The Implications of the Information Society on Public Service Delivery in South Africa

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ABSTRACT

In the information society the use of technology is becoming increasingly important. This is especially relevant to government institutions in South Africa (SA). In South Africa the public service is the sole supplier or provider of particular products or services that citizens in the country have to utilize This paper provides an overview of information technology initiatives undertaken by the South African government. The paper cites some cases where information technology initiatives are currently undertaken. Cape Online Strategy, which is an information technology initiative by the provincial government of the Western Cape in SA, is an example of a global trend towards greater levels of interactivity between government and citizens. This initiative is an excellent example of how Web-based solutions can be used to deliver certain services to citizens. Another excellent example is an eJustice initiative, undertaken by the Department of Justice. The initiative aims at promoting a more efficient system of Justice in SA. The purpose of the eJustice programme is to reform and modernize the administration and delivery of Justice through the re-engineering of work processes using enabling technologies. The paper also provides an evaluation of where information technology currently stands and what are the implications for SA. There are a number of factors that have contributed to the success of information technology initiatives in SA, such as it enjoys strong political support from government. However, there are also challenges that impact on the progress and success of e-government, such as the persistent lack of infrastructure in rural and semi-rural areas in SA. The SA government would therefore need to make a more comprehensive effort, so that citizens can benefit from the circle of technological transformation for service delivery.

Keywords: Information Society, information technology, public service delivery, South Africa

1. Introduction

The information society has implications around the world and affects every sphere of life. This is also relevant to South Africa and the provision of public services in South Africa. Webster (2004:1) states that "there is within current social science a view, that information is now more central to our way of life, so much so that many scholars conceive of the emergence of a new entity, the Information Society". In an information society the creation, distribution and use of technology is becoming more important. New technology, for example the Internet, is becoming increasingly useful in the information society. The Internet can for example provide governments with new ways of reaching, communicating, interacting and

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providing services to citizens.

The information society is also synonymous with other concepts that will be used in this article, for example the knowledge society, network society, information age and post industrial society. Technology and public service delivery in an information society will therefore form an important part of this paper. The purpose of this paper is firstly to determine what the emerging information society is, and then secondly to look at the implications of the information society on public service delivery in South Africa.

This paper is based on a literature study that was done to gain an understanding of the development and growth of the information society. Information about public service delivery was collected from official documents, for example, policy papers, acts and bills; in addition, the Internet was used to obtain information about ICT. Accordingly, the reading and analysis of text can be seen as the main method of research for this paper.

2. Information Society

The United Nations Educational, Scientific and Cultural Organization (UNESCO 2003:online) stated that "a fundamental transformation of human society, perhaps comparable only to those engendered by the invention of the alphabet and the printing press, is the emergence of the information society. In this dynamic environment, a new culture is emerging with prospects of having an impact on all aspects of human life". The concept of the information society was first used by the economist Fritz Machlup during the 1950s and 1960s. Machlup's breakthrough study, "The production of knowledge in the United States", was published in 1962 and introduced the concept of the knowledge industry (Concise Encyclopaedia of Economics 2008:online). After Machlup, various authors wrote about the information society as it grew and developed globally.

2.1 The development of the information society

According to Webster (2004:1) the information society developed as a new society different from the industrial society and the agricultural society which preceded it (see Table 1). From these developments a new civilisation emerges that brings with it new ways of thinking and working (Minnaar & Bekker 2005:39). These new ways of thinking and working can be seen as revolutions or paradigm shifts that led to the development of the information society.

Table 1: The development of the information society

Society	Explanation
The agricultural society	This society began about 10 000 years ago when a seed was planted and nurtured. The agricultural society was important because people moved from nomadic wandering and hunting and settled into villages. This society can be symbolised by the cow.
The industrial society	This society was an expression of machine muscle. This society began in the 1700s after the American Civil War, and is sometimes referred to as the Industrial Revolution. People started leaving the farms to work in city factories. The symbol of this society is the assembly line.
The information society	This society is based not in the muscle but in the mind. This society is driven by knowledge and information technology. In the information society, wealth is measured not by money but by the amount of information that an individual knows or possesses. In this society, livelihoods are increasingly made by the use of information. This society is symbolised by the computer.

Source: Adapted from Finley (2002:online); Minnaar & Bekker (2005:39); and Webster (2004:1).

According to Van Audenhave (2003:online) the information society as a concept of the post industrial society has become part of the public and political life of many countries and since the 1990s the concept has been widely used by academics, citizens and government. As the information society develops, it has become increasingly important to get a clear understanding of what is meant by the concept 'information society'.

2.2 The concept: information society

The United Nations Educational, Scientific and Cultural Organization (UNESCO 2003:online) explains the concept: information society as "a society that makes extensive use of information networks and information technology, produces large quantities of information and communication goods and services and has diversified content industry". Masuda (2004:15) is of the opinion that the information society is a new type of society; the basis of this society is the production of information that will be the driving force in the society. Duderstadt (2002:4) also states that the transformation and movement into a knowledge driven society is powered by the use of modern technology, computers, telecommunications and new networks like the internet. These technologies have changed the way citizens work, study and communicate. In the information society, technology enables citizens to send and receive information quickly to and from distant, even remote areas (Duderstadt 2002: 4). Zurawski (2002:online) also agrees that the information age is changing every aspect of human life. In the information society the foremost commodity will be the exchange of information. Targowski (2002:online) stated in 1991 that the electronic global village is a set of information societies, each society is linked to various cities, countries, economies, the global marketplace, global culture, global travel systems, international trade and the international production systems of multinational corporations in order to produce longer lasting and more knowledge intensive products and services. The global information society generates a new global culture where information plays the biggest role, and where information is freely available at any time or place. (ISOC 2008: online; The Atlantic 2002: online). The Information Society Commission (2008:online) states that the term "information society" is used to describe a society and an economy that make the best possible use of new information and communication technology. In the information society, people will get the full benefit of new technology in all aspects of their work, homes and their lives.

It can therefore be concluded that the information society is a society that relies heavily on the use and development of technology in every sphere of human life. Apart from understanding the concept of the information society, it is also important to look at the characteristics that make up the information society.

2.3 The characteristics of the information society

The characteristics of the information society include the following aspects (ALIA 2002:online; Soros 2008:online; and Minnaar & Bekker 2005:40–42):

- Distance which poses no obstacle to development, social intercourse, learning, adequate health care and business success. Therefore full participation in society activities is possible from anywhere in the world through the use of technology.
- Knowledge which is increasingly available to everyone at any time and any place; knowledge is packaged in a manner to meet individual, social, literacy and cultural needs. In the global information society, knowledge can easily be obtained and used by anyone.
- Learning and working which take place where it is most comfortable or productive.
- Knowledge-based service industries which form a significant proportion of the GDP (gross domestic product) and there is an awareness in government that knowledge technology can foster business competitiveness and economic and employment growth.
- Public sector activities which complement the information society by setting the example in electronic service delivery; this will include the delivery and rapid access to government information by means of the World Wide Web.

- Lifelong learning which is essential to individuals in the information society; individuals will need the capacity to absorb and interpret new and changing information and technology.
- Individuals having open and timely access to information and knowledge; this contributes to the free flow of information and ideas, within a society.

From the above, it can be seen that in the information society, information and access to information is considered by various users of information technology to be of great importance. The information society also has implications for South Africa, as the next section will illustrate.

2.4 The influence of the information society on South Africa

In South Africa the government has also seen the importance of the growing information society. The South African government's commitment to improving information dissemination across the population was illustrated in 1995 when Mr Thabo Mbeki (then Deputy President of the RSA) stated at the G7 information society meeting in Brussels, "we must strive to ensure that each individual whatsoever his or her station in life plays a meaningful role in decision making and in governance. One of the ways this can be done is to ensure that citizens have access to information" (Mbeki:1995). The South African government published a *Green Paper on E-Commerce* in November 2000. This was done to make people aware of the influence that information technology has and could have on South Africa. According to the *Green Paper*: "… the increasing pace of technological innovation such as the rapid integration of the Internet and other telecommunications based activities into nearly every sphere of life has given rise to new ways of communicating, learning and conducting business. The Internet has facilitated the establishment of a borderless environment for communications and the electronic delivery of certain services. Convergence of technology is the major driving factor that contributes to the exponential growth of electronic commerce. Convergence goes beyond the use of technology to develop new products and services and is seen as a vehicle to improve the quality of life of society in South Africa and other developing countries" (*Green Paper on E-Commerce* 2000:9). Along with the *Green Paper on E-Commerce* the Department of Public Service and Administration under the leadership of Minister Geraldine Fraser-Moleketi was mandated to promote the use of information technology to improve public service delivery in South Africa. One of the projects that were undertaken by the Department of Public Service and Administration is the State Information Technology Agency (SITA) that was established in 1999. SITA focuses on the effective and efficient provision of ICT products and services across the three spheres of government, namely national, provincial and local government. SITA is committed to providing ICT as a strategic resource for government. (SITA: 2007).

In 2007 the Deputy President of South Africa, Phumzile Mlambo-Nqcuka (2007:online), stated that ICT is crucial for the future economic and social development of South Africa. She also stated that technology should be used to make a better life for all the citizens of the country. This includes the use of technology to provide citizens with public services online.

3. Online Public Service Provision in South Africa

A number of initiatives have been undertaken by the South African government towards this end such as the government's Batho Pele National Gateway Project. An overview is given of the different initiatives undertaken in various government departments. The initiatives undertaken by almost all the departments point to steady progress with respect to information technology initiatives.

3.1 Cape Provincial Gateway Project

The Cape Provincial Gateway Project in the Western Cape Province of South Africa is an innovative service-driven and citizen-focused information technology initiative, that was launched in June 2003 (The e-Business Handbook 2005:276). This is a holistic or multifaceted approach to fostering an e-enhanced

environment. The vision of the project is to deliver access to public services online anytime, anywhere. The goal of this project is to improve the internal efficiency and a more effective service by the Provincial Administration to the community.

There are three priority areas to improve service delivery, namely; digital delivery, digital democracy and digital development (Naidoo 2008). Firstly, digital delivery allows government to provide information and deliver services more efficiently and effectively. The goal of digital delivery is to make it easier for businesses and individuals to deal with government (e-Gov News Oct/Nov 2007:3). Initially the website provided information to citizens and businesses but has plans to make it more interactive, whereby people could pay certain bills online and submit request forms for example, for birth certificates and business tenders. Presently, the site has been developed to a certain degree of interactivity with citizens being able to submit their comments or views about the site and make suggestions for improvements. It also offers services such as structuring a curriculum vitae and getting information on how to start a business. The site has progressed towards becoming a 'single-entry point' portal of service delivery, since it has enabled networked links to a number of government departments that would offer the user relevant information. An unemployed citizen is able to get information on available job opportunities by clicking on the link that takes them to the UMSEBENZI (opportunities, prepare and register) webpage that also offers them the opportunity to register as a job-seeker.

Secondly, digital democracy is a government strategy that attempts to make the functioning of local government more transparent and improve both accountability and legitimacy towards its electorate in the Western Cape. However, mechanisms of accountability have not been effective or interactive with citizens thus far. Nonetheless, digital democracy envisages the posting of government tenders, reports and meeting transcripts on the Internet. It also plans to make this information available at multi-centres and kiosks in areas previously isolated from the benefits of such technology (e-Gov News Oct/Nov 2007:4).

Thirdly, digital development is a development strategy to improve public access, develop information technology skills and develop regional information and communication technology (e-Gov News Oct/Nov 2007:5). Cape Online presents a simple interface that will remove the complexities that citizens and businesses currently face in order to obtain services in the Western Cape area.

These initiatives are clearly aimed at reaching all the stakeholders that liaise with the Western Cape Government for services. The Knowledge Economy and Information technologybranch is responsible for the Cape Online Programme through the creation of structures, systems and processes that support e-government. There is therefore thorough planning and strategizing (CESPAM 2003).

The provincial government of the Western Cape has been fairly successful in many areas with its vision of propelling the Western Cape into the technological age with a number of co-ordinated and supportive information technology strategies. The Western Cape is in fact ahead of national government in terms of its e-citizen interaction. Early phases of the project involved walk-in information centres and a client contact centre, and in April 2004 the initiative launched its trilingual portal (www.capegateway.gov.za). Through the media, the province has provided the first step in a staged introduction of provincial information technology for the citizens.

In assessing the Cape Online Strategy, it can be said to be at an intermediate level, namely between the 'enhanced' and 'interactive' stage with only the 'transactional' stage to be accomplished before reaching a stage of seamless e-government. However, although the vision of the Cape Online Strategy was to establish points of access via multi-purpose centres and community libraries, these are not as visible in the middle and lower-income areas. There are evidence of internet access via libraries, but this has not been on a substantial scale, only enabling access to a small number of users. The 'walk in centres' are too few, and

have therefore not made a meaningful impact on communities. Another critical factor is illiteracy, which hampers the proper use and success of e-government. The appropriate reading and comprehension proficiency, especially relating to the internet is limited.

There are also numerous others factors hampering the progress and success of information technology, such as the persistent lack of infrastructure in rural and semi-rural areas, such as Khayelitsha on the outskirts of Cape Town. Electricity, telecommunications, computers and Internet access is needed especially in rural areas to make proper use of information technology. Furthermore, the Western Cape government has not advertised these services to communities. The Western Cape government has to make a more comprehensive effort to reach those who remain secluded from the benefits of technology, so that they can benefit from the circle of technological transformation for service delivery.

3.2 Department of Justice
The need to transform the criminal justice system (CJS) in South Africa necessitated that the justice system of a country be re-evaluated (e-Gov News Jan/Feb 2008:1). This was as a result of the CJS facing extreme criticism, for its failure to keep South Africans safe and to bring perpetrators to justice. Within the department a number of challenges where prevalent such as a high rate of absenteeism, lack of motivation, lack of commitment to the organization, poor quality of services, deterioration of internal relations and incompetent management.

The CJS therefore embarked on a process of transformation and restructuring (Naidoo 2008). An eJustice programme was launched in 2000, to re-engineer the court process by utilising appropriate technology, including e-Commerce and Knowledge Management. The programme aims at improving the effectiveness and efficiency of the justice system. It also aims at playing a meaningful role in combating crime and upholding the Constitution. The eJustice system seeks to transform the justice administration system from a manual to an automated system. The programme therefore supports the fundamental reforms necessary to establish a more fair, accessible and efficient system of Justice in South Africa. The purpose of the programme is to reform and modernize the administration and delivery of Justice through re-engineering work processes, use of enabling technologies, strengthening strategic planning and management capacity, organizational development and human resource interventions. eJustice is one of the ways in which the Department of Justice hopes to alleviate some of the service backlogs in the department (e-Gov News Oct/Nov 2006:2). Currently the courts in South Africa have huge backlogs and prisons in general are overcrowded with a large number of trial-awaiting prisoners.

The eJustice programme comprises of three specialized projects namely (Jiyane 2005). (i) Court Process Project (CPP) which incorporates the flow of processes that affect the Departments in the Integrated Justice System that is the Department of Safety and Security, the Department of Correctional Services, the Department of Social Development, the Department of Justice and Constitutional Development as well the National Prosecuting Authority; (ii) the Digital Nervous System (DNS) in which its aim is to deploy information technology infrastructure and related services such as office applications, email connectivity and training to the broader Department of Justice Community. In addition to basic technology provision and support, the DNS has expanded to include business solutions and support, business process management and information management services; (iii) the Financial Administration System (FAS) is tasked with automating and administering the trust accounts in the Magistrates' Courts, the State Attorneys' offices, and the Guardians Fund in the Masters' offices. Amongst the benefits of the project, will be reduced time spent in queues by members of the public, reduced human error in calculations, reduced risk of files getting lost, as well as greater citizen convenience.

An example of a multi million rand eJustice project termed 'IJS Court centre project' on the court process was initiated in 2000, with a long term implementation framework (Matthews 2002). It was implemented in

different magistrates' courts throughout the country. As an interim short term solution, a semi automated court case and case management system has also been implemented at a number of courts where case backlogs are particularly high. The aim of the project is to improve court and case management at the magistrates' court level. However, the software used by the Court Centre Project is not compatible with the larger eJustice software which has led to some controversy.

A current analysis of the department reveals that the project is not just about technology, a significant proportion of the programme focused on capacitating people to use the technology efficiently. The eJustice system benefits the Department of Justice by reducing the number of people at the magistrate's courts at any given time as well as by reducing the security risk in the court environment. The South African Police Services benefits due to reduction of transport, reduction of prison wardens, and the Department of Correctional Services benefits due to the reduction of administration, reduction of transport and reduction of the number of internal security officials employed in prisons.

It is also evident that there are benefits regarding interdepartmental coordination, between the Department of Justice, Correctional Services and South African Police Services. However, such benefits are only evident at the national sphere of government, with a lack of vertical integration (intergovernmental relations) between and amongst the three spheres (national, provincial and local) of government in SA. Furthermore, there are conflicting priorities between the different levels of government.

In an effort to transform the eJustice system through partnerships and facilitate better intergovernmental relations, the Department of Justice, along with the national and provincial departments were mandated to draft a policy which is broadly intended to transform the judicial system at all levels (including that of traditional courts). However, this has not yet happened. The justice system also faces severe human capacity shortages to effectively drive the eJustice initiative.

3.3 Department of Trade and Industry – Black Economic Empowerment Database
The Department of Trade and Industry (DTI)**,** in partnership with a number of non profit industry organisations, has used technology to develop a database of black economic empowered (BEE) companies. The first phase ended in March 2003, with a database of 250 companies. The second phase has now been completed, adding an additional 600 companies to the list and making it one of the most up to date lists of its kind in South Africa. The database is a valuable tool to provide BEE companies with a powerful marketing platform to showcase their companies and initiatives to both local and international businesses, organisations and interested persons (DTI:2007).

3.4 2010 FIFA world cup website
The South African government has launched a website, sa2010.gov.za, to provide information on government's preparations for the 2010 FIFA World Cup to the world. This website provides foreigners with quick and easy information about the country and the continent in the context of the first soccer World Cup to be held on the continent. The website is complementary to the website of FIFA and the local organising committee. An important part of the website is up to date news on preparations that are being made for the World Cup. Other helpful information on the website include the provision of comprehensive information on South Africa, government programmes, information about the World Cup venues, projects and activities including those related to economic opportunities in the country. (GCIS: 2007; sa2010.gov.za).

4. An Evaluation of Information Technology Initiatives in South Africa
The progress that the South African public service made to date across a number of fronts suggests its commitment to the cause. However, there are problems typical of a developing country such as poor

infrastructure, skewed accessibility, corruption, weak educational systems and a history of oral tradition in our rural areas (Naidoo 2008). South Africa experiences increased pressure to deliver an integrated and effective service in the face of public pressure for government services from society. Bureaucratic culture and systematic administrative and political obstacles inherent in government departments pose enormous obstacles to the ability of the South African government to meet these growing challenges. One of the greatest impediments, is therefore the unchanging bureaucratic culture and insular, silo approach to information technology in South Africa (Van der Merwe 2008).

The continued roll-out of the 'information phase' has characterized the bulk of information technology, with limited online transactability, or mechanisms that allow citizens access to frequently demanded services as close to the customer's home as possible (such as walk-in or call-centres). It is evident that almost all government departments in SA have their own Web sites offering a range of white papers, green papers, legislation, policies, speeches and annual reports for download, but all are purely informational. There are delays in progressing beyond information-rich Web sites to real e-transactability. With the exception of South African Revenue Services, there is little evidence of transactional Web sites in SA (South African Revenue Service 2007). The portal approach has taken shape with the National government Web site and the introduction of a central services portal, www. Services.gov.za, sitting alongside the National and Cape Gateways (Http://www.gov.za/structure/pubserv). Unfortunately, the trend in South Africa is very much towards provision of information alone, with little in the way of full-on transaction with the government. On a positive note, the National services portal bodes well for South Africa's information technology progress and future development in the information society. While there is some evidence of the portal approach, offering a single point of entry to services (National Gateway and Cape Gateway), these are very much geared toward providing basic information, rather than allowing the public to transact with government online.

When considering policy intent, it would appear as though the South Africa's information technology strategy intends to reach all the tiers of government (provincial and local) primarily responsible for service delivery (Naidoo & Kuye 2003) However, with the case of the eJustice of the Department of Justice and Constitutional Development and Administration and eNatis initiative of the Department of Transport, it appears as though this has not happened in practice (e-Gov News Oct/Nov 2007) and (Mail and Guardian 2007). A real and considerable challenge that remains in the implementation of information technology amongst the lower tiers of government lies in the access and availability of the internet (including telecommunications infrastructure and computer resources) in order to ensure that local governments, and their constituencies, are the final recipients of such as information technology strategy. Once the implementation of the information technology strategy has taken place at the lower tiers of government, reaching the people at grassroots, then only can South Africa's information technology strategy be regarded as successful and truly customer focused.

5. Concluding Remarks

The challenges to the successful implementation of information technology are similar to the challenges in other developing countries, and at the same time differ significantly in others. While problems associated with the development of the digital divide, and issues relating to the need for integration of departments in the face of the silo approach to service delivery are common features to developed and developing countries including South Africa, be it to varying degrees, a stark contrast arises in that. In developed countries, a great number of challenges arise from the rapidly changing landscape of e-communication, particularly in the private sector; as well as increasing demands placed on government by citizens for developments in keeping with the private sector and the international community. Questions ultimately arise as to the ability of governments' to meet these challenges in the face of the inherent bureaucratic culture and the structural administrative and political hierarchy of government.

In order for the information technology initiatives to be successful in South Africa, adequate time and sustained collaboration with all levels of government is critical. South Africa could also see the maturation of information technology due to strategic planning, vision setting, the adoption of an incremental approach to implementation, political will and the availability of adequate and sufficient budgetary resources. Other success factors in countries such as Singapore reflect a high compact city structure with high ICT infrastructure. There is a need for a cohesive outlook to information technology in SA. This is critical to improve service delivery.

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About the Authors

Goonasagree Naidoo was born in South Africa (SA). She pursued her studies at the University of Kwa-Zulu Natal (B.Bibl and honours and MA degrees in Public Administration), University of Edinburgh (MBA), University of Pretoria and Gonzaga University-Washington State (PhD. in Public Affairs). In 1991, she was employed by the Department of Education. She joined the SA Public Service in 1994 whereby she was actively involved in the transformation of government departments. She was also actively involved with various projects in SA, India, France, UK and the US. In 1998, she was employed as a trade executive for African Affairs by the DTI in the UK. In 2002, she was employed as a lecturer at the University of Pretoria. In 2004, she was employed as a lecturer at the University of Cape Town. She is currently employed as a senior lecturer by the University of South Africa. She was nominated to chair various committees in SA. In 2002, she was invited to participate in the UN Economic Forum focusing on development issues. In 2002, she was invited to participate on a global seminar on ICT hosted by Michigan University. In 2005, she was invited to participate in the 'Africa Public Service Day' forum. Since 2005, she has been invited to participate in various academic projects both nationally and internationally. She has widely published and presented papers internationally. She has been awarded numerous awards and scholarships.

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