town, departments of the province and national departments in South Africa. The main recipient stakeholders include every citizen, business and other organisations in the WC (egov4dev, 2008).

6.5.2 The vision and mission

What was aimed at was “To develop an innovative environment that facilitates a competitive knowledge-based economy that promotes economic growth and enhances the quality of life for our people” (PGWC, 2001:11). The respective programmes and projects were meant to seek an effective e-Government in support of this vision and be actively maintained and allowed by it. With its mission to enable government to exploit the capability of the internet, the Cape Online Programme wished to provide an improved service to its people as a corridor to e-Government (PGWC, 2001:11).

6.6 The Cape Online Programme

The correct execution of the e-Government policy of the PGWC was planned to provide many wide-ranging advantages, but to also adhere to the broader policy goals of the province. This programme incorporated various programmes that would ensure that the citizens and businesses have admittance to services and information without having to visit any PGWC offices. This programme has had a profound impact on the policy of the PGWC. (PGWC, 2001:12).

This programme would encourage development within the ICT sector and have great economic benefits. Cape Online now drives the PGWC to manage the province and to deliver services through the e-Government process. This process can to a large extent enable local companies to function optimally, thereby ensuring that the economy grows. As the investment society progressively develops greater appreciation for global accessibility to information for commerce, this may speed up the development phase.

The Cape Online project shaped the first activities that culminated in the shaping of the knowledge economy white paper. All projects would have some effect on the citizens of and big business in the Cape. Every impact would necessarily expose a

wide range of people in the community to some aspects of the knowledge economy (PGWC, 2001:12).

6.6.1 Facets of the Cape Online Programme

The Cape Online Programme has many features which play a mutually supportive role. The programme covers three areas, each of which relates to the diverse functions of Government. These areas were categorised as core projects, online community projects and external projects.

Core projects are projects that affect the main position of government and involve services that are projected to get in touch with and potentially affect all citizens and businesses in the province. These include projects such as Cape View, which concerns the desires of users of provincial government services; Cape Change, is a programme responsible for change management; Cape Net, lays emphasis on fundamental network infrastructure and the first phase of an ICT precinct; and the Cape Gateway itself.

Online community projects are those projects that affect sectors of the public with a particular interest, thereby connecting particular groups of citizens and organisations. External Projects are projects that do not affect government as such but still affects the online milieu, ensuring the further development of commerce, organised groups and individual persons (PGWC, 2001:14).

The relationship among the different groups of projects is depicted in Figure 6.6.1, below.

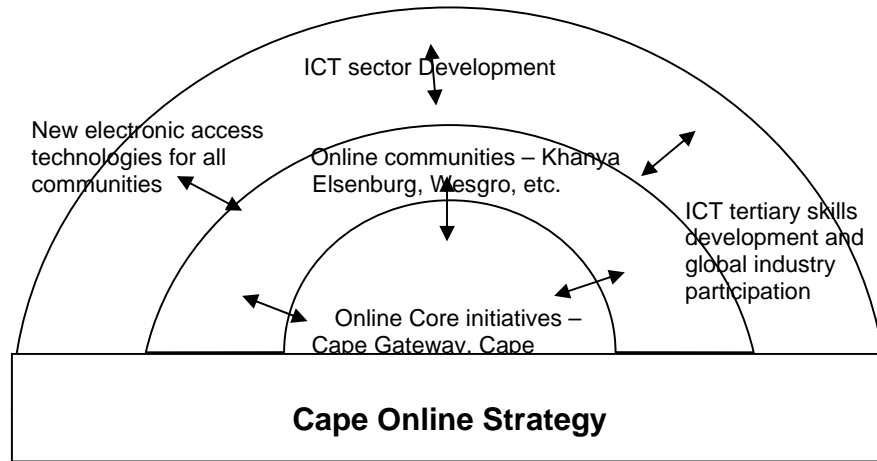


Figure 6.6.1: Facets of the Cape Online Programme (Source: PGWC, 2001a:14)

6.7 Core Projects

These projects are focused inwards, meaning that they are in line with the way the PGWC functions as well as focused outwards, meaning that the projects will influence the way in which businesses and citizens work together and transact with the PGWC. Core Cape Online programmes address each of these requirements. This already was articulated in the business plan for Cape Gateway. The successes are a significant part to the realisation of the aims of the PGWC (PGWC, 2001:15).

The five core projects are the Cape Gateway, Cape View, Cape Change, Cape Net and Cape Procure.

6.7.1 Cape Gateway

The Cape Gateway Portal venture, as the core e-Government project of the PGWC, is not an isolated plan but forms a significant part of the wider Cape Online project (PGWC, 2001:15).

6.7.2 Cape View

This project is aimed at investigating, recognising and considering the views of every citizen, business and government employee with regard to their needs regarding electronic information. The task is to investigate the different aspects of electronic communication for appropriateness and applicability. Government differs from business, in that it cannot choose its clientele. A government is there to govern, but it is important for a government to satisfy the needs of its 'customers'. To do this well, a government should use its resources to find out what those needs are. Cape view is an e-Government equivalent of what is happening in the business world as far as becoming more 'customer-centric' is concerned, in addition to being more service-focused (PGWC, 2001:15).

6.7.3 Cape Change

With government wanting to build a knowledge economy, various inner and outside technological changes have to be made. The success of this requires that internal key shareholders have to be educated and the advantages of e-Government have to be promoted. Cape Change is aimed at identifying the changes that are necessary to adapt to e-Government (PGWC, 2001:17).

6.7.4 Cape Net

The least required condition for the expansion of e-Government is right of entry to a sufficient network infrastructure (PGWC, 2001:19).

The notion of a network precinct was initiated in the PGWC White Paper on “Preparing the Western Cape for the Knowledge Economy of the 21st Century” (PGWC, 2001:19). This project aimed to start a capacity inside government towards the development and growth of a feasible precinct, beginning with parastatal organisations. The benefits that can be realised from networking would not be costly. Figure 6.7.4, below, depicts the projected logical architecture:

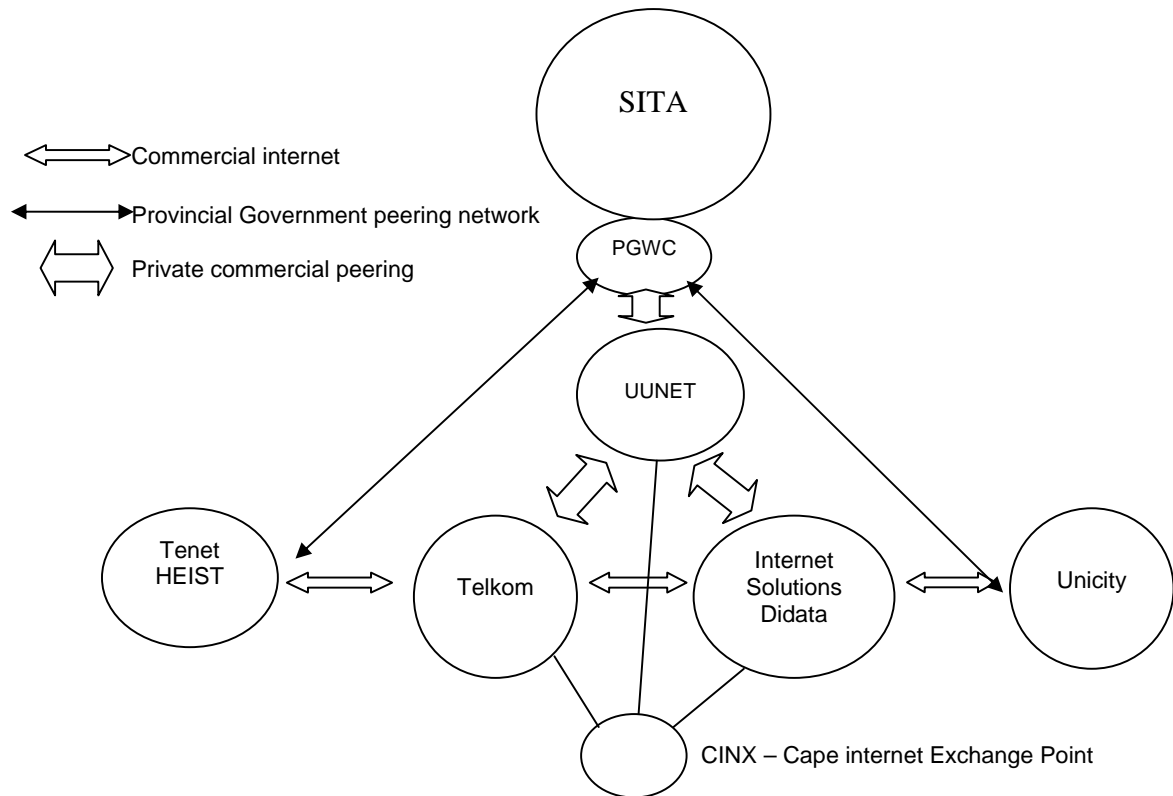


Figure 6.7.4: The proposed logical architecture

Source: PGWC, 2001:19

6.7.5 Cape Procure

International best practice indicates that electronic procurement systems and processes have to be established to ensure that future projects can develop. Although it was decided to delay this as far as the Cape Online programme was concerned, features of Cape Procure, needed to be included in the Cape Change project (PGWC, 2001: 20).

6.8 Online communities

The different online communities that fall under the PGWC comprise Education (The Khanya Project), Agriculture (Elsenburg), Trade and Investment (Wesgro), Tourism and Nature Conservation (The Western Cape tourism project and Cape Nature Conservation).

These communities have developed considerably towards the delivery of information and services online. They are providing services to their different communities and thereby form part of the PGWC's communities component of the Cape Online Programme (PGWC, 2001:22).

6.9 Summary

The PGWC laid the foundation for the beginning of e-Government in the Western Cape with the drafting of the Cape Online e-Government policy.

e-Government emphasises the use of ICT by governments when it is applied to the full range of government functions. The networking made possible by the internet, as well as other technologies in particular, can change the structures and processes of government. The effect of this change will be seen in improved service delivery, increased effectiveness; reduction in expenditure and in better engagement between government and citizens.

The Cape Online programme project delivers information and services via a network surrounding, which is critical to establish an information society.

For the sake of a wider view, the next chapter offers a look at the differences and similarities between the e-Government policies of the PGWC and those of the Australian government.

CHAPTER 7

RESEARCH FINDINGS

7.1 Introduction

The PGWC as a provincial government under the national government of South Africa performs relatively well when the e-Government principles are applied. Australia, on the other hand, is regarded as a developed nation that has already accomplished much in the e-Government field and is believed to be a leading country worldwide.

This chapter examines the differences and similarities between the e-Government policies of the PGWC and those of the Australian government. The two e-Government policies are evaluated against the views and writings of local and international experts and institutions in the field of e-Government.

7.2 Evaluating the PGWC and the Australian Application of e-Government

The evaluation of the two e-Government policies are discussed under the following headings: Transformation, Literacy levels, ICT skills levels, ICT infrastructure, Internet access, Internet population, Investment in ICT, Political support, Open source software and e-Government readiness.

7.2.1 Transformation

e-Government is one of the ways government engage with the governed (Reffat, 2006). e-Government ensures transformation at three levels: G2G, G2B and G2C. Through G2G communication, transformation is performed by way of online non-profit engagement with government organisations, as well as with departments, other government organisations and departments. Through G2B, communication

transformation takes place by way of online non-profit engagement with the PGWC and the business sector. G2C transformation through e-Government ensures communication between the PGWC and private individuals or residents of the province.

The e-Government policy of the PGWC ensures that transformation is taking place in the administrative processes of the province. The effects of the transformation are seen in the improvement levels of the delivery of services, the increase in efficiency, the reduction of costs and greater government/citizen engagement (Bridges.org, 2003:2). Even though e-Government has brought about various transformational interventions in government, Farelo and Morris (2006:11) consider the South African e-Government process as rudimentary. This assessment is based on the fact that there is not a clear strategy for facilitating an uptake and adoption in e-Government services. Farelo and Morris (2006:11) also consider the lack of a framework within which to assess the expectations that citizens have of e-Government as a major obstacle. The Cape Gateway initiative of the PGWC can be seen as a transformational process as it provides the e-Government tools which every citizen of the Western Cape can use to interact with the PGWC.

The e-Government policy of the Australian government sees e-Government as the utilisation of existing ICTs to produce a faultless, reactive and citizen-focused government to the advantage of every Australian. The restructuring of the Australian government in the late 20th century has been diverse, extensive and comprehensive. The transformation of the Australian public sector, amongst others, involved organisation, public personnel management, communications and public service delivery. There was a considerable change in interaction among government and citizens. The interaction amongst government, commerce and private, not-for-profit organisations was drastically recast and included adjustments in the technologies of office as well as in everyday existence (Nethercote as cited in APSC, 2003a).

Delivering better and smarter services to citizens and businesses has increasingly become a political priority among OECD countries. Demands are made, on the one hand, from civil society for a better quality service that is customised to answer individual needs and less of a burden to citizens and businesses, and on the other hand, by government's increased focus on getting value-for-money through achieving internal efficiencies and external effectiveness in service delivery (Wang, 2007:3). In terms of the Australian e-Government policy, more focus is placed on the achievement of greater efficiency and on an overall return of investment.

7.2.2 Literacy levels

The literacy level of the citizens of a country is defined in The World Factbook (2008) according to the number of citizens of 15 years and older who can read or write. The ICT literacy of the citizens of a country is a key e-Readiness aspect. ICT literate citizens will be able to think critically when utilising ICT to solve problems. Without it, a country can hardly be considered e-Ready, and e-Readiness is a pre-requisite for successful e-Government implementation (Wijaya & Surendro, 2006).

South Africa has a higher literacy level than the balance of the African continent, but Statistics South Africa (SSA) has indicated that 14.07% of persons under the age of 15 in the country cannot read and write (City of Cape Town, 2002:20). The Western Cape, at 95.76%, has the highest adult literacy rate in the country after Gauteng. In 2002, almost 350,000 grown persons in Cape Town were uneducated, and this figure was increasing by 15,000 people on an annual basis (SSA in City of Cape Town, 2002:36). The province has a reasonably good literacy level, though, and the PGWC e-Government policy has made provision to equip every school with a complete IT system and media system. These systems are expected to assist schools with administration and education requirements.

The World Factbook (2008) placed Australia's literacy level at an excellent 99% of the population. Males and females had a literacy level of 99% each. The

advantage of a high literacy level amongst the citizens of a country is that any transformation towards e-Government is easier and more logical to comprehend. A high literacy level also increases the possibility of the nation being highly computer literate. e-Government presents the prospect of developing equal public services in regions with low literacy levels (Schuppan, 2008).

7.2.3 ICT skills levels

South Africa has a general shortage of advanced ICT skills, places of work generally do not provide training in this regard. Whilst some businesses and certain Non-Governmental Organisations (NGOs) are training their workforce to enable them to make use of computers at an advanced level, the shortage of high-level ICT skills still remains (City of Cape Town, 2002:36).

According to Capricorn (2002) (in City of Cape Town, 2002:49), a massive shortage of ICT skills in South Africa, were reported in a SETA skills advancement report. Cape Town businesses have serious need for the advanced technology skills of IT professionals and trainers. The lack of qualified teachers means that only 15% of the schools in the Western Cape can offer Computer Studies (Capricorn, 2002, as cited in City of Cape Town, 2002:48). According to Vermeulen (2010, in The Skills Portal, 2010), the ICT sector of the Western Cape is relatively small and mostly comprises SMMEs. The ICT skills shortage is regarded as a serious threat to the region and the province will feel the effects of it due to the size of the population, the economy and the local market. The PGWC was planning to alleviate this problem by funding programmes initiated by the CITI and ICT incubator firm, Bandwidth Barn, to offer the necessary training, specifically in technical skills and basic business administration skills.

In the Western Cape, tertiary institutions have collaborated to produce the Centre of Excellence (COE) programme, which was set up to promote research and development in broadband technology and to train postgraduate students and

professionals in telecommunications (City of Cape Town, 2002:49). Cloete, as cited in Heginbotham (2006), further suggests that trained assistants in the field of ICT should be utilised to assist “those who are not computer literate or e-literate”.

The Australian e-Government policy addresses the issue of ICT skills shortage through the ICT investment framework which was to manage and plan ICT investment in government (AGIMO, 2006:22). The Australian government and industry, in increasingly recognising the need to ensure that Australia has the ICT skills that it requires, intended to increase the ICT skill level of its employees as part of the process of building the service delivery capability and maturity of agencies. They decided to place particular emphasis on raising the level of information technology literacy amongst executives and senior executives. They also recognised that, in addition to ICT-specific skills, including technical interoperability and information architecture expertise, skills would be required in a wide range of areas, such as business processes, project management and security (AGIMO, 2006:24).

7.2.4 ICT infrastructure

Various e-Government initiatives are already well established in South Africa, especially in the field of e-Government policies, ICT infrastructure and websites designed for every tier of government (PGWC, 2001). The PGWC ICT infrastructure comprises skill and labour services and a server and network facility to handle a suitable internet presence. This infrastructure has a website which is easily accessible (PGWC, 2001).

During the PGWC 2008/2009 financial year, the Centre for e-Innovation (Ce-I) utilised a large portion of the budget for the employment of personnel for the upgrading, replacing and renewing of the aging ICT infrastructure and systems, including R20m to fulfil legal obligations to renew software licences (PGWC, 2008b). The governments of the Western Cape and the Gauteng Province together

have well developed ICT infrastructures due to the strength of their economies. However, in the rural areas of South Africa, the shortage of ICT infrastructure and the costs are the actual barrier to ICT utilisation (Bridges.org, 2003:15).

In Australia, the department of finance and deregulation, through the AGIMO, facilitates access to cost-effective ICT infrastructure for government agencies. The Australian government has done a considerable amount of work on much of the ICT infrastructure and basic online services are already in place with many on-the-ground successes. The Australian government is now moving into an era where the pace of change will accelerate through technology enabled transformation of the business of government. The developed countries are far more advanced in their ICT infrastructure, e-Government initiatives and programmes for access and inclusion of the disadvantaged groups than the majority of developing countries (UN, 2005:206).

7.2.5 Internet access

Access to telecommunications in South Africa shows improvement compared to the rest of the African continent. However, accessibility to the internet remains minimal at around 8% of the population, in contrast to more than 17% in Europe and 40% in Britain. Johannesburg, Pretoria and Cape Town have the highest accessibility levels to telecommunication and the internet (Bridges.org, 2003: 20). The e-Government policy of the PGWC provides for internet access programmes through Cape Access, which was initiated for managing information, studies and advance governance for accessibility in ICT networks. The Cape Gateway is an e-Government portal where users can get entrance to any government information from a single point. The Cape Gateway provides free government internet access to government websites (PGWC, 2001:8).

Although certain sections of the population of the Western Cape is very educated and economically well-off, the bulk of citizens live under the poverty line and are

unable to own a fixed or mobile telephone, or get access to computers, email, or the internet (Vlachos, 2001, as cited in Bridges.org, 2003:20). Access and adoption strategies for e-Government need to be incorporated into well-designed e-Government systems of government, but the availability of technology alone will not guarantee success for government's e-government initiatives (Kaisara & Pather, 2009:5).

The e-Government policy of Australia seeks to guarantee suitable entrance to government services and information through several delivery outlets by managing incorporated services across a series of technologies. Significant progress has been made towards website accessibility and to having content available for every member of the community who has access to the Internet. The policy ensures that everyone benefits from the design of the websites. Their success can be measured in noting that the internet was accessed by half of the adults in Australia, or 6.9 million adults, during the twelve months to November 2000, compared to 1999 levels when 6.0 million adults accessed the internet (Stokes, 2002). To ensure such growth in their internet usage, the Australian government had to invest strongly in broadband infrastructure.

7.2.6 Internet population

The internet population depends very much on the accessibility of the internet. In South Africa, the Western Cape and Gauteng provinces are the areas that already have the most advanced digital infrastructures as hubs of economic industrialisation. These provinces together, have provided a suitable platform for government authorities to support an online presence (UNPAN, 2008:80).

Internet Society points out that broadband can have a significant impact on growing the number of internet users in South Africa and can help to bridge the digital divide (Internet Society, 2004), but the cost of bandwidth in South Africa is too high. Its true cost became clear through the dramatic slow-down in growth of

internet users in South Africa to 6%, in 2003, according to the annual internet access in South Africa report by World Wide Worx, an independent research company (Internet Society, 2004). Reducing the costs of bandwidth therefore is imperative to stimulate the growth of internet usage.

In a recent study by the University of the Western Cape on public participation and local governance in South Africa it was found, amongst others, that public participation in government by and large is limited to the local level, and that this suffers from low levels of participation, but by utilising specialised ICTs, government will be connected with citizen constituencies and citizens with each other (ITWEB Informatica, 2009).

South Africa was listed 43rd in the world for the largest number of internet users, with 5 100 000 users, which comprised 11.6% of the population (Wikipedia, 2008). The internet population of a country or region is closely related to the internet accessibility of the population.

UNPAN (2008:14) has stated that, in terms of connectivity, a robust broadband network is critical to the roll-out of e-Government applications and services. The use of the internet by individuals depends on many factors including where the internet is accessed (at work, school, at home or in other locations); how affordable access is; and the ability and interest of users. Businesses and government agencies are keen to understand the characteristics of users. This supports targeting of potential customers and facilitating service delivery. Governments, community organisations and social researchers are interested in understanding the barriers to using the internet, with a view to assessing the degree of exclusion from the information society and its impacts on social and economic outcomes. Policy makers target policies to address internet access (Australian Bureau of Statistics, 2007).

According to the Australian Bureau of Statistics (2007) there has been significant growth in Australia's access to or use of the internet between 2001 and 2006. In 2001, 35% of Australian dwellings had access to the internet; in 2006, 63% of dwellings had access to the internet, while Australia has a total of 7 596 182 privately occupied dwellings (Australian Bureau of Statistics, 2007). In 2008, Wikipedia listed Australia 20th among the countries of the world by the number of internet users. At 16 355 427 users, this is 79.4% of the population (Wikipedia, 2008).

7.2.7 Investment in ICT

The successful implementation of the PGWC's Cape Gateway project enhanced the role that the Western Cape has played within the international society, probably by growing overseas direct investment and supporting its international competitive periphery. Investment in ICT could encourage citizen assurance in the e-environment and consequently develop the local ICT and e-commerce industries.

The PGWC researched and identified future investment opportunities in the ICT field in collaboration with the Cape Information Technology Initiative (CITI). The study indicated that many ICT companies chose to locate themselves in the Cape Metropolitan Area because of the good skills base, high degree of innovation, sound ICT infrastructure and top quality lifestyle (PGWC, 2004:4).

Other factors favourable to ICT investment in the Western Cape include:

- Cape Town has well-developed digital infrastructure and is the termination point for two of South Africa's three international broadband communication links;
- An attractive environment that offers a high standard of living;
- A favourable exchange rate for foreign customers;
- Good physical infrastructure including a harbour, international airport and communications networks; and

- The Western Cape is in the same time zone as Western Europe, facilitating communication between local firms and their European customers and suppliers (PGWC, 2004:15).

Public sector ICT spending reached R6,5 billion by the 2007-08 financial year, an increase of almost R2 billion on 2003-04. During the latter period, R2,6 billion was spent on national departments, R1,3 billion on provincial departments and R0,9 billion on local government. Overall ICT spending grows at a tempo of 2,8% annually (ITWEB Informatica, 2006:28).

The Australian e-Government policy makes provision for ICT investment that is well intended and administered, bringing the openness and worth for money necessary by government. Government funding in technology is planned to have comprehensible advantages and proceeds via an investment frame. Agency systems are to be re-used extensively. The e-Government policy clearly indicates how the Australian government will improve its ICT investments to gain better value for money. A stronger focus on efficiency will ensure more targeted ICT investment that contributes to and drives reform of government business processes, particularly through re-use and sharing of existing investments across agencies. UNPAN commended Australia for their robust investment in ICTs.

7.2.8 Political support

Any e-Government policy needs all the political support that is possible to be successful, otherwise the strategy might stall and be unable to maintain projects and/ or programmes to achieve its targets. As e-Government also forms part of the government initiatives of government policy makers, they should also show commitment to government ideals (UN, 2003 and Heeks, 2003, in Abdelghaffar, Bakry & Duquenoy, 2005:3).

The South African president has outwardly and explicitly given his support for e-Government development and the wide adoption of ICTs. Various government departments and agencies gave their support and are cooperating actively in the e-Government development process. Other governmental departments provide support via their participation in the portal mission group and at head of department level via a number of shows as well as presentations (Bridges.org, 2003:21).

In spite of the initial opposition to the contents issue, the launch of the Cape Gateway initiative in 2004 was preceded by “high-level road shows within the PGWC to actively canvass support and ensure buy-in from top level management”, (Heginbotham, 2006:114).

The Australian government indicated its commitment to the new e-Government policy of that country by addressing, amongst other things, public sector responsibility and legislative engagements, as these relay to the support of online and electronic service delivery (AGIMO, 2006:13). The Australian government supports the e-Government development process by maintaining and strengthening its present ICT governance formations via its agencies in the achievement of its policies and participation in shared determination. AGIMO mainly has management accountability for the utilisation of ICT inside government.

7.2.9 Open source software (OSS)

The PGWC applies the Free and Open Source Software (FOSS) policy of the SA government in addressing technical performance, security of ICT, and direct costs of performance issues. Open source software can make a significant contribution to the ICT sector. The South African government has for a long time voiced its preference for open source solutions. People should have a deep knowledge and access to these tools and use them in innovative ways (ITWEB Informatica, 2006:30).

OSS represents the ideal carrier for the ideals and goals of government of open access to all and sharing of benefits without inhibiting enterprising vision (ITWEB Informatica, 2006: 184). In 2003, GITOC concluded that the role of OSS should be explicitly recognised in e-Government policy and this was endorsed by the ministry of the DPSA. The minister encouraged all government IT employees to make use of OSS in their respective programmes (ITWEB Informatica, 2006:30). In 2002, however, the government welcomed free software from Microsoft for all 32 000 government schools in contrast to NACI's strong support for OSS. OSS is seen to have the potential to empower people in more ways than proprietary software would (Bridges.org, 2002).

The Australian government issued a guide to assist agencies with practical information and approaches for agencies to consider when assessing open source solutions. However, queries relating to the OSS products showed concern about the quality of information. Given that most OSS products are available free of licence costs, some agencies question whether the software can be considered reliable (AGIMO, 2005).

7.2.10 e-Government readiness

The PGWC undertook an e-Government readiness assessment to ascertain how existing national e-Government initiatives would interrelate with provincial government attempts to coordinate e-Government service (Bridges.org, 2003).

According to the Harvard University's Center for International Development, the readiness guide describes four stages of growth of e-Government in the networked economy. The PGWC finds itself in-between the second and third stage proposed in this readiness guide (PGWC, 2001:9).

According to Vosloo and Van Belle (2005), there is wide diversity in individual standards of e-Readiness. This means that there is no objective way of measuring

e-Readiness and therefore there is no single 'correct' tool. Various e-Readiness models suggested by experts offer a more comprehensive, holistic view of the need for ICT and the constraints that hamper ICT access and use. Issues like peoples' understanding of ICT potential and legislation in the ICT sector must be considered when determining the e-readiness of a country or region.

Australia was given a very high rating on the UN global e-Government readiness report of 2005, mainly on account of its foundation of a strong online presence with a solid national site. Adopting this approach, Australia therefore benefited from consolidating two somewhat overlapping portal sites (<http://www.fed.gov.au> and <http://australia.gov.au>) into one. The portal links to over 700 Australian federal government websites and searches over five million government web pages. Among the many impressive sites is the Centrelink agency (<http://www.centrelink.gov.au>), within the Department of Human Services, which delivers outstanding community services online (UN, 2005a:79).

7.3 Summary

This chapter describes the findings of the study to determine possible differences and similarities in the e-Government policies of the PGWC and the Australian government. Such differences and similarities are described briefly. The evaluation of the two e-Government policies is discussed under the following headings: Transformation; Literacy levels; ICT skills levels; ICT infrastructure; Internet access; Internet population; Investment in ICT; Political support; Open source software; and e-Government readiness.

All the aspects discussed in this chapter have been described in greater detail in previous chapters. In terms of the evaluated e-Government policies of the PGWC and the Australian government, all the discussed aspects appear in both e-Government policies. In the case of the PGWC, any provision of a policy or legislation that relates to any specific aspect that is covered by a policy adopted or

legislation promulgated by the national government, is deemed to be applicable to the PGWC.

This chapter gives recognition to the fact that all the aspects that were discussed under the specific headings have played an important part in the improvement of government services to the citizens of the country.

The following chapter, Chapter 8, provides a summary of this research project, the conclusion reached in this study and recommendations for further investigation.

CHAPTER 8

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

8.1 Summary of study

8.1.1 Introduction

The South Africa government is increasingly using the benefits of ICT as an important part of transformation. Improved information and communication technologies in all the tiers of government can ensure that e-Government improves service delivery to the citizens of the country and redresses the wrongs of the past. The implementation of e-Government can also assist in bridging the gap between the haves and the have-nots. Government information is shared amongst all who want to take part in the decision-making processes of South Africa and transformation in government is taking place.

The aim of this study was to evaluate the e-Government policy of the Provincial Government Western Cape by describing its origin, purpose and development. The PGWC, as a provincial government within the national government, plays a significant role in the introduction and application of e-Government in the Western Cape. The further aim of the study was to show how the e-Government policy of the PGWC compares with the e-Government policies of other leading e-Government countries and the e-Government policy of Australia in particular.

8.1.2 The theoretical framework on e-Government

The objective of this study firstly was to scrutinise and describe the e-Government policy of the PGWC. Secondly, this study was also directed at evaluating the e-Government policy of the PGWC against that of the Australian government as a leading e-Government nation. The study discussed a theoretical framework of e-

Government globally, with reference to the internet and the effect of globalisation as well as the problems of the digital divide. Chapter 2 provided definitions and explanations of key concepts used in the world of e-Government. The chapter also focused on how e-Government is approached globally and described the internet and impact of globalisation, again focusing on the digital divide.

8.1.3 The Australian e-Government policy

Chapter 3 presented a theoretical perspective of the e-Government policy of the Australian government as one of the leading e-Government nations in the world. This chapter also presented a description of the historical background to and the introduction of transformation in the government. The Australian e-Government policy is discussed together with the government structures that are in place to coordinate and implement this policy. Australia's e-Government readiness and ICT infrastructure, internet access and ICT skills are also described.

According to the UNPAN (2008), Australia is regarded as one of the leading e-Government countries in the world.

8.1.4 The South African e-Government policy and digital divide

Chapter 4 describes the historical background to e-Government in South Africa. The e-Government process is described with mention of the vision of government and the benefits and negative consequences of e-Government from the point of view of academics in the field of e-Government policy. The stakeholders involved in the ICT arena, which is key to the e-Government process, are referred to and described. Mention is also made of the digital divide in South Africa and this is followed by some examples of e-Government undertakings in South Africa.

8.1.5 The legislative framework for the introduction of e-Government in South Africa

Chapter 5 provides a discussion of the legislative framework within which the South African e-Government policy is to be implemented in all government institutions. The e-Government legislative framework provides the right to continue the transformation process in the public service.

8.1.6 Case study: The PGWC and the application of e-Government

Chapter 6, which presents the case study for the research, focuses on the e-Government policy of the PGWC. A historical overview of the PGWC is given and a description as to why the e-Commerce phenomenon has influenced the PGWC in its quest to develop an e-Government policy. Various e-Government factors are mentioned to describe the readiness of the PGWC to develop and implement its e-Government policy. Important e-Government programmes and projects are discussed, as well as online communities that function with the backing of the PGWC.

8.2 Conclusions to the study

After weighing up the identified and evaluated similarities and differences between the e-Government policies of the PGWC and the Australian government, a number of conclusions can be drawn.

It is clear from the evaluation between the e-Government policy of the PGWC and the Australian e-Government policy that vast differences exist between the two entities. These differences can be attributed to the state of development of the two countries. The South African Republic, with the PGWC as a provincial government, only became a constitutional democracy in the 1990s, which renders this country as a developing state while Australia is one of the leading developed states of the

world. The RSA is only now going through stages of development that Australia has gone through decades ago.

Even though the factors that influenced the drafting of the e-Government policies of the PGWC and of Australia, i.e. globalisation, the internet, transformation from within and outside government, better service delivery and improved ICTs might be similar in nature, the differences between the policies are apparent.

The use of ICTs to improve government and governance, as implied by e-Government, are considered by the respective e-Government policies as means to increase the public value provided by the respective public administrations. From the respective aspects discussed, it is clear that e-Government is much more than the gathering of information, downloading of files or making online transactions. It concerns the application of ICT to transform and advance government procedures.

Australia is regarded as a developed or industrialised country and is a leader in the field of e-Government. It is a country where reform was introduced long ago and a good ICT infrastructure and high literacy levels have been established. The e-Government policy of Australia is placing greater emphasis on the return on investment through the ICTs applied to improve service delivery to citizens.

The PGWC's e-Government policy is relatively successful considering that it has only been developed and implemented since the beginning of the 21st century. As the PGWC finds itself in a transitional phase in the history of South Africa, it is challenged with the practical implementation of its e-Government policy for citizens living in poor and remote rural areas of the province. Although the adult literacy levels of the Western Cape are relatively high, there is an acute shortage of people skilled in ICT. The ICT skills shortage throughout the Western Cape Province and in South Africa can slow down the pace of e-Government development. With fewer postgraduate students doing courses in ICT at universities, the future of e-Government is threatened. In this regard the PGWC can learn from AGIMO which

developed and implemented strategic measures to assist students and unqualified technicians to complete their tertiary qualifications in the ICT field.

The United Nations e-Readiness 2008 study clearly indicated that South Africa as a developing country is lagging far behind industrial countries like Sweden, the United Kingdom and Australia when it comes to internet usage. While the Western Cape Province, after Gauteng, has the highest number of internet users in Africa, the figure remains seriously low. An important reason for this low internet usage is the cost of access to the internet. Although there has been some intervention by Telkom as the incumbent operator, via the offering of ADSL and broadband, much needs to be done to bring down costs. The inaccessibility of ICT for citizens in remote areas and lack of knowledge of the technology involved also prevents people from utilising the internet. Increased internet access for ordinary South Africans will substantially reduce the digital divide in South Africa. Australia has shown that its people are able to use the internet and are aggressively using it to relate to government. Australian citizens are encouraged to use ICT and the internet in all sectors of society, thereby increasing ICT literacy levels and consequently internet user levels.

The commitment of the PGWC to prepare the Western Cape for the knowledge economy of the 21st century has realised many more benefits for citizens, business and other governments and agencies than was perceived during the initial stages of the implementation of the e-Government policy. While Australia is well ahead of the PGWC with regard to some aspects of e-Government, the PGWC cannot escape the fact that it finds itself at a transitional stage of development within a developing country.

8.3 Recommendations

To enable the PGWC to benefit from the transformational purpose of e-Government, the following recommendations could be considered.

The effective and efficient implementation of e-Government promises the potential of economic and social advancement for the country. The PGWC needs to re-evaluate its e-Government policy to facilitate the inclusion of citizens who have been left behind due to the repressive and discriminative policies of the past. For this to take place the PGWC must go beyond the existing provisions for participation available in the e-Government policy, such as walk-in gateways, to ensure that every citizen has access to information technology and can utilise this technology to engage with government. An accommodative e-Government policy will ensure approval and respect from all who are included in the process.

The PGWC must invest substantially more in the infrastructure of ICT and related resources. A considerable investment in ICT must ensure that the technology necessary for e-Government will be more available and accessible for usage by all the citizens of the province. In-equality still characterises and aggravates the digital divide in the province but a considerable investment in ICT infrastructure will also improve economic development in the Western Cape.

The efficiency and effectiveness of e-government programmes should be determined and evaluated to consider the PGWC's continued investment therein. In developing countries, limited assessments are done on how well ICT investments have been used. The PGWC must develop systematic monitoring and evaluation mechanisms to improve programme management and to support e-Government programmes and activities.

Government should increase its efforts to reduce the cost of broadband internet connectivity. More network operators should be allowed the opportunity to participate in the provision of internet connectivity for more market competitiveness for South Africans to gain access to affordable services. Government may be able to engage with businesses to reduce the cost of internet connectivity, which will ultimately lead to increase the number of citizens using the internet. Telkom, as Africa's largest integrated communications company, should be encouraged to

reduce the costs of internet fees through incentives provided and managed by government. Government legislation should alternatively be drafted and implemented to enable lower income groups to access the internet at reduced rates or free of charge.

More progress would be made if the PGWC entered into agreements with tertiary educational institutes in the province to increase efforts to develop studies in ICT and to retain the ICT skills in the public sector. This initiative to address the ICT skills shortage in the province can be achieved by encouraging students to complete their ICT studies and progress to postgraduate ICT studies with various incentives. Ordinary citizens could also improve their ICT skills through accessing information online and thereby building skills and awareness. The PGWC could also consider investing more funds at primary and secondary school levels of education to enable learners to learn and adopt elementary and comprehensive ICT skills, respectively, to thereby prepare learners for the eventual possibility of employment in the ICT field.

Social and economic development may be achieved if the e-Government services on offer were to be accepted by citizens and made practical for citizens. e-Government projects must continuously be evaluated and monitored to determine their continued applicability within the set frameworks of the PGWC and to determine whether the needs of the public continued to be met.

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