Information Management in the age of E-government- the case of South Africa

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DECLARATION

I, the undersigned hereby declare that the work contained in this assignment is my own original work and that I have not previously submitted it at any University for a degree.

Signature……………………………………….   Date……………………….

ABSTRACT

The purpose of the research study was to explore how information is managed, in selected South African government departments, since the South African government is moving into the age of e-government and electronic service delivery.

This study has tested and found that the degree to which information and knowledge are captured and used to support good governance depends on whether a strong underlying information management infrastructure is in place.

A descriptive literature study was conducted to obtain information and views from available related literature that also served as the theoretical basis for the subsequent argument that the success of e-government depends on good information management, not just establishing an on-line presence.

The primary data collection for this study was conducted from government employees, junior, middle and senior management level, employed by various Departments, in the National Offices.

The findings indicate that a carefully considered plan and strategy for information management infrastructure development are required that include generating a shared vision for information management, a strong action and wide awareness and support by the key stakeholders.

Various conclusions have been reached through this study i.e.:

- The creation, use and preservation of electronic records pose special challenges requiring new techniques and tools but based on traditional information management principles and goals.
- A learning culture and strong infrastructure of laws, policies, standards, practices, systems and people are required to support information management for both traditional and e-governance needs.
- Good recordkeeping is a core component of good governance, especially in an increasingly information and technology-intensive environment.

A number of recommendations are made, including suggestions that the South African Government should develop the information management structures within the Departments and identify the barriers to information sharing, and also barriers related to culture and structure.

OPSOMMING

Die doel van die navorsingstudie was om te ondersoek hoe inligting bestuur word in geselekteerde Suid-Afrikaanse staatsdepartemente, omdat die Suid-Afrikaanse staatsdiens in 'n era van e-regering en elektroniese dienslewering beweeg.

Hierdie studie het getoets en bevind dat die mate waarin inligting en kundigheid vasgelê en gebruik word om goeie bestuur te steun, afhang of 'n sterk onderliggende inligtingsbestuur infrastuktuur in plek is.

'n Beskrywende literatuurstudie is gedoen om inligting en oogmerke van beskikbare verwante literatuur te bekom, wat ook as 'n teoretiese basis gedien het vir die daaropvolgende argument dat die sukses van "e-regering"van goeie inligtingsbestuur afhang, en nie net deur 'n aanlyn-teenwoordigheid te vestig nie.

Die primêre data insameling vir die studie is uitgevoer onder staatsdienswerknemers – junior, middel en senior bestuursvlak – in die diens van verskeie Departemente en in die Nasionale kantore.

Die bevindinge dui aan dat 'n noukeurige plan en strategie vir die inligtingsbestuur infrastruktuur nodig is, wat insluit die ontwikkeling van 'n deelnemende visie vir inligtingsbestuur, sterk deelname en 'n wye bewusmaking en ondersteuning van belangrike belangegroepe het.

Verskeie gevolgtrekkings is bekom deur hierdie studie, nl.:

Die ontwerp, gebruik en bewaring van elektroniese verslaggewing bied spesiale uitdagings wat nuwe tegnieke en middele benodig wat gebaseer is op tradisionele inligtingsbestuurbeginsels en teikens;
'n Geleerdheidskultuur en 'n sterk infrastruktuur van regte, beleid, standaarde, praktyke, sisteme en mense is nodig om inligtingbestuur te steun vir die tradisionele en e-regering benodighede;
Goeie rekordering is 'n kernkomponent van goeie bestuur, veral in 'n stygende inligtings- en tegnologies-intensiewe omgewing.

'n Aantal aanbevelings is gemaak, insluitend voorstelle dat die Suid-Afrikaanse staatsdiens die inligtingsbestuur strukture moet ontwikkel in die Departemente, en ook die versperrings tot inligting moet identifiseer, asook in verband met kultuur en struktuur.

DEDICATION

**I would like to dedicate this dissertation to my mother Mrs Nobukulu Millicent
Sihlezana and my late father Mr Mawonga Thanduxolo Sihlezana, my sisters,
Zodidi and Lwandle, my brother Gcino, and my son Luyanda Goba
Thank you very much for your support. I did it for you**

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CHAPTER 1
1. INTRODUCTION

Attention has recently focused on e-government as a way of doing business and reach out to as many people as possible electronically. Governments around the world are embracing electronic government. Broadly, e- government refers to the processes and structures that encompass all forms of electronic communication between government and the citizen. Services are being organized according to citizens 'needs and according to key life events to facilitate an improved government to citizens, government to business and government to government engagement.

E-government is reinventing the business of government through new ways of integrating information and making it accessible over networks and the Internet. It also transforms the nature of governance by affecting the roles and relationship between government and citizens and government and business. It informs and engages citizens, directly and without intermediation, thus providing the foundation for direct democracy.

Traditionally, technology has been thought of as the centre piece of any e-governance strategy. However recent experience from around the world shows that actually information is the key element of e-governance. Government departments are the richest sources of information that is always useful and often critical for the citizens. Government departments are also usually poor at information management, archiving and presenting and making this information available.

This lack of information or content proficiency hampers every e-governance initiative since information is the key component in any service that the government is supposed to provide for the citizen, e.g. health, law and order, public transport and so on. While intrinsic limitations of resources are a major reason for deficiency of services to the citizen, the satisfaction level of the government citizen interaction can often be dramatically improved merely by making quality information easily accessible.

In the Public Service, the management of information is important in achieving the goals of democratic government. Democracy is demonstrated through accountability to the public and through the availability and quality of government information. Democracy is protected by the safeguarding of sensitive information and knowledge.

The value of information is increasingly apparent as more public servants become knowledge workers and information becomes more critical to the smooth functioning of government. In both the democratic and organizational effectiveness contexts, organizations within government are increasingly aware of the need to manage the information for which they are responsible as a business asset and as a trust held on behalf of all South Africans.

The important thing to be grasped is that information is the backbone of e-government, and not technology. Technology can only make access possible. But this possibility does not mean that participation will automatically happen.

The purpose of this study will be to look at how the information is managed, since the South African government is moving into the age of e-government and electronic service delivery.

1.1. THE OBJECTIVE OF THE STUDY

Most of the studies that have been conducted (Bertelsmann Foundation, 2001; Accenture, 2004; Centre for Public Service Innovation, 2003 b) have been focusing on the current usage of e-government, current attitudes towards e-government in each country, and barriers to e-government use in each country, but not looking at information management.

Therefore the objective of this study is to sensitize decision-makers that information management is the foundation of any e-government initiative.

Secondly, it is to highlight and raise awareness about the importance of knowledge in the use and management of information across the government departments including understanding of new service delivery and skills to handle information and deliver electronic services.

1.2. REASONS FOR THE TOPIC

All government departments are in the information business. All the services that they provide to citizens, business, and to internal clients are about information in one way or another. Information is created, collected, received, acquired, archived, processed, held, protected, distributed, and disposed of.

Information held by government departments is therefore a valuable resource that provides the people with knowledge of their government, society and economy and with the means to accomplish both public and private goals.

Information is the most empowering tool. But just securing accurate information in a timely manner takes up countless hours of the people, lowers the productivity of government officials, prevents valuable work from being done and unnecessarily creates friction between well-meaning bureaucrats and frustrated citizens.

It is important to understand that e-government is about transformation, technology is the tool. E-government is about transformation that helps citizens and business find new opportunities in the world's knowledge economy. But if e-government is not part of a larger program for reform, reforming government information management, managing

business processes and people, then e-government may not produce all the benefits expected from it.

Every new initiative that the government may launch ends up performing worse than expected. The reason is not only inefficiency or corruption. It is commonly due to the fact that the initiative has not made the all-important connection to the people, and that connection is communicating critical information. People are either not aware of it or have a vague knowledge and therefore cannot be bothered to know more about it.

Furthermore the government spends considerable time and money in communicating critical information to the people through the media, and both electronic and prints, and unfortunately these ventures often fail, because the content itself is not attractive, interesting or formative.

This study will confirm the view that governments have jumped into information technology as a solution and forget to address the information and knowledge management issues.

1.3. BACKGROUND TO THE STUDY

The development of e-government in South Africa is a major policy initiative involving a range of strategies including the use of government web sites for information and transactional services. Smooth, rapid information-sharing enables government to take a more functional approach to services, as opposed to the usual department-by-department approach.

One of the challenges facing the government is silos of information, and lack of synergy and organizational alignment. One overriding derivative of choice is the desire to have government not operating individual silos but to aggregate roles, relationships, and services so as to make multiple calls and inquiries a thing of the past. (Fraser Moleketi, 2004) Diminishing the silos suggests that common government structure is being challenged; digital environments where the flow of information, knowledge and access are abundant create increasing views for "one government, one face".

Although technologies are necessary enabling tools, e-governance is primarily about the quality, quantity, and cost of electronic service delivery, both within the government and to the public. The trap to be avoided is pinning hopes on a particular architecture of technology enablers **without** first thinking through exactly
  (i)   what information should be provided in
  (ii)   which formats for
  (iii)   what purposes of
  (iv)   which users.

Managing public participation and processing government to public contact are big challenges for e-government because it is all about accurate information. The information

management is the infrastructure which determines how government captures, manages, protects and uses information to make decisions and take action. Information and knowledge are the fuel that is powering e-government.

The success of government initiatives depends on the ability to use information in effective and innovative ways, whether to promote economic development, protect public health and safety, ensure justice, protect the environment, or provide education and training. Achieving these objectives depends on how well government manages uses and disseminates information in every area of its involvement.

1.4. METHODOLOGY

In addition to a literature review, the present study was conducted by means of a questionnaire as well as telephonic and face to face interviews, and also through emails.

The target group was any government employee irrespective of the geographical area, and they were randomly selected. The reason for selecting government employees was because they are the ones who are supposed to benefit from e-government since -e-government , requires departments to adopt coherent and compatible information policies in support of better service delivery and a more efficient working environment.

Secondly a government employee is also a citizen; he/she will still need services from other departments through e-government, and will therefore have better access to information than the average citizen.

Interviews were conducted in English since the South African government uses English as the official business language. The target number of questionnaires that were sent was be 100, and this was supplemented by semi-structured interviews, conducted with senior, middle and junior government officials.

The questionnaire covers the demographic portrait of the respondents, questions about, job title, appointment status, as well as questions on managing information, and effectiveness of e-government:
- Satisfaction with information received
- Difficulties in locating or searching for information
- Accuracy of the information
- Content management
- Standard practices related to management of information products and services
- Assessment of information management practices within departments
- Amount of time devoted to information by government employees

CHAPTER 2

2. LITERATURE REVIEW

2.1. DEFINITION OF TERMS

2.1. 1. E-GOVERNMENT

E-government is one of the most interesting concepts introduced in the field of public administration, but it has not been clearly defined and understood among scholars and practitioners of public administration.

Like many managerial concepts and practices in public administration, the idea of e-government followed private-sector adoption of so called e-business and e-commerce. E-governance offers the opportunity for government to re-invent itself in order to get closer to the citizens, and forge closer alliances and partnerships with diverse communities of interest, practice, expertise, conviction and inter-dependence within the context of the national development agenda.

As a concept and an emerging practice, e-governance seeks to realize the process and structures for harnessing the potentialities of information and communication technologies (ICT s) at various levels of government and the public sector and beyond, for the purpose of enhancing good governance.(Okot-Uma 2000)

E-governance is the movement of governments online to electronically deliver their services and programs, provide government information, and interact with the citizen. This is the formation of new relationships, and includes the private sector along with citizens and other levels of government.)

The interpretation of e-government is quite broad and divergent. General definition describes e-government as the use of information and communication technologies (ICT) to transform government by making it more accessible, effective and accountable

According to Du Toit et al (2002) e-government is a "permanent commitment by government to improve the relationship between the private citizen and the public sector government through enhanced, cost-effective and efficient delivery of services and knowledge"

In fact, the definition of e-government as propagated in Du Toit et al (2002) sounds more like an attempt to define the concept "good governance"

InfoDev (2003) defines e-government as the "use of information and communication technologies (ICT s) to transform government by making it more accessible, effective and accountable"

E-government is not simply about implementing a new information technology (IT) system. It is about changing business models and processes to do things differently and better. It offers the solutions, but e-government is about changing the way government departments operate. Being ready and managing transition to e-government will not happen by chance. It is difficult and requires a careful and concerted effort. (Horne , 2002).

Sakowicz (2003) argues that e-government -constitutes the way public sector institutions use technology to apply public administration principles and conduct the business of government. This is government using new tools to enhance the delivery of existing services.

He further states that within this broad definition, we can identify four dimensions of e-governance:

- E-services – this term describes the use of electronic delivery for government information, programs, strategies and services. These are available on-line "24/7 days". It describes a situation in which citizen needs are met through a single contact with the government. In many cases it assumes a modernized front office but not necessarily redesigned back office capacity. At the same time e-services emphasizes innovative forms of citizen involvement and offers services that demonstrate serious valuation of citizens as customers of the administration. The strategic challenge is to deliver services to members of the public along dimensions such as quality, convenience and cost.

- E-administration –while e-services focus on extra-organizational relations, e-administration refers to the behind-the scene information systems supporting the management and administrative functions of public institutions, including data and information management, electronic records maintenance and cross-departmental flow of information. E-government initiatives with this domain deal particularly with improving management of government from streamlining business processes to improving cross departmental flow of information.

- E-democracy – this is the most difficult feature of e-governance to generate and sustain. Within the framework of e-democracy, ICT is used as an instrument to help set the agenda, establish priorities, make important policies and participate in their implementation in a deliberative way.

- E-commerce – this concept is linked to the business side of government interaction. In e-commerce the exchange of money for goods and services is conducted over the Internet, for example, citizens paying taxes electronically.

The characteristic feature of "correct" e-government shall be a balanced combination of electronic services and forms of electronic participation.

Many decision-makers still concentrate one-sidedly on the provision of electronic service. E –democracy in the form of specific possibilities for participation must be anchored as a central element in all e-government strategies from the very start.

If the modernization of the public sector initially concentrates exclusively on the implementation of electronic services, it will make the subsequent introduction of participatory elements more difficult
(Bertelsman Foundation 2001)

The Department of Public Service and Administration (DPSA) has defined e-government as

- A portal that provides citizens, business and visitors to the country with a one-stop shop where they can access government services and information

- Government uses of information communication technologies to offer citizens and business the opportunity to interact and conduct business with government…

- It is about how government organizes itself, its administration, rules, regulations and frameworks set out to carry out service delivery and to co-ordinate communicate and integrate processes within itself …(Mazibuko,   2005)

According to the e-government policy of the Department of Public Service and Administration (DPSA)(2001) e-government achieves the Government use of information communication technologies that offers citizens and business the opportunity to interact and conduct business with government by using different electronic media such as the telephone touch pad, fax, smart cards, self-service, email and internet .

It is about how government organizes itself: its administration, rules, regulations and frameworks set out to carry out service delivery and to co-ordinate, communicate and integrate processes within itself.

On the other hand State Information Technology Agency (SITA)'s definition or concept of e-government is that it

- Seeks to render services utilizing technology as an enabler through partnership with stakeholders

- Promotes understanding and anticipating citizen's needs and aligning services to citizen's needs/wants

- Citizen's terms and experience of interacting with the state driven by the time, convenience and choice)

The Global study of E-government, a recent joint research initiative for global e-government by the United Nations and the American Society for Public Administration, provides a broad definition of e-government:

Broadly defined, e-government includes the use of all information and communication technologies, from fax machines to wireless palm pilots, to facilitate the daily administration of government.

However, like e-commerce, the popular interpretation of e-government is one that defines it exclusively as an internet driven activity… to which it may be added "that improves citizen participation in, and satisfaction with the government processes".

It is a permanent commitment by government to improving the relationship between the private citizen and the public sector through enhanced, cost-effective and efficient delivery of services, information and knowledge. It is the practical realization of the best that government has to offer.

Similarly, e-government is narrowly defined as the production and delivery of government services through IT applications; however it can be defined more broadly as any way IT is used to simplify and improve transactions between governments and other actors, such as constituents, businesses, and other governmental agencies

(Sprecher , 2000)

E-government is simply helping to prepare government for the 21st century. It will help government to deliver more efficient and effective services to its citizen through technology-based solutions and improved business processes. (Farelo, 2005c)

As discussed earlier, e-government is not well defined and is still under much debate regarding its rhetoric and reality, but for the purpose of this study, e- government provides means for government to distribute information more readily and for the public to communicate with and influence the government. E-government changes the form and frequency of government's internal and external communications, but does not reduce the need to ensure that the information is relevant and reliable.

2.2. RELATIONSHIP BETWEEN DATA, INFORMATION, AND KNOWLEDGE

The words data, information and knowledge are used interchangeably. In order to understand e-government, it is important to understand the relationships between these words.

According to traditional information theory and in line with standards issued by the (International Organization for Standardization (ISO) 15489-01, 2001)

Data are the representation of facts, concepts or instructions in a formalized manner suitable for communication, interpretation or processing by human or automatic means; data are the "raw material" for information;

Information is the meaning given to data, or "data given context and vested with meaning and significance"

Knowledge is "information that is transformed through reasoning and reflection into beliefs, concepts and mental modes." Knowledge is the understanding given to information which results in insight.

Data is important only because it produces information, and information is of value only because it produces knowledge (and possibly wisdom). Shifting attention from data to

information and knowledge is not always easy intellectually, professionally or organizationally. As an example: information technology (IT) systems have traditionally been focused on structured data and their hardware and software environments. Systems personnel "managed" and "processed" data and had less interest in (and comfort with) the concept of "records management" which largely dealt with unstructured, document-based information. Records management, information management and "new" areas such as knowledge management were largely left to others (program managers, records managers, librarians, archivists, etc.), except for the technologists' intrinsically high regard for systems and data security.

Data are symbols or facts such as sales figures; they are signals about the organization, and human activity and have little value in themselves. Information is what data becomes when humans interpret and contextualize it. Information has more value than data and is more ambiguous. Knowledge is the information within people's minds and it is valuable as new ideas, insights and interpretations can be applied to information in an effort to generate competitive power and value.

Data and information can exist in the absence of people; knowledge however can only exist as a characteristic in people when they apply their experience and reason to recognize the significance of information (English, 1999)

This is evident from the litany of predictions economists produce from the same economic information. Knowledge is information within people's minds and is valuable as new ideas, insights and interpretations can be applied to information in an effort to generate competitive power and value. From a management perspective, employees' knowledge is difficult to administer as it is intangible, therefore stimulating its flow for sharing, use/re-use and capturing it in a corporate memory relies on human motivation, an individual's ability to articulate their knowledge and apply it. In practice, it is difficult to determine when data becomes information and when information becomes knowledge.

For practical purposes managers can consider data, information and knowledge, points along a continuum of increasing value and human contribution, (Davenport and Marchand, 2000). Davenport and Marchand (2000) and Stewart (1999), advocate that managers spend little energy on this debate and a lot of energy on adding value to what they have by advancing it along the continuum.

According to Geyer (2001) in general, knowledge is subjective in nature and intimately linked to individual and collective interpretations. These interpretations can be explicit or tacit.

Knowledge may be a belief derived from information. Information can modify knowledge. Knowledge is certainly polymorphic. It can be either readily represent able or very difficult to express.

Knowledge extends along an expressible-non-expressible continuum: from the penciled diagram of an engineering design to implicit understandings about appropriate office

behavior to collective intuitions about an organization's "brand identity" in an industry sector.

Information can be used as a medium to initiate and formalize knowledge. But the realms of knowledge reach far beyond the scope of information.

Knowledge can only be held by an individual, because of our purposes knowledge comes from applying information to a job. When a person shares his knowledge with another, he is talking from his own experience but can only communicate data. Assuming that the person receiving the shared data sees its relevance to her own job, the data becomes information; but it only becomes her own knowledge as she applies it to her own job.

(i)Tacit Knowledge

Tacit knowledge is knowledge which is subjective and cognitive and is often difficult to put in words. Such factors as insight, intuition, values and ideas fall into this category. Tacit knowledge is mostly generated and stored and stored in people's heads. It is difficult to manage and the risk of losing it because of employee turnover is a very real threat to all organizations (Hempel, 2001)

The phenomenon of collective tacit knowledge- that knowledge which groups may use but of which they are unaware- is a predominant mode of knowing in organizations.

Tacit knowledge is an essential element of daily organizational behavior. To attempt to "track it" is to understand that tacit knowledge is on the move and continuously in a state of transformation.

(ii) Explicit Knowledge
Explicit knowledge consists of knowledge which is more objective, codified and technical in nature. The category includes such things as documents, drawings, plans, and policies relating to the organization. This type of knowledge is most amenable to storage and best managed via database systems.
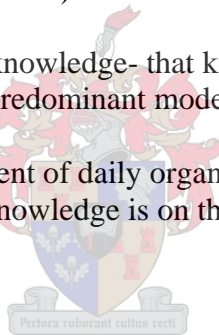
2.3.INFORMATION MANAGEMENT

Information Management (IM) is the harnessing of the information resources and information capabilities of the organization in order to enable the organization to learn and adapt and create value both for itself and for its clients or customers.(Choo 1995, Auster and Choo 1995)

Information management is the management of organizational processes and systems that acquire, create, organize, distribute, and use information. In this view, IM is a continuous cycle of five closely related activities:

- Identification of information needs;

- Acquisition and creation of information;
- Organization and storage of information;
- Information dissemination;
- Information use. (Choo, 1995)

(i) Identification of information needs

The identification of information needs should be sufficiently rich and complete in representing and elaborating the users' true needs.

Depending on the information use requirements information could emphasize hard or soft data, elaborate existing goals or suggest new directions, help define problems or make assumptions explicit, or provide future forecasts, etc.

(ii) Information Acquisition

Information Acquisition has become a critical but increasingly complex function in information management. A powerful way of managing information variety is to involve as many persons as possible in the organization in the gathering of information, effectively creating an organization- wide information collection network.

(iii) Information organization and storage

Organizing and storing information may be facilitated with the application of information technology. The information assets of an organization are not confined to the transactional; they vary from highly ordered to the ephemeral, and some of the most valuable information may be hiding in sales reports, office memos, project documents, etc.
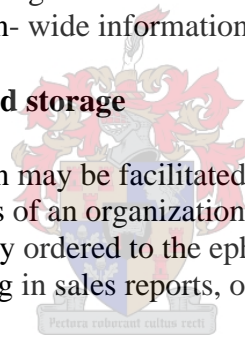
The organization, storage and retrieval of textual and unstructured information become a critical component of information management. The learning organization needs to be able to find the specific information that best answers a query, and to collate information that describes the current state and recent history of the organization.

(iv) Information Dissemination

The purpose of distributing information is to encourage the sharing of information. A wider distribution of information promotes more widespread and more frequent learning, makes the retrieval of relevant information more likely, and allows new insights to be created by relating disparate items of information. The delivery of information should be done through vehicles and in formats that fit well with the work habits and preferences of the users

(v) Information Use

Information use is a dynamic, interactive social process of inquiry that may result in the making of meaning or the making of decisions. Managers as information users, for example, work in an environment that has been described as information overloaded.

As new information is received and as the manager reflects and acts on the problem situation, the perception of the situation changes giving rise to new uncertainties.

Information is used by individuals to create knowledge, knowledge not just in the sense of data and facts, but knowledge in the form of representations that provide meaning and context for purposive action.

Information use for the making of meaning and understanding requires information processes and methods that provide for a high degree of flexibility in information representation and that facilitate the vigorous exchange and evaluation of multiple representations among individuals.

2.4. INFORMATION AND E-GOVERNMENT

The role of information in all areas of the private sector and in government is now paramount for continued growth and stability in our societies. Information has become the lynchpin in the way we think, act and operate in society. (Riley 2003 a). Information can be distributed, exchanged, formalizes, used, and networked at speeds never known before.

While arguments might be made that much information is detritus and really of no consequence or use, the fact is that many are using it in a multitude of disciplines and in their daily lives. Information is transmitted for such varied purposes as justifying current levels of activities, feedback to key constituents and interest groups, developing coalitions on particular issues and ensuring future survival. This information is also transmitted to its functional units for use in ongoing administrative activities.

Information provides a basis for effective decision- making in government, it supports delivery of programs and services, it provides a record for government decision and activity, it supports evidential needs, it addresses public and parliamentary queries, it provides a basis for proactive performance and client satisfaction measurements. The information is a critical resource for the government, and for effective decision- making. It is necessary to have the most relevant and up to date information at hand at the time of the actual decision making.

In other countries like Canada there is a growing awareness that the success of e-government depends on good information management, not just establishing an on-line presence. (Lipchak, 2002) E-government forces government to establish basic knowledge and management of its own information for both its own uses and for the public. This

management is critical for access, the public cannot ask for and government cannot disseminate what neither knows exists, or cannot find.

Technology has made it easy to create, store, transmit, manipulate, customize and use information. In a sense a society may have enough information technology but need more information savvy to filter, select, manage, and apply it wisely. Computers can collect, store, distribute and process transactional data with astounding speed and exactitude. The most common (and most successful) computer applications are in processing financial and other highly structured transactions quickly and accurately. (Mabaso, 2005)

Although this has obvious value, it has little direct impact on the more complex needs of an organization, for example, how it recognizes and adapts to changes in its environment. The success of a complex organization such as government depends on this higher capability.

Drucker (1993) argues that "information technology has been a producer of data rather than a producer of information – let alone a producer of new and different questions and new and different strategies".

The public sector needs to move towards managing the information it holds as a resource to benefit the citizens and the business and to improve the effectiveness and efficiency of government itself. This will require definition and adoption by public bodies of corporate standards for data entities that are common across the public sector, and the definition and adoption by the public sector of common meanings for common data descriptions, so that information accessed by public servants or the public can be understood and used effectively, and a framework for departments and agencies to implement electronic records management systems.

The success of the government initiatives depends on the ability to use information in effective and innovative ways, whether to promote economic development, protect public health and safety, ensure justice, protect the environment or provide education and training.

Citizens want convenient access to needed services and to full and accurate information about government activities. Achieving these objectives depends on how well government manages, uses, and disseminates information in every area of its involvement (McTiernan, 2000)

E-government is not simply about using new technologies to provide information and services to citizens, but also changing the relationships and expectations between citizens and the government or state. Just as the internet is changing traditional economic power structures, e-government will empower citizens and intensify their expectations of government responsiveness, transparency, and accountability.

Information management is ultimately concerned with supporting these objectives by ensuring the integrity and availability of government information.

Government departments collect, analyze process, store and disseminate huge volumes of information and data. In electronic paper, and other forms, the information resources that government creates and maintains support every aspect of its internal and external activities.

The records which the government keeps provide evidence of its actions, decisions and transactions. They are the documentary basis for determining whether government has achieved its strategic and operational objectives and whether it has served the public interest. They document the governments and the public's legal rights and obligations. They are the foundation for determining accountability. Public access to information held by government is a fundamental right in democracy.

The public and the media have become increasingly aware of and sensitive to information issues. People are better informed and more demanding about the information they want government to provide and to protect. When they perceive a gap between what the governments says and does, they and the media are quick to let government know. They expect government to be accountable for its actions and they want the record to show whether or not government has fulfilled their trust (Schreiner, 2005).

They are also more aware of their legal rights regarding information access, and are greatly concerned about confidentiality of personal information.

The Internet and other electronic systems provide means both for government to distribute information more readily and for the public to communicate with and influence government.

E-government changes the form and frequency of government's internal and external communications, but does not reduce the need to ensure that the information is relevant and reliable.

Pierre, Jon and Peters Guy (2000) state that IT promotes good governance in three basic ways
- By increasing transparency, information and accountability
- By facilitating accurate decision- making and public participation
- By enhancing the efficient delivery of public goods and services

The citizen's right to gain access to public documents is supported under most country's constitutional framework. Promotion of this right is pursued through the government's computerization program and the availability of these documents through the internet. Many government agencies use IT facilities to tell the public about their accomplishments, achievements, programs and plans. The availability of information helps people especially those who live far away from urban centres to access the data that they need without going to the national department.

Information about government operations is a basic requirement in fostering transparency in governance. The use of IT enables the government as well as civil society, to inform the people of their rights and privileges. That is why most governments have embarked on e-governance. While it is agreed that e-governance is not a substitute for good governance, it cannot be denied that it is an important tool or aid in that direction.

Good governance is built on a foundation of democratic values supported by appropriate goals, institutions, resources and management processes. New technologies, increasing

interdependence and globalization are redefining governance and altering the roles and relationships among traditionally discrete sectors of society.

The Commonwealth Centre for Electronic Governance (2001) defines e-governance as "the movement of governments-online to electronically deliver their services and programs, provide government information and interact with the citizens"

In its simplest sense, e-governance can be said to be about the use of emerging information and communication technologies to facilitate the processes of government and public administration.

Riley (2003 a) argues that there is now a trend emerging of governments seeking to develop online consultation policies as a means of extending the scope of those who can be engaged in the policy and issue-making process of government. Information management becomes a key tool in this process.

New technologies, increasing interdependence and globalization are redefining governance and altering the roles and relationships among traditionally discrete sectors of society. The greatest stimulus for change in the nature and form of governance has been the rise of new technologies and their impact on the availability and distribution of information. An interdependent, collaborative governance model depends on a cross-boundary flow of high quality, accessible information. This information flow tends to further dissolve boundaries between organizational structures, between management systems, between professions, between those who govern and those governed, and between the technologies themselves. Governments all over the world have bought into this concept, some enthusiastically, some more reluctantly.

One assumption of e-government is that its success depends upon information sharing, not only within departments but between departments and clusters, with other levels of government, the broader public sector partners. Certainly the technology allows for easy and rapid exchange of information, but it cannot overcome the organizational cultures and the human tendency to hoard information.

The South African gateway promotes a one-stop- shop approach to government services where national, provincial and municipal services will be accessed through a single window.

2.5. RECORDS MANAGEMENT

There is considerable evidence that attention to information management and record keeping issues is increasing and the South African government is taking a strong leadership position in record management areas. The National Archives of South Africa plays the most important active role in developing and supporting effective operational practices and standards for recordkeeping.

Records refer to any recorded information created, generated, collected or received in the conduct of a business activity (International Standard Organization (ISO) 15489 -1, 2001)

Records Management (or recordkeeping) is the field of management responsible for the "efficient and systematic control of the creation, receipt, maintenance, use, and disposition of records, including processes of capturing and maintaining evidence of and information about business activities and transactions in the form of records (International Standard Organization(ISO) 15489-1, 2001)

Based on the National Archives Act of South Africa, the National Archives has the responsibility to facilitate the management of government records in addition to its central role of selecting, preserving and providing access to archival records of national significance.

The National Archives and Records Service of South Africa Act, 1996[1] provides the legal framework according to which the National Archives and Records Service regulates the records management practices of all governmental bodies. In accordance with section 13 of the National Archives and Records Service of South Africa Act, 1996 the Records Management Division -

- Investigates and approves the prescribed records classification systems before implementation to ensure that these systems satisfy the requirements of accountability and transparency;
- examines public records with a view to issuing disposal authorities on all public records to enable governmental bodies to dispose of records no longer required for functional purposes;
- determines the conditions subject to which electronic records systems should be managed to ensure that sound records management practices are applied to electronic records systems from the design phase onwards;

For the purposes of democratic development, information and records management leads to improved government activity and institutional capacities of partner countries. For example, it enables them to institutionalize or maintain the constitutional state, to

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[1] National Archives Act and Records Service Act 43 of 1996

guarantee legal certainty as well as continuity and rationality of administrative management and to account to the public for their actions.

In addition, it serves to inform the public about government activities and thus to strengthen relations between the government and its citizens. Values such as democracy, continuous control of government activities and trust in authorities require more transparency which in turn increases the creditability of institutions in public opinion, creating a basis of trust which nurtures cooperation between government and its citizens.

Government keeps records as a fundamental basis for conducting business, serving the public, measuring progress and outcomes and protecting their own and others' rights. Government records are essential evidence of actions, transactions and decisions and of government's interactions with citizens, clients and customers. Authentic and trustworthy records, and convenient access to them, provide the fundamental means by which governance can be accomplished, demonstrated and measured.

Working within a framework of laws, management practices and organizational culture, political leaders and public sector managers are expected to create, maintain and protect the evidence that they have acted responsibly and appropriately. Trustworthy records provide this evidence. When those in government speak "on the record", they pay tribute to the perception that records convey integrity and truthfulness.

Without full, accurate and authoritative records of government actions and decisions, it is impossible for citizens and others to ascertain whether government officials and institutions have performed effectively and fulfilled the public trust (Mostert, 2005). Good records enable governance and are essential to the establishment of trust within government and trust in government.

 If public servants lack the information they need to fulfill these expectations, or if they do not trust the integrity of the information, they will lack confidence in their actions and decisions. As well, if citizens cannot trust the information they are receiving from government, they will be unable to trust the policies, programs and promises of government.

Document-based records will be generated within departments by day-to-day working activities in relation to policy-making and administration, casework and operational services. Increasingly, innovation in ways of working, knowledge-based activities and operational use of information will produce more sophisticated electronic records that can only be managed electronically.

2.6. ELECTRONIC RECORDS

Information age government is underpinned by the effective management of electronic records. Electronic records are public records generated and stored in electronic form. Although more easily shared and accessed remotely with automatic access security controls, an electronic record is a more fragile thing than paper, and can easily be overwritten, lost or become unreadable through technology change.

While there are well-developed systems for paper records, the infrastructure for the management of electronic records is poorly developed (if it exists at all), threatening accountability and good governance.

Good electronic record-keeping requires:

• A clear understanding of the nature of electronic records, and the electronic information which should be captured as records in order to document the business process

• That the procedures which routinely involve the capture of these records are built in to the electronic systems producing the records

• Electronic systems that are designed to manage reliable and authentic records, ensuring that the integrity of electronic records is securely maintained. (National Archives and Records Services of South Africa, 2004)

• A strategy to ensure that electronic records will remain accessible and usable for as long as they are needed
• The ability to apply appropriate appraisal, scheduling and disposal procedures to managed electronic records

• A culture of best practice record-keeping among managers and end-users.

In order to deliver good electronic record-keeping, these requirements must be supported at three levels, which complement and reinforce each other:

• At the level of the organization, where the overall policy and strategy is set, and where an organizational culture of good record-keeping can be shaped

• At the record management level, where electronic record management procedures are defined and built into the record lifecycle, and where the operational record-keeping environment is shaped

• At the IT systems level, where appropriate design models and approaches can be employed to build the systems that can support efficient record-keeping.

2.7. ELECTRONIC RECORDS MANAGEMENT

Information age government will depend more than ever on the effective management of electronic records. They will be generated by new forms of service delivery, as electronic transactions are received from business and the citizen, and processed in one or several departments (Mabaso, 2004) .They will be generated within departments by new forms of working in relation to policy-making and administration, and will form part of the corporate memory of the organisation.

Effective electronic records management (ERM) will be required:

• to support the efficiencies of joint working, information exchange and interoperability between departments

• to support evidence-based policy making by providing reliable and authentic information for the evaluation of past actions and decisions

• to support data protection and efficient and effective compliance with the freedom of information legislation through good organisation of records

• to support knowledge management networks by making reliable information available for sharing and re-use across sectors of government

All types of electronic records form part of the corporate memory of the organization.

Electronic information systems are complex and fragile. Systems and standards change rapidly. E-records are easy to create, alter and delete.

The volume and variety of electronic files on desktop computers and network servers can be overwhelming. Many electronic files are unnecessarily duplicated and multiple versions exist.

Important electronic records may be maintained outside of the organization's formal recordkeeping system. Huge volumes of obsolete data may be maintained in active systems, slowing the search and retrieval of current information.

The casual proliferation of electronic files sometimes leads to the mistaken assumption that someone else will keep the "official" copy. Staff often has difficulty locating the most recent or most authoritative version of a file.

Frequently, they are unable to assemble a complete record of transactions and decisions, especially if related files exist in both electronic and paper formats and in different locations. The authorship and origin of records created in a team-based work environment may be difficult to determine.

Lacking efficient electronic systems, they often fall back on laborious full text searches that result in inaccurate and incomplete results.

Related records are often difficult or impossible to find across government departments because of inconsistent data management standards and practices (e.g. naming and filing) as well as frequent departmental restructuring.

Also, important decisions and transactions often go undocumented among a confusing array of techniques and technologies.

Other government departments relied on maintaining physical records in conventional paper filing systems, by printing electronic records to paper.

As electronic methods of working increase in extent and sophistication these systems are breaking, for example the staff forgets to print and file significant documents; email messages are deleted from servers without prior archiving, website and intranet documents are not effectively controlled as dated versions, etc. Whether electronic or paper, the results can be costly when records and data are not well managed.

A failure to manage electronic documents and transactions as formal corporate records will mean significant opportunities are lost, for exploiting the content to support new ways of working with faster access to higher quality and up-to-date information.

Poor business services result when customer-related data is inaccessible or out-of-date.

Electronic records will have to be managed and maintained by electronic means to gain the full benefits of e-government. Information technology is wasted when the bottom line focus is on technology, rather than on capturing, managing, protecting and sharing enterprise information (McTiernan, 2000)

Higher costs are incurred when information is unnecessarily collected, stored in redundant locations or forms, cannot be located or is kept too long. Accountability is reduced when business activities and decisions are poorly documented.

The government's legal liability is increased when records and the evidence in them have been destroyed without authorization or if the information is unreliable. Serious gaps in the government's memory can occur when information with long-term value is not preserved. Confidential information needs to be protected against unauthorized access, alteration or destruction. (Mostert, 2005)

Information that other people need to know and are authorized to have should be captured and readily shared in a form which meets their needs. Needless collection and storage of information and data should be eliminated.

Documents and data should be retained only as long as they are needed or legally required (National Archives and Records Services of South Africa, 2002)

Information of very long-term value should be preserved so that it is accessible and usable over time and over future changes in technology.

2.8. INFORMATION SHARING

Ownership of information and accountability of its management and protection must be clearly assigned. Staff must have the necessary training and skills to manage their information resources effectively. Staff needs to understand the importance of managing and sharing information and make sure they do it. Electronic government requires a corporate culture that values quality information.

McTiernan (2000) and Mostert (2005) argue that as government go on- line, there are particular information management issues that need to be addressed. Most e-government activities to date have focused on the dissemination of government information, and all departments have their own websites where documents and publications have traditionally been posted, with no paper equivalent.

This means that strict guidelines must be in place about website content, version control, and storage so that information integrity and relevance are protected and retention and disposal are controlled.

It is known that governments are traditionally organized in silos, with each department carrying out its function without regard to other departments. Systems across departments and in some instances systems within the same department, do not share information. This phase involves complete integration of systems allowing seamless integration and sharing of information.

This allows citizens to supply common information across departments only once. The responsibility rests with the government to ensure the sharing of this information. If a government takes its responsibilities seriously, it can be expected to create and sustain an environment that values information and the role it plays in generating meaningful citizen-state interaction and other aspects of good governance based on democratic values (trust, transparency, accountability, etc).

Since every government department will be linked to one central system, you will make one inquiry no matter what you require. You will not need to fill out a specific pink or yellow form in triplicate. No more paper documents mysteriously going astray. This is just the public face of things - called the front office. Behind the scenes - in the back office - this transformation will see all government records and data about its citizens entered into digital databases and the integration of silos that currently delineate departments.

In this environment, public servants and their leaders are expected to:

be fully aware of the role information plays in establishing a relationship with citizens built on trust, integrity, and quality service;

understand the varied needs of citizens and other stakeholders and respond to these needs with information which is complete, relevant, organized, timely and conveniently accessible;

understand the critical role records and information play in support of government business and accountability;

see the records they create and maintain as valuable sources of information to help them do their job and as key instruments of accountability;

understand the need to apply common standards and best practices to manage, make accessible and protect information assets; and

appreciate the value of sharing and exploiting information and knowledge to support more collaborative and integrated program and service delivery (*i.e.* while respecting relevant policies and laws**)**

Riley (2003 a) states that each department would have differing forms of information that could be made available to specific sectors of the public. The back office would need to contain staff with analysis skills to be able to ascertain how certain needs in the society could be met.

The technology could be made available in such a way that individuals or groups from outside could be the facilitators of specific topics once relevant information packages are placed online into the public domain. The department could provide the ICT infrastructure and requisite information for a given topic in hand, but the citizens would be the drivers determining how the information would be shared and discussed amongst them.

While public-private partnerships and other alternative service delivery arrangements can be complex in a paper environment, they are even more so in a digital world where records are intangible and geographic and legal boundaries are fluid.

The Department of Trade and Industry (DTI) website for example allows companies to do a name search before logging a name reservation with their office. This saves a company time by ensuring that the chosen name does not exist, or has not already been reserved by another company. This site also allows change of company details.

The present Social Development Pension System (SDPS) does not have the capability to supply management with timely information to make decisions. The SDPS is in the process of procuring a new system with an integrated management information system to administer social grants (pensions)

The Home Affairs National Identification System (HANIS) deals with the automation of the national identification system. The fingerprints that are currently held in paper format

are being converted to digital format. Linked to this project is a smart identity document (ID) project, which will see the transformation of the present system to smart cards. (Shilubane, 2005)

Through this initiative, all citizens of South Africa will be issued with a single identification card to interface with government. The envisaged smart ID card could prove to be a major enabler in terms of electronic identification.

The nature of information, how we use it and exchange it, has substantially changed. These changes mean that governments are constantly in the position of having to evaluate their information and work better ways to service citizens through the distribution of information.

Business process re-engineering – real and potential – is stimulating increased attention to information management and recordkeeping issues. Business processes (developing policies and programs, reviewing and approving government spending, etc.) are largely information processes – collecting, analyzing, sharing and applying relevant information.

"Workflow" is largely information flow. To succeed, business re-engineering demands a good understanding of information management and improved processes and controls for recordkeeping (Lipchak , 2002)

As an example, the transfer or sharing of responsibilities and powers with other bodies – for example, the operation of prisons by private sector companies – requires effective recordkeeping to ensure that expectations (based on documented policies and regulations) and subsequent performance are clearly documented, understood and verifiable.

Contracts and agreements need to define the relationship among the parties, their authority and their accountability. Records of how programs and services are being performed are essential in order to determine effectiveness. Where good records are not kept or not accessible to participants and to the public, there is no trustworthy evidence to show that the arrangements are adding value and that they are satisfying expectations of openness and accountability. It is crucial that key recordkeeping and other information management issues be resolved when agreements and understandings are put into place.

Agreements need to assign clear responsibility and authority for the creation, ownership, maintenance and disposal of business records so that they are available, accessible, secure and trustworthy for as long as they need to be.

E-government requires an information management infrastructure consisting of people, policies, standards, practices and tools in order to ensure that information is managed as a valuable public asset over its life cycle.

2.9. KNOWLEDGE MANAGEMENT

There are as many definitions of knowledge management as there are people who understand this subject. Most people recognize that knowledge management is a tricky subject. Various definitions have been given to knowledge management, until recently; the discourse on knowledge management was dominated by technological aspects especially among practitioners

Information and communication technology provides very powerful and easily manageable possibilities of retrieving, exchanging and generating data, information and knowledge.

Constructive approaches suggest that only data or information is being exchanged among people. Knowledge could only be generated by the integration of data within the framework of references and experiences of an individual human being. As such it is the basis for enabling successful action.

Knowledge management can also be defined as "the acquisition, coordination, diffusion, creation, and utilization of knowledge to improve fundamental business processes. These processes exceed individual, team, departmental and organizational boundaries to include customers, partners and dealer channels" (Hempel, 1998)

Davenport in Kavi and Suresh (2004) gives a more comprehensive definition of knowledge management and its implications. "Knowledge Management is concerned with the exploitation and development of the knowledge assets of an organization with a view to furthering the organization's objectives. The knowledge to be managed includes explicit, documented knowledge and tacit, subjective knowledge. Management of this knowledge entails all the processes associated with the identification, sharing and creation of knowledge. This requires systems for the creation and maintenance of knowledge repositories, and to cultivate and facilitate the sharing of knowledge and organization learning. Organizations that succeed in knowledge management are likely to view knowledge as an asset and to develop organizational norms and values, which support the creation and sharing of knowledge".

Knowledge Management is a new concept which is going through a maturing process; hence it is difficult to come up with a succinct definition. From these two definitions, one can deduce that knowledge management has two key elements, which are information and people.

The information side of knowledge management is about the effective use of tools and processes to deal with information throughout its "life cycle". It involves taking a strategic approach to creating, capturing, using, organizing, sharing, preserving and maintaining information and knowledge.

The people side of knowledge management is about effectively managing the continuity of implicit knowledge by way of consultation, collaboration, discussion, training and development, mentoring and succession planning.

Implicit or tacit knowledge also represents an important challenge for knowledge management and especially for codification approaches. (Polanyi, 1998) The majority of our knowledge is not easily communicable. Learning by doing, intuition or day-to-day activities are sources and evidence of the importance of tacit knowledge.

By managing both explicit and implicit knowledge more effectively, an organization can better leverage its knowledge assets. Knowledge management will enable the government to achieve better value for its investment in people and information.

At the broader international level, information is being recognized as the lifeblood of a global society and a global economy that transcends all countries rich or poor. Globally and within individual nations, digital technologies are radically changing the way government functions, manages its resources and how it interacts with citizens, clients and customers.

Wimmer (2002) further states that since knowledge management deals with information and knowledge resources at large, much of the work of public authorities refers to the elaboration of data, information and knowledge on citizens, businesses, the society, the market, the environment, laws, politics, etc.

Although knowledge management is a new concept, most knowledge sharing and knowledge transfer practices have always existed in most organisations. Many organisations do not know or use the term "knowledge management", however they use many knowledge management instruments .

The term "knowledge management" is used loosely to refer to a broad collection of organisational practices related to generating, capturing, disseminating know-how and promoting knowledge sharing within an organisation, and with the outside world, including organisational arrangements (decentralisation of authority, opening up bureaucratic divisions, use of information and communication technologies, etc.)

E-government and specifically the concept of online one-stop government integrate dislocated information and knowledge sources to a global virtual knowledge fabric.

Modernization and re-organization of government work and responsibilities imply significant changes to knowledge resources. Even when introducing information technology into a specific administration, project knowledge on which decisions have been made, why they have been made and how problems have been solved represents valuable knowledge resources for future changes.

Since 1994, with the advent of the first democratic dispensation in South Africa, the government at all three spheres have experienced fundamental restructuring. The focus thus far has centred on structural and legislative changes, with little consideration for its intellectual capital and its management.

The environment in which municipalities operate is significantly more uncertain and competitive than it was in the past. Globally, and nationally, there are huge pressures on them to modernise and to transform into institutions able to facilitate and drive development in a knowledge economy. The rate of innovation that is required to stay alive in modern organisations and societies is outstripping the rate at which the command and control management model, which characterizes most South African municipalities, can actually dream up ideas and act on them. The least adaptive organisations are crumbling. (Haricharan, 2003 b)

Ironically, it may be that growing interest in knowledge management will lead to the awareness that it is impossible to manage knowledge unless staff are able to deal with the records and information that are the sources of knowledge.

In his State of the Nation Address in February 2001, South African President Thabo Mbeki stated that because of the critical importance of the telecommunication sector, two bodies would be established "to assist the government as it works further to ensure that we do not fall further behind the rest of the world as a result of the digital divide" These two bodies are the Presidential National Commission on Information Society and Development and the Presidential International Task Force on Information Society and Development. The Department of Communications also established   a unit called Knowledge Management Development Unit, and began implementing a Knowledge Management Communication strategy.

In its most basic sense, knowledge management consists of "smart use of know-how". Whatever the organization is producing (goods or services, commercial or political), the knowledge of employees makes its biggest contribution toward the value-chain that turns inputs into outputs. (Mabaso, 2005).

What many government organizations call knowledge management in some instances involves providing employees with the sufficient information technology to enable them to process the data and information from either public submissions or collaborations, an attempt to match know-what and know-how.

A review of knowledge management literature reveals that information technology, people and culture all play vital roles in knowledge management processes. Indeed, a key question for today's knowledge management practitioner is how to integrate information technology, including knowledge repositories and content management tools, people and culture to enhance knowledge reuse processes within organizations. However, organizations often deploy knowledge repositories without careful consideration of business, culture and people issues. As a result, knowledge re -user needs can go unmet.

Recent research shows that the biggest pay-off from knowledge management only happens in an atmosphere of trust and sharing. (Sutherland, 2005). Employees must be empowered to organize their work, negotiate with clients, and earn rewards for productivity enhancement. The major benefits of knowledge management are the result of strategic thinking throughout the organization.

Knowledge Management might better be called knowledge mobilization. How do people "naturally" mobilize their knowledge in a work environment? (Riley, 2003 a)

Information management, whether of data, or indicators, or knowledge, needs to be planned as a subject mater in and of itself, with its own personnel, programs, and hardware and software technologies.

Management by objectives is the most effective way to accomplish information management when both organizations and technologies are changing.

Most government departments and Municipalities have also established a "Learning and KM" initiative. In all these initiatives, except the Department of Public Service and Administration, the emphasis has been on technology and not on knowledge management.

New technologies are only an enabler of stronger network relations. They cannot replace a deeper change in the culture of knowledge sharing.

E-Government is the use of ICT to promote more efficient and effective government, facilitate more accessible government services, allow greater public access to information, and make government more accountable to citizens. E-Government might involve delivering services via the Internet, telephone, kiosks (self-service or facilitated by others), wireless devices or other communications systems

Integrated decision-making requires a more sophisticated understanding of inter-dependencies, a more systematic set of knowledge development and sharing processes and links between business areas and planning processes, including environmental scanning, risk management and program evaluation.

Streamlined knowledge collection and simplified knowledge sharing across organizational boundaries further an integrated approach to decision-making.

The shift in the role of government changes the way in which we conceive public policy issues and the way in which we develop, implement and continuously improve solutions to address those issues. Issues are often addressed from the program or department perspective. In many circumstances, this may no longer be appropriate.

Clusters - groups of departments aligned by business area - for policy, I&IT, audit etc., give some organizational expression for taking a broader view, however we need to

consider how to apply resources across organizational boundaries to leverage what we have learned and to craft better approaches to the work of government.

Policy renewal, quality service, integrated service delivery and e-government all require a new way of working. Knowledge management can further these key government objectives by breaking down organizational "silos" and fostering collaboration across boundaries.

This will enable access to more and better knowledge to support decision-making, improved access to identify and address inter-dependencies; opportunities to innovate and to customize services based on a better and multi-disciplinary understanding of what citizens want and need from government.

The concept of "one –stops- shopping" and bundling of services cannot be successfully done without the pooling of resources and sharing of knowledge across program and organizational lines.

The fact of the matter is that the South African government can gain tremendous advantage by applying a more structured and consciously planned knowledge management initiative, because knowledge is not a commodity but a process.

2.10. RELATIONSHIP BETWEEN INFORMATION MANAGEMENT (IM) AND KNOWLEDGE MANAGEMENT (KM)

Organizations have a tendency of failing to see or make a distinction between information and knowledge management. For the purpose of this study, the writer feels it is important to make this distinction clear.

"Information Management" is the structured organization of predefined data, while " Knowledge management" is the ability to link structured and unstructured information with the changing rules by which people apply it.

The rationale of the relationship between IM and KM is derived from the fact that employees in organizations are constantly transforming knowledge into various forms of information such as memos, e-mails, manuals and reports while they acquire information from others to improve their knowledge (Furlong, 2001).

According to Choo, (1995) IM is the key for sustaining knowledge creation and application in an organization. The perpetual regeneration of knowledge into information and subsequently into knowledge is necessary as people are not always able to share knowledge in person with others due to constraints such as time, number of people to be informed and geographical location differences.

Furlong (2001) expands on this by stating that "KM improves IM by developing easily accessible repositories of information about knowledge. This information guides the employee to the required source of knowledge whether a document or an expert"

Knowledge management is not merely focusing on organizing and administrating the information, but also on reflection on the consequences of the information, how it relates to other information with respect to the company's values and strategies, and to the person's own experiences and knowledge. Knowledge management is concerned with organisational, behavioral, human, cultural and technological aspects, while information management often tends to focus only on technology and administration.

Recent research shows that the biggest pay-off from knowledge management only happens in an atmosphere of trust and sharing. Employees must be empowered to organize their work, negotiate with clients, and earn rewards for productivity.

'Knowledge management encompasses both the management of information and the management of people. Knowledge cannot be managed directly – only the information about the knowledge possessed by people in organizations can be managed.' (Streatfield and Wilson, 1999)

This statement by Streatfield and Wilson is an example of the emerging recognition that sound information management practices form a solid foundation on which successful knowledge management strategies can be developed. Good information management is seen as the essential prerequisite to knowledge management (Horne, 1999) yet many organizations are developing knowledge management strategies based on technical systems that disregard the information resources and the people who create the knowledge.

Information management, whether of data, or indicators, or knowledge, needs to be planned in a "platform independent" way, i.e. as a subject mater in and of itself, with its own personnel, programs, and hardware/software technologies. Neither the specific hardware nor the software currently in vogue is likely to remain both available and supported for very long. Better technological innovations are almost certainly on the horizon, perhaps even in the pipeline. Management by objectives is the most effective way to accomplish information management when both organizations and technologies are changing at "the speed of light". (Riley, 2003a)

2.11. INFORMATION POLICY AND E-GOVERNMENT

In most countries, a variety of laws, policies and organizational practices affect how information is gathered, managed, distributed, protected and used. From the perspective of governance and accountability, the most important provisions are the guarantee of the right of access to government records and the right of protection of personal information held by government.

Access to information or "freedom of information" laws, where they exist, are based on the principle that the public's right to know is a fundamental element of democratic governance (subject only to specific and limited restrictions on that right).

The Constitution of South Africa[2], also supports this, Sections 141 and 195 of the Constitution provides and determine that public administration must be accountable. It must be effective, economical and use the resources efficiently. There must be provision of timely, accessible and accurate information. Government bodies must be able to retrieve the right information at the right time and explain why records cannot be made available on request.

Information laws provide an invitation to citizens to learn about and participate in their governance and to use the records to hold government accountable. As Robert Vaughn, (2002) noted, such laws assure the rights of citizens to:

"Observe, understand and evaluate the decisions and conduct of government officials. Access to information permits citizens to challenge governmental actions with which they disagree and to seek redress for official misconduct. Access to information also deters official misconduct by reminding public officials of their accountability. The concept of transparency incorporates these same values underlying democratic accountability, values commonly referred to by the term 'open government'.

South Africa is also bound by the Promotion of Access to Information Act[3]. The objectives of this Act are to give effect to the Constitutional Right to Access Information (sect 32 of the Constitution)

The purpose of this Act is to promote transparency, accountability and effective governance by empowering and education the public
- To understand and exercise their rights
- To understand the functions and operation of public bodies, and
- To effectively scrutinize, and participate in decision-making by public bodies that affect their rights.

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[2] The Constitution of South Africa, 1996
[3] The Promotion of Access to Information Act, 2 of 2000

Empowerment and education of everyone to understand their right to access information, to understand functions and operations of public bodies, and to effectively scrutinize, and participate in, decision-making by public bodies that affect their rights

Promotion of Access to Information Act enshrines the belief that, in a democratic society, government records should be accessible to the public unless there are very compelling reasons why they should be not be accessible. It encourages government departments to be more open with their records, not only by providing ready and convenient access to records in response to formal requests, but by proactively disseminating information that the public is likely to want or needs to know.

Without good records and effective recordkeeping practices, however, such guarantees and encouragement are meaningless. If records that should exist are not created, if they are incomplete or inaccurate, or if access to them is unreasonably delayed, the rights that the law is intended to protect are empty ones.

Recently the government promulgated another act, which also supports the electronic records keeping, the Electronic Communications and Transactions Act[4]. This Act strengthens the legal environment for e-government and e-commerce.

The Electronic Communications and Transactions Act further give electronic documents, contracts and signatures the same legal weight as their paper equivalents.

Lastly, the Promotion of Administrative Justice Act[5], which ensures that administrative action is lawful, reasonable and fair and properly documented.

Among the greatest information management challenges of e-government will be that of preserving important electronic information over very long periods of time. Most IT development is focused on immediate business needs, exploiting rapid technology improvements; yet some government records must be maintained in usable forms for many years. For example The Justice Cluster (comprising of the Department of Justice, Correctional Services, Social Development and Social African Police Services) has integrated its services, from criminal investigation, arrest of criminals, and court process through the correctional service to final release by Correctional Services back to society.

The new system is being developed and is called the Integrated Justice System. Part of this development involves the automation of the South African Police Services' criminal fingerprint system and the scanning of all existing paper-based records.

This Integrated Justice System will need to protect the integrity of key justice records, many of which have a very long operational life. Most of the criminal records files are kept for twenty years. Even for electronic records and data that are needed for shorter periods, the system life cycle is often shorter than the information life cycle.

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[4] The Electronic Communications and Transmission Act, 25 of 2002
[5] The Promotion of Administrative Justice Act, 3 of 2000

Lipchak (2002) argues that the importance of archives is not universally recognized. In a technological environment focused on the future, the value of what is sometimes deprecatingly called "legacy" information is often neglected.

The volatile nature of information in electronic form presents huge challenges for archivists, historians, lawyers and others concerned about the need to preserve authentic and authoritative information about the past. The fact that National Archives also have corporate authority for records management in many countries testifies to their records-related expertise and to their concern for the long-term integrity of the public record.

The prospect of identifying, selecting and preserving a comprehensive and credible record of important programs, policies and decisions depends on how well the records of government have been managed and protected over their life-cycle. A meaningful archival program cannot be sustained in the absence of an effective records management program.

Electronic media deteriorate, software applications come and go, and hardware becomes obsolete. Much valuable data becomes no longer retrievable. Data migration must be undertaken but this is often difficult, costly and unreliable, especially for newer and more complex data formats.

Even if a conscientious and continuing effort is made to migrate data, one cannot be able to assure that after multiple software and hardware upgrades, the content, context, and structure of the information will still be intact. Information management infrastructure will not be new or technology dependant.

 Information will continue to be created, acquired, used and preserved in a variety of forms that satisfy business requirements and user needs and capabilities. The principles and many of the processes of information management will be the same ones that apply to information in its traditional forms.

2.12. E-GOVERNMENT AND SKILLS

Planning for IT systems is closely linked to manpower plans. Training and development, recruitment and reward strategies are all used to enhance the acquisition, use, and sharing of information and knowledge.

For example, many people now use the Internet to work out their travel arrangements whether it be a short local trip or around the world. Travel agents are competing with knowledgeable citizens who can go out and find themselves the best deal for the personal, business or vacation trip being planned. Countries, cities, and towns now make space for tourism on their web sites. But this is not just about tourism. It is about the Internet as a technology to which an individual can adapt the new information and communications technologies to one's own needs or interests. This means that people will use the technology based on their desired level of participation and interests. People scour the net to get what suits their needs and interests. The travel industry is but one

example. Thus knowledge attained can range from the trivial to the profound. But the Internet is not just the biggest library in the world. The Internet is more than a library. It is a medium that allows interactive communication whether it is in real time or virtual time.

In all disciplines, intermediaries are being replaced through direct action of groups and the citizen. This change is impacting on every aspect of life both online and offline. In the travel industry governments are now effectively competing for the tourist money amongst their own citizenry. The global citizen is not necessarily confined to knowledge sources in one's own country. The same can be said of information and services. While national jurisdictions will be delivering specific services electronically to their citizenry, these same governments are also in the business of competing on the world stage and offer a range of services from trade to tourism.

A knowledgeable individual, who has more access to the world than historically possible ever before, is also a citizen that will probably, in time, continually expect more and more from government. The global citizen, who understands and is an intricate component in this new technology, will also not be confined to work in his or her own country. Many people work around the world offering services from their home office in their national country to other countries and international organizations. The global citizen understands that the laptop computer, the mobile phone or Internet cafes are the new offices of this citizenry.
E-government implies fundamental knowledge redistribution and requires a careful rethinking of the management of project know-how, domain expertise, information resources and knowledge bases.

As the work of government changes, there is the need to change how government works. There is a greater focus on policy making, standard setting and service management. This shift in the role of government calls for more integrated decision-making in policy, program planning and service delivery.

One of the challenges sighted by Shilubane and Mokolo (2005) in e-government initiative is the skills. They maintain that South Africa needs to build skills not only in the area of technology development but also to re- skill users to effect the necessary changes for delivering services differently.

Government staff often do not have the necessary skills to deal with the overwhelming volume and complexity of electronic records in e-mail systems, the Internet and intranets, distributed databases, geographic information systems, data warehouses and in a variety of files and folders of uncertain origin and over which little ownership and control have been exercised. Moreover, workers are often unsure of when and how they should create a record to document a business activity or decision adequately.

 E-Government is not a shortcut to economic development, budget savings or clean, efficient government. It is a process and often a struggle that presents costs and risks, both financial and political. These risks can be significant. If not well conceived and

implemented, e-Government initiatives can waste resources, fail in their promise to deliver useful services and thus increase public frustration with government. Particularly in the developing world, where resources are scarce, e-Government must target areas with high chances for success and produce "winners." Moreover, e-Government in the developing world must accommodate certain unique conditions, needs and obstacles. These may include a continuing oral tradition, lack of infrastructure, corruption, weak educational systems and unequal access to technology. Too often, the lack of resources and technology is compounded by a lack of access to expertise and information. (Haricharan, 2003a)

"Help Desks", for example focused on IT systems and applications are of limited value in dealing with basic records and information management problems.

With a decline in records management programs and often weak electronic records skills among records management staff, workers are often left to fend for themselves with little or no training in managing either their electronic or paper records.

Electronic mail provides a good example of both the benefits and challenges of the electronic information environment. E-mail is probably the most common form of business communication today. What sets e-mail apart from other electronic records is the difficulty it presents to those trying to identify the records hidden in it. It is essential to learn how to manage e-mail messages just as other records are managed, and to identify, retain and make e-mail records accessible as long as necessary(Venter, 2005)

E-mail has many pitfalls, including poor retention controls, wasting resources, the potential for lawsuits, incompatible attachments, and misdirected e-mail. One of the greatest challenges of managing e-mail effectively is distinguishing e-mail records from non-record e-mail. E-mail messages are official records when created in the course of business and retained as evidence of official decisions or actions. Non-record e-mail includes extra copies of documents, personal messages, and announcements of social events. E-mail retention and disposition requires an organization to develop uniform practices to retain and dispose of e-mail, making sure to inform staff through policies and procedures.

 As with other records, retention periods for e-mail records are based on their administrative, legal, fiscal and research value. (National Archives and Records Services of South Africa, 2004)

Given the volume and complexity of electronic and other documents being created and maintained manually and within discrete government systems, it will be essential for government departments to incorporate these powerful information management tools into their information and technology environments. (National Archives and Records Services of South Africa Services, 2002)

The benefits of these and similar electronic tools have usually been described in terms of improved organizational efficiency and control. The ultimate benefits, however, lie in

improving access to a confusing array of documents and files and helping to satisfy citizens' expectations that government is able to produce, manage and provide the evidence of governance programs and activities.

Although electronic systems have become the primary medium of information creation and exchange in commerce and in many government departments, the paperless office remains unachieved. Governments and their clients continue to rely on paper in numerous situations because of its convenience and familiarity Many citizens still do not have access to or feel comfortable with computers and the Internet.

As stated earlier on IT equipment remains unaffordable for the majority of South African citizens. They depend on more traditional channels and media (in person, the telephone, mail) for accessing government information.(Mabaso, 2004). Even in highly computerized environments, government must be able to provide service through traditional as well as electronic channels and to manage its information and records in multiple media and forms. (Lipchak, 2002)

To support the shift from paper mountain to data , traditional records management principles are needed but matched to new policies, standards, structures, systems, tools and skills. (Venter, 2002). As the electronic work environment changes the way government conducts business, staff will need to shift attention: from technology management to information resource management, from physical documents to logical documents, from media preservation to information preservation.

Professional silos must disappear as program managers, records managers, technology specialists; information systems architects, website managers, access and privacy administrators, auditors, archivists, librarians, lawyers and others recognize their shared interests in maintaining the integrity and exploiting the value of information

Enhanced records, information and knowledge management skills are important for all public servants. As "records management" moves to the desktop (supported by effective system protocols and tools), all staff will be records managers, information managers and, ideally, knowledge managers.

At present, there is a great need for these information-handling skills, but little demand that they be developed as part of government human resources training strategies. (Venter, 2005)

Most government employees are what Robert Reich (1992) called 'symbolic analysts', or have otherwise come to be known as 'knowledge workers'. But the only way to ensure real benefits from computerizing this work was to change the focus of recordkeeping from document archiving to electronic repositories. Instead of seeing government work as being supported by information, a gradual shift in perspective has come to re-define that work as consisting of information. This approach is only effective however if information is treated as a resource and properly managed.

CHAPTER 3

RESEARCH METHODOLOGY

This study set out to determine the information management in the age of E-government, the case of South Africa.
The following chapter will consist of an explanation of the research methodology, the data collection process and the data analysis procedure, which were used in this study.

The study consisted of 3 components: the questionnaires, interviews with government employees or officials, and interviews with people who attended the E-government workshop that was organized by the Department of Public Service and Administration.

3.1. RESEARCH PHILOSOPHY

This study used the hermeneutic approach which goes hand in hand with qualitative research. The focus of the study was on the understanding of the phenomenon and has therefore carried out open interviews with qualitative results.

Phenomenology is the term used to describe a body of knowledge which relates several empirical observations of phenomena to each other, in a way which is consistent with fundamental theory but is not derived from the theory.

Phenomenology argues that social situations such as business and management settings are functions of a particular set of circumstances, therefore the product of business research should not be scientific, law-like positivists' generalizations, as these generalizations' culture is unique and the world of commerce constantly changing, then generalizability is not important as the circumstances of today may not be relevant in a week's or a few months' time. As a consequence, phenomenology attaches value to generalization. (Saunders, Lewis, and Thornhill, 2000)

The strongest argument in favour of phenomenology is that, that philosophy's flexibility facilitates the discovery of the reality of a situation or the reality behind a situation. (Saunders, Lewis and Thornhill, 2000).

3.2. RESEARCH APPROACH

Since a part of the purpose of this study was to investigate how e-government could be used to enhance information and knowledge management, the writer conducted a qualitative research. Qualitative research allowed the writer to get a good understanding of various departments, something that is very important when examining information management issues.

With a qualitative approach, one studies a phenomenon thoroughly and seeks to understand aspects that sometimes are not expressed explicitly, for example people's opinions.

Considering the limited amount of time the writer had at to her disposal, the writer could not have been able to develop a deep understanding of the information management in various departments. Information management is to a large extent about organizational and cultural issues, and it can be difficult to get a good understanding of these by only conducting a few interviews.

The writer considers the qualitative approach, combined with elements of action research method, to be a satisfying one. By regarding the e-government as a system with many related issues, the writer has been able to adopt a holistic viewpoint. The e-government cannot function as an entity by itself; the interactions with the surrounding elements must be taken into account.

3.3 RESEARCH STRATEGY

Two principal sources of data for the research were a literature search and conducting a survey of government departments that were involved in e-government initiatives or who were supposed to be part of the e-government initiative.

The interviews have been carried out in the form of open questions, where the respondents were allowed to develop their thoughts and opinions, because the writer was looking for the respondents' own values and attitudes to be able to understand their situation in the social processes in their departments.

Qualitative studies allow for flexibility during the interviews in two ways. If the researcher found out that she has missed a question or formulated it wrongly, there is a possibility to correct this. There is also flexibility in how the respondents are approached. The questions may vary between the interviews, as well as the order in which they are asked. This has helped the researcher to conduct the interviews with open questions, where the interview has been carried out as a discussion between the researcher and the respondents.
However, the researcher used a structured method for the interviews, which means that the researcher had formulated and distributed the questions beforehand and the respondent has had time to prepare for the questions.

Primary data were collected through distribution of a questionnaire and interviews. 100 questionnaires were sent out during October and November 2005.

Personal observations were an important complement to the interviews. Even when the researcher did not conduct proper interviews, she was able to get valuable impressions of how the departments were managing information. Since she was sitting among the other

employees from other departments in cluster meetings as well as in the e-government workshop that was organized by the DPSA, she could provoke and take part in discussions where valuable opinions and ideas were shared. To get a full understanding of the e-government issues, the researcher attended both national workshops that were organized by the DPSA and made personal observations.

3.4. DATA GATHERING

The target population of this study was defined as all government employees, and those that were involved in the development and implementation of the e-government project, in all levels, that is both middle managers and senior managers.

Information management is the key resource for all departments who are engaged in e-government. Furthermore all departments have websites and these websites were part of the gateway portal.

The researcher did not have the opportunity to interview everyone in the various departments. This may have consequences for the research paper, in the sense that the researcher did not receive all valuable opinions that may exist. However, the researcher did interview 10 senior managers from various departments, and tried to cover as many aspects of information management as possible.

Due to practical impediments with geographically dispersed sites, the researcher has mainly conducted the interviews in Pretoria, where all departments' national offices are based, and where she was situated. This is of course a weakness, in that e-government covers all departments and local governments, as well as local municipalities.

Information management is to a large extent about organizational and cultural issues, and it can be difficult to get a good understanding of these by only conducting a few interviews

To let the respondents develop their opinions and ideas, the researcher had to allow for more open discussions where the structure was used as a checklist instead of an absolute agenda for the interview. This could have implied difficulties to compare the results, but the researcher did not encounter any greater problems. As explained above, qualitative studies allow for some flexibility during the interviews.

There are always risks connected to interviews. The respondents might be influenced by the researcher, they might be afraid of expressing their true opinions, they might be influenced by their peers and colleagues, they might misunderstand the questions, the researcher might not ask the right questions, she might not be able to interpret the answers correctly, the researcher might misjudge the opinions of the respondents, and there might be discrepancies in the language.

The researcher tried to reduce these risks in the following ways. Firstly, by letting the respondents study the questions beforehand and then have a discussion, the researcher

thought that could reduce the influence on their opinions. There is a risk that people in the departments perceived the researcher as sent out by senior management to get intricate opinions from the employees, which then could be used against the people who were honest and shared unpopular opinions, and all departments want to be perceive as people who are doing their job like all other departments, they can therefore not give the honest answers.

 Secondly, the researcher tried to use a language that was understandable or suited to all departments.

Many of the interview questions regarding the needs of an e-government got very similar answers, which leads the researcher to believe that she did assess the major needs of the departments. In general, people had a very clear opinion of what they needed to facilitate their work, and people with similar work responsibilities at different departments, often identified similar needs or concerns.

The questionnaires were intended to give the researcher the opinions of the people the researcher did not have time to interview, but she got very few answers despite the fact that the questionnaires were distributed via the Chairperson of the GITO Council and the Chairperson of the Knowledge Management Workgroup. Only 50 questionnaires were returned. These questionnaires consisted of multiple choices and open-ended questions.

Secondary data was used to explain how information by various departments should be managed

3.5. LIMITATION OF THE STUDY

The study did not proceed without obstacles. It has been mentioned above that the response was poor.

The questionnaire was emailed to all participants, but the researcher thinks that people were not used to this idea. The culture in the departments may have been such that they were wary to state their opinions.

The researcher also encountered some difficulties when she was discussing both information and knowledge management issues. Even though she tried to explain the concept, people seemed to have little to say, and those who contributed could not clearly differentiate between information management and information technology.

Most government departments when they talk about information, they talk about information technology as if it is one and the same thing.

The timing of sending out these questionnaires was also not right since some people were writing exams and others were already on holidays. The other reasons that one may state are the following:

- The researcher attended an e-government workshop, where all government departments were invited to have their inputs regarding the e-government and the way forward. She did indicate that there was a gap as far as information management is concerned, during the discussions; she stated that e-government was focusing on technology issues rather than looking at the content which is the challenge for most government departments, after the workshop the researcher then distributed the questionnaires. The possibility might be that, people did not feel comfortable to disclose their ranks, and roles in various departments, and also to respond to the questionnaire after discussions.
- People did not know much about both information and knowledge management as discussed above, the possibility is that they did not want to portray themselves as ignorant on the subject in front of the researcher that was holding the same position as them.
- Some questions required the departments to comment about the current status of their departments as far as the information management is concerned. The respondents might have felt they could be betraying their managers' or superiors' trust.
- Senior Managers themselves did not respond very well. The possible answer that one may give is that leaders are not yet ready or do not know their role in e-government. It is not in their agenda since they perceive e-government as the responsibility of information technology directorates within their departments.
- Some questions that were asked especially to senior management, were putting them into a corner to respond with honesty to issues that they were not implementing and they were not ready to change the way of doing things.
- People who are working in Information Technology sections felt that the researcher since she is also responsible for information management in her department was sort of a watchdog over them, and therefore to them, the questionnaire was sort of criticizing what they were presently doing and therefore they had to defend themselves or not to fill in the questionnaire.
- Most people in that workshop were hearing for the first time about the e-government, yet the gateway portal was published last year, and one would have assumed that all departments were consulted before the portal was developed and implemented.

CHAPTER 4

RESEARCH ANALYSIS

The following questions were asked and the responses are given below:

1. Position/Rank in the government department

15% of the respondents were Chief Directors, and 35% were Directors, 25% Deputy Directors, 15% Assistant Directors and 10% others.

The result shows that most of senior managers were well represented for the purpose of this study.

2.   Were you consulted for the e –government project

 90% of the respondents were not involved in the e-government project, and they sighted that it was IT in their departments that was directly involved in this project, and 10% were consulted

This was clearly a problem because the researcher assumed that the fact that they were attending an e-government workshop, meant they were aware of the purpose of the workshop, which was a follow up on previous meetings which were established by the government departments.

3.   How often is the information updated in your website?

80% said if there is a need, 10% said quarterly, 10% said monthly
The result for this question in particular shows that the government employees clearly did not understand the importance of accurate information for the e-government project, especially when it comes to citizen participation.

4. On the role in the e-government

90%f the of the respondents did not have any role in the e-government except 10% of the respondents who were clearly working as webmasters of their department's websites
Again this was in support to question 2 where the majority stated that they were not involved in e-government, hence they did not have a role in e-government except IT of course.

5. On whether the information gathered by their departments during the course of its normal business transaction is captured?

60% said no, and 40% said yes through Information Technology (IT) Section, but they did not said how this is done.

Most respondents did not have a clue as to how information is captured in their departments, and those who knew assumed that IT was responsible for this function and again they did not know how IT does that.

6. Procedures which are in place to ensure access to relevant information

67,5% said no, and 32,5% said yes and since they were supposed to explain the procedures, 5% said a web system was in place, 21% said they are still putting the procedures in place, 1% busy coming with knowledge management strategy, 5, 5% cited intranet and workflows.

Clearly most respondents did not know what is expected by their Departments, and those who said yes rely on IT, and one could also notice that some respondent tend to think that the principles for knowledge management were different from information management, or knowledge management will solve the information management problems.

7. Does your department have policies or standards for access to information?

10% of the respondents said yes, and they said their departments have information security policy which addresses issues of access to information.

80% said no.

10% said they are still in development phases.

This is a challenge for all departments, because it means that there is a need for common standards and accessibility to information that is available in the e-government.

8. Are there clear procedures for responding to requests for information?

99% said no, and 1% said, yes and the respondents further explained that the standards are in place. If there are no standards in place, clearly there is poor coordination and no collaboration of information.

9. Does your Department conduct regular assessments of user needs as they relate to information

95 % said no, 1, 5% said through the promotion of access requests, 1,5% said yes through the information audit, and 1% said yes there is a unit responsible for signing off, and 1% said through project authorization.

Respondents, who said yes, clearly did not understand the question. Signing off and project authorization has nothing to do with assessment of user needs. This is a challenge because identification of user needs and assessment is a critical point in information management.

| **10. Has your Department developed an information management policy?** |

99% said no, and 1% said yes.

| **11. Is electronic information being maintained throughout its life cycle?** |

99 % said no, and 1% said yes through IT, but again they did not explain in details

| **12. Do you document changes in the way information is created and collected?** |

95% said no, and 5% said yes by notifying the webmaster who is supposed to update the information in the website.

| **13. Are there links (formal and informal) between the IT, Records Management, Communication and other IM professionals in your Department** |

97% said no, and 2% said yes through SITA and Department of Communications, and 1% said yes, all the links belong to one chief directorate

| **14. In your opinion, what are the advantages of e- government(Please tick in the appropriate boxes) and if none above** |

98% feel that e-government's advantage is on prompt availability
20% up to date
98% accessibility
98 % desktop availability

| **15. Barriers of e government** |

2% said its poor search capabilities
90% said inappropriate or incomplete information
10% difficulty in finding the service
95% concerns about security and/or privacy

16. Is there an effective implementation of records management well understood by your section or department

98% said no, and 2 % said yes and again there was no explanation.

17. On the department participating in knowledge management across sectors of other government departments by making information available for sharing purposes

90% said no, and 10% said yes.

18. In your opinion is the information easily accessible?

90% said no, and 10% said yes.

19. On the content of e-government

90% said its attractive
20% said its interesting
20% said its relevant
10% said its informative
2% said none of the above

20. On the culture of the Department, 3 questions were specifically asked

20.1. Staff now considers that sharing information and knowledge will be good for their careers

95% said no, and 5% said yes

20.2. Staff spontaneously shares information with other staff from other divisions/departments/branches

98% said no, and 2 % said yes

20.3 . Staff makes documents available to other more spontaneously

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5% said yes and 95% said no, and they cited that there is no coordination of information.

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21. On measures that should be taken to improve the e-government

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98% said yes, and 2% said no. Those who said yes cited various reasons, 20% of the 98% percent, stated that e-government must be driven by citizen's needs and not by what the Departments wants, 5% stated that the language available in the portal should be accommodative of all users, 10% stated that an intensive feasibility study should be conducted considering limitation of infrastructure in provinces, 50% felt that strong coordination is still needed on content management across all departments, and 8% senior managers must take responsibility of the e-government because as juniors they cannot take that decision.

CHAPTER 5

5. RECOMMENDATIONS

This chapter will summarize the recommendations for information management in the age of e-government, the case of South Africa. It is clear that all departments are wrestling with the problems of information management. Information Management is clearly not understood by the government departments and even bodies that are supposed to take an active role in terms of leading seem not to know their role. For example, in other countries like Canada, the National Archives and National Library have a statutory role in information management, for both hard copies and electronic information including systems like e-government.

The very same bodies are available here in South Africa, but do not play an active role. A focus on technology as the solution to all problems often obscures the critical information issues on which real government transformation depends.

The National Library of South Africa and National Archives of South Africa are two of the most important bodies that needs to be on Information Management integrated work plans to build capacity.

Developing Information Management culture is the biggest challenge.

Information Technology improves business performance only if combined with competent information management, and the right behaviors and values.

From the findings it is clear that the South African government needs to re- evaluate e-government and look at information management issues seriously.

There is a lack of understanding of information management and limited awareness of its importance in government departments;
- Departmental business, information management and technology requirements are not integrated or well aligned;
- The accountability framework for information management is weak and fragmented within the government;
- The infrastructure of policies, standards, practices, systems and people needed to support IM is insufficiently developed.

At the present moment the leading governmental committees (DPSA, and GITO Council) that are responsible for e-government seem to focus on information technology, yet information is the defining resource of e-government, and critical governance issues and choices hinge on fundamental information management questions such as:
- What information needs to be created and acquired?
- For what purposes?
- Who will have access to it?

- Will information be shared, combined and integrated to solve increasingly interconnected problems?
- Who will own and control the information?
- How will its security, integrity and value be protected?
- Who will be responsible for making decisions about these issues?

These questions can help to manage information in e-government. Uniform principles should be established across the government to ensure consistency in government dealings.

All government officials, whether working in the front, or back area of the information, have common responsibilities.

They must equally know how to keep the workflow going, and the same at time understand information management issues and behaviors.

The National Archives of South Africa   must review and strengthen its corporate information management role. It must develop tools for assessing and improving departmental records and information management capacity.

5.1. RECORDS MANAGEMENT

There are certain fundamental requirements of records keeping which could be established even if there were allowance for differences in the practical implementation of standards.

It is important that the objectives of good recordkeeping and the reasons behind are, clearly understood throughout public administration. Authentic and trustworthy records and convenient access to them provide the fundamental means by which the transparency, accountability and effectiveness of government and its partners in governance can be accomplished, demonstrated and measured.

 Governments keep records as a fundamental basis for conducting business, serving the public, measuring progress and outcomes and protecting their own and others' rights. Records enable programs and services, public access to them and the availability of information about them. The records of government must be carefully managed to provide the legally verifiable evidence needed to support good management, fulfill public policy objectives and protect fundamental values on which the society is built. Records make e-government possible.

The role of the National Archivist in establishing standards for the creation and management of government records is absolutely crucial. The archives needs to be able to set standards, determine and promote best practice in order to ensure that archives will be created to support the business of government and will be retained where necessary for

the wider public good. Although this is done they clearly have not been actively involved in electronic records.

There have been discussions between SITA and National Archives, but those discussions were more on procurement of electronic records and document management systems and clearly not on e-government.

The development of e-government requires the ability to assess current information and records management capacity and to plan and implement strategies to improve that capacity. There is a need for effective tools and strategies to support these objectives.

Electronic Records are the backbone of e-government, therefore business process, re-engineering is stimulating increased attention to information management and recordkeeping issues. Business processes (developing policies and programs, reviewing and approving government spending, etc.) are largely information processes, collecting, analyzing, sharing and applying relevant information. "Workflow" is largely information flow. To succeed, business re-engineering demands a good understanding of information management and improved processes and controls for recordkeeping.

Records of how programs and services are being performed are essential in order to determine effectiveness. Where good records are not kept or not accessible to participants and to the public, there is no trustworthy evidence to show that the arrangements are adding value and that they are satisfying expectations of openness and accountability.

It is crucial that key recordkeeping and other information management issues be resolved when agreements and understandings are put into place. Agreements need to assign clear responsibility and authority for the creation, ownership, maintenance and disposal of business records so that they are available, accessible, secure and trustworthy for as long as they need to be.

5.2. INFORMATION MANAGEMENT STRUCTURE

The Information Management structure within the Departments must be able to:
- protect the integrity, authenticity and evidentiary value of electronic records and data as they move across departments, networks, applications and media;
- enable the consistent identification, description, classification and retrieval of records using appropriate metadata and thesauri, formatting, and electronic filing schemes;
- ensure the capture into the corporate recordkeeping system of records created in electronic systems and applications;
- enable convenient access to electronic records and information sharing through interoperable systems;
- protect security, privacy and confidentiality in storage and transmission;
- ensure prompt deletion of redundant or transitory records and data;
- support systematic appraisal, retention and disposal requirements;

- link related electronic, paper and other records;
- ensure the integrity of electronic records over changes in technology platforms;
- preserve electronic records for very long term usability without loss of content, context or structure; and
- Ensure that the above functions are integrated into the design and operation of electronic information systems, applications, procedures and tools.

5.3. E-GOVERNMENT PORTAL

E-government is not capable of producing successful knowledge management initiatives without the appropriate change in human and organizational behavior.

The concept of e-government will be anathema to many local government practitioners and citizens. The experience of looking for information on government websites which are years out of date, will be matched by the experience of fancy call centres and portals which fall apart the minute one is looking for detailed information or service within back offices. Such skepticism may be reinforced by the tendency of ill-informed officials to install expensive and complex IT systems which government agencies are ill equipped to maintain or use effectively. Such negative experiences need to be countered by the real possibilities opened up by e-government. Variable capacities of municipalities in South Africa suggest that an approach toward e-government which is incremental may be prudent. Otherwise one might end up with yet more white elephants. (McIntosh, 2003)

The use of government websites is to communicate with and serve the public by telling them about the services that the departments are offering, therefore the following must be taken into consideration

- The information on the government website must be relevant, accurate and timeously available.
- Information on the site must be easy to search and retrieve (through effective website design and navigation tools).
- Information must be consistently structured and described within a site and across the organization (using appropriate formatting and metadata)
- Related information must be conveniently linked and integrated to offer "one stop" access
- The user must easily comment on the information and service and otherwise interact with government in a meaningful way
- Key web documents must be captured within the department's corporate recordkeeping system
- Web-based documents must be retained in usable and accessible form for as long as they are needed

5.4. CHANGING THE INFORMATION MANAGEMENT CULTURE

"Knowledge is power," wrote Drucker (1995 a) "which is why people who had it in the past often tried to make a secret of it. In post-capitalism, power comes from transmitting information to make it productive, not from hiding it. This increase in information sharing is due more to inevitability than enlightenment. With the rise of the Internet and other ICT s, government and other organizations have become porous to information flowing into the organization, out of the organization and within the organization. The monopoly of technologically advanced organizations no longer exists in societies.

The democratization of information and technology is enabling individuals and groups to become better informed, more active and more engaged in their own governance. They can "look over the shoulder" of politicians electronically and challenge bureaucrats in ways that were impossible before. They expect government to share information and are affronted when it resists doing so. With inexpensive computers and network connections, citizens and public servants alike can communicate across space, time and bureaucratic and political boundaries with ease.

Resistance to change should be overcome by first identifying the barriers to information sharing, and also barriers related to culture and structure. To seek lasting changes the departments must create an information management infrastructure which consists of:
- Information-related laws and policies,
- Accountability frameworks
- Information management (IM) standards and practices,
- Technology-based systems and
- Necessary staffing and other resources

To move in this direction, departments need to assess their current Information Management (IM) strengths and weaknesses. A carefully considered plan and strategy for Information Management (IM) infrastructure development are required that include generating a shared vision for information management, a strong case for action and wide awareness and support on the part of key stakeholders.

Departments must not work as "silos". One of the challenges facing the government is silos of information, and lack of synergy and organizational alignment. One overriding derivative of choice is the desire to have government not operates as individual silos but to aggregate roles, relationships, and services so as to make multiple calls and inquiries a thing of the past.

Diminishing the silos suggests that common government structure is being challenged; digital environments where flow of information, knowledge and access are abundant create increasing views for "one government, one face"

All government officials whether working in the front or back area of information management have common responsibilities. They must equally know how to keep the workflow going, and at the same time understand the information management life cycle.

In most cases the responsibilities of information management are clearly divided into two areas, especially in larger offices, that of Information Technology and that of Information Services. Nevertheless, working together as a team is very important.

An introverted and risk-reluctant command-and-control hierarchy still characterizes most parts of the South African government departments. A dogged unwillingness to admit error still persists. Where this is the case, the tendency is either not to create important documents or to hold onto information rather than to release it and to place loyalty to a Minister or the Department above the public interest. Senior managers at a recent E-government Workshop identified "organizational culture" as the greatest barrier to good information management.

Change must come from the ranks of the most senior public servants and from the political level itself. The best guarantee of that change is greater access by the public, the media, non-government organizations and others to information that enables them to scrutinize the workings of government and hold public servants and politicians accountable.
The government must bring together records managers, archivists, librarians, lawyers, information technology experts and others from the public and private sectors to share perspectives and possible solutions for preserving the authenticity and integrity of electronic information across time and continuing changes in the technology environment.
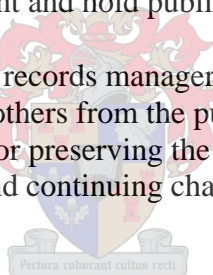
All these people must speak with one voice since they are all dealing with information.

Good information management should constantly focus on the decision contexts of managers and employees. Because it is the people who use information, thinking about information needs should be part of everyone's job.

Leaving the responsibility for good information management to information specialists or Information Technology (IT) stag may give temporary peace of mind. However, it's a problem if people in all departments are not motivated to treat their "information responsibilities". In short, information responsibility should mean information accountability for everybody.
(Marchand, Davenport and Dickson, 2000)

Professional silos must disappear as program managers, records managers, technology specialists; information systems architects, website managers, access and privacy administrators, auditors, archivists, librarians, lawyers and others recognize their shared interests in maintaining the integrity and exploiting the value of information. As professional and organizational linkages grow, skills and abilities begin to converge.

"Records management" for example, will not remain a discrete and distinct profession. In time, it will be absorbed into a more mature multi-media information systems environment in which business, accountability and related information management needs drive technology deployment.

Records and document specialists will be advisors, trainers, risk assessors and planners. Technology experts will become more IM-aware as collaboration with information specialists and business managers grows and new records and document management tools appear.

Although e-government is technology, more emphasis must be on improving the way people behave with information. E-government is also about more importantly the interaction between the government and its broader environment in the networking economy.

At the present moment the South African e-government is technology-centered, and is not encouraging people centered management activities aimed at improving behaviors and values for more effective information use.

If there is a starting point for improving how government uses information, it's in a perception that has been found in this study that, the government   must do more than investing in and deploying IT. The South African government must combine those capabilities with excellence in collecting, organizing and maintaining information, and then getting the government officials to embrace the right behaviors and values for working with information.

5.5. INFORMATION MANAGEMENT FRAMEWORK

All government employees must be records managers, information managers and, ideally, knowledge managers. The South African government must have an integrated management framework that will provide guidelines on information management, vision, goals and principles.

This framework will provide strategic direction and practical guidance which is clearly lacking at the moment. It will have to describe why, and how to integrate the management of information, to improve business delivery, policy compliance, citizen access and accountability.

To support these functions, a learning culture must be developed based on the development of key information-centred skills, including:

- knowing what information is needed to support the development, delivery and evaluation of policies, programs and services (information planning);
- determining whether it exists, where it is available and how it can be accessed, within the organization or externally (information searching and retrieval);

- understanding how to assess information in terms of relevancy, accuracy, authenticity, authoritativeness and other characteristics (information evaluation);
- knowing how to document activities, decisions and transactions adequately for business, legal and accountability needs (documentation standards);
- protecting the integrity and accessibility of information during its life-cycle (records management);
- learning how to capture and share the knowledge of co-workers (gained through individual and collective experience) to enhance collaborative problem solving and the application of this knowledge in new and innovative ways (knowledge management.

Information integrity is very important, to ensure that people use and improve the formal customer-support system. In government, integrity develops trust among people by defining boundaries within which they can legitimately use power and influence. In an organization characterized by integrity, people believe in and share a set of key principles that outline appropriate conduct in the company. People with integrity will present what they know about reality and fairly by not hiding bad news or glossing over important but discomforting facts and concerns, therefore the departments must not compromise on information integrity.

E-government is not simply about using new technologies to provide information and services to citizens, but also about changing the relationships and expectations between citizen and state. Just as the Internet is changing traditional economic power structures, so too will e-government empower citizens and intensify their expectations of government responsiveness, transparency and accountability.
Information management is ultimately concerned with supporting these objectives by ensuring the integrity and availability of government information, but this part seems not to fit in the South African e-government framework.

5.6. KNOWLEDGE MANAGEMENT

Knowledge management seems to be a buzz word for most South African government officials, yet they do not understand its meaning, and every time when talking about e-government, they are quick to say that it will promote knowledge management.

The departments should clearly understand that knowledge management is not e-government. E-government is a tool that enables knowledge management initiatives. It is important to understand that the misconception of knowledge management can lead the government officials into thinking that now that South Africa has implemented e-government, then e-government will be used to solve the problems that the departments have.

Some Departments pay at least lip service to the idea that knowledge and skills of employees are important to the department's success. Many claim that they foster a learning environment by pointing to large expenditures on training programs, and nobody can report on how much they increase their own knowledge and skills and how much individual knowledge they share with other employees.

Knowledge is best conceptualized as the capacity to co-ordinate past and present experience. In the area of government departments, for example, this may be read as the capacity to relate data from a foreign authority with process experience in order to translate them into statements formulated with the native ontology.

Knowledge in this case is then required for the interpretation of foreign documents in e-government in all those cases where no standard procedures exist. Usually, the understanding of how to proceed in such exceptional cases is nowhere documented. It exists only in the heads of the government officials. Thus it is usually tacit knowledge, which controls the processing of exceptional cases.

Tacit knowledge is very difficult to put into a database or a training program. Because it is based on experience in applying knowledge and intuition built on that experience, it cannot be easily presented in a written form instead must be shared via discussion or demonstration.

The White Paper on Local Government (1998) identifies leading and learning as one of the four characteristics of developmental local government. It further states that it is the duty of every municipality to ensure that knowledge and information is acquired and managed in a way that promotes continuous learning and which anyone can access easily and quickly.
Issues such as sharing, community, trust, knowledge redundancy, innovation and common language are all issues that e-government can support due to its communication and networking potential. However, only human intervention can nurture the knowledge management culture and behavior. E-government, at present is not capable of creating contextual knowledge or improving attitudes towards knowledge processes.

Knowledge management should be viewed as an application of the principles of the Batho Pele.[6] The purpose of the Batho Pele White Paper is to provide a policy framework and a practical implementation strategy for the transformation of Public Sector delivery. Of the eight principles of Batho Pele, providing more and better information, and 'increasing openness and transparency' have major implications for knowledge management strategies.

The government's knowledge and information are value resources. At the heart of e-government is the need for the public sector to make the best use of them.

There is a tendency to proselytize e-government as the solution to all business process ills of the government. E-government supports the work of the government in tandem with all citizens and ensures the accountability of citizens, such as those Batho Pele and the service delivery improvement interventions by DPSA which are no dependent on technology. (Farelo, 2005)

Implementing the strategy requires organization to adopt coherent and compatible information policies in support of better policy making, better service delivery and more efficient working.

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[6] Batho Pele (People First) White Paper on Transforming Public Service Delivery
http://www.dpsa.gov.za/docs/

6. CONCLUSION

Information is the backbone of the e-government; therefore Information Management must become a central subject for the workings of e-government. Information distribution internally and to the public is important as more and more government departments and agencies go online with service delivery programs. Filing of taxes, payment transactions for government services, downloading passport forms, accessing web sites for key information, and obtaining licenses are just some of the thousands of examples in which the public seeks information from government.

Therefore there is a need for a more coherent government approach. There is no clearly defined government strategy for improving information management. This absence may increase the risk of poor coordination and blurred accountability.

Information Management policy is needed to address the e-government, and there is a need for the South African government to have a dedicated division within the E-government, which will deal solely with this subject. Although the Department of Communication and Government Communication and Information Systems is responsible for the content, it does not have the expertise of information management, record management and information holdings.

Information Management Policy will be to ensure that information under the control of the South African government is managed effectively and efficiently throughout its life cycle.

Much of government work has always involved information (legislation, regulation, adjudication, etc.), so the real challenge with computerization was to switch from a paper-based to an electronic format, and clearly that responsibility cannot be taken by the Communicators.

The situation we are confronted with is that much of governmental information management consists of various combinations of data repositories and document distribution.

What this reflects is that many organizations are still managing their information with the old mind-set of industrial production rather than the new paradigm of the knowledge economy. Some government managers are still more comfortable with transactions characterized by "command and control" rather than transactions characterized by "persuasion and collaboration".

A transition from the hierarchal to the collaborative, networked approach will be difficult. However, change is inevitable and the new realities will need to be dealt with in order for departments to be able to evolve proper information management.

This will also depend upon leadership and commitment from senior managers in the departments, to break down the barriers of "silos thinking", and embrace the information

and knowledge management concept. More importantly it must be a key component in the strategic vision of all departments.

It is clear that every employee is a potential source of data, information and knowledge that could be invaluable to the goals and aims of various departments. Sustained strategic commitment and a culture that is conducive to support information sharing are vital for success in information management

There is increasing attention to the need to train the public service and ensure that it has skills it needs to manage in an information and technology- rich environment.

The ability to manage and effectively use information is a core skill that needs to be at the center of any public sector education and training strategy.

Drucker (1998) stated that information workers are professionals who have to be persuaded rather than ordered around. The single biggest challenge of information management is the management of information workers. Just as the industrial era slogan used to be "Give us the tools and we can do the job", the information era slogan is "Give us the respect and we will do the job". Another of Drucker's observations is that in the information era, workers are a company's biggest asset. The same goes in spades for government departments.

As Taylor and Van Every (1993) argue, information management is a human endeavor rather than a technical task. When governments come to fully accept that premise, their information management and information services will be better.
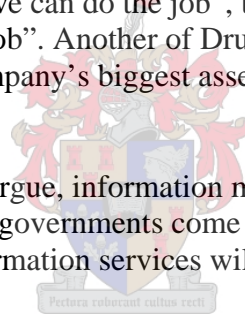
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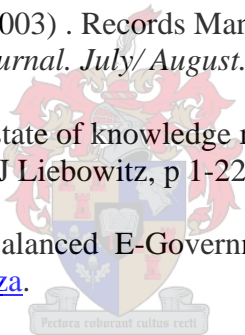
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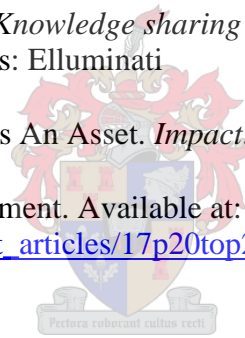
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QUESTIONNAIRE

INFORMATION MANAGEMENT IN THE AGE OF E-GOVERNMENT: THE CASE OF SOUTH AFRICA

Please complete the questionnaire by making a cross (X) in the appropriate blocks and write briefly where you are requested to comment. If the space provided at a specific question is not sufficient, please use a separate sheet of paper, identifying the question clearly.

1. What is your rank/position? Director ☐ Deputy Director ☐ Assistant Director ☐
Chief Director ☐
Other ☐

2. Were you consulted for the e-government project?
Yes ☐

No ☐

3. How often is the information updated in your website?
Daily ☐

Monthly ☐

Weekly ☐

Quarterly ☐

If there is a need ☐

Once a year ☐
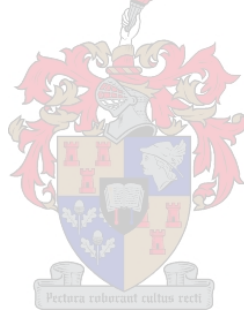
4. As a government official, what is your role in e-government? Please explain.
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5. Is all the information gathered by your department in the course of its normal business transactions captured?
 Yes ☐

No ☐

If yes how is this done?
_____
_____
_____

6. Are there any procedures in place to ensure access to relevant information of your Department by other Departments?

No ☐
Yes ☐

If yes what are those procedures_____
_____
_____

7. Does your Department have policies or standards for access to information (e.g. identifying public information, distinguishing between public information and information that is protected, confidential, or secret)

Yes   ☐

No   ☐

If yes, please explain_____
_____
_____

8. Are there clear procedures for responding to requests for information? Do the procedures include authorization or approval to release? if yes please explain

No   ☐

Yes ☐

If yes, please explain

_____
_____
_____

----
9. Does your Department conduct regular assessments of user needs as they relate to information?

No ☐

Yes ☐

If the answer is yes, please specify

----
10. Has your Department developed an information management policy?

No ☐

Yes ☐

----
11. Is electronic information being maintained throughout its life-cycle?,

No ☐

Yes ☐

If yes please explain in details --
----

12. Do you document changes in the way information is created and collected?

Yes ☐
No ☐

If yes , how ?

13. Are there links (formal or informal) between the IT, Records management, communications and other IM professionals?

No ☐
Yes ☐

If yes what are they ?---

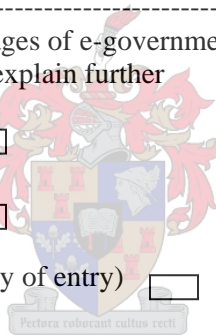14 In your opinion, what are the advantages of e-government? (Please tick in the appropriate boxes) and if none of the above, please explain further

Prompt availability (24 hours a day) ☐

Currency – up to date information ☐

Accessibility (no need for password, easy of entry) ☐

Desktop availability ☐

15. What are the barriers to using e-government? Please tick the appropriate boxes
- Poor search capabilities ☐
- Inappropriate or incomplete information ☐
- Difficulty finding the service ☐
- Concerns about security and/or privacy ☐
- None ☐

16. Is the effective implementation of records management well understood by your section or department?

Yes ☐

No ☐

If yes please explain

_____
_____
_____
----

17. Does your department participate in knowledge management across sectors of other government departments by making reliable information available for sharing?

Yes ☐

No ☐

18. In your opinion is the information easily accessible?

Yes ☐

No ☐

19. Is the content of the e-government, Please tick the relevant boxes, and if none of the above please explain,
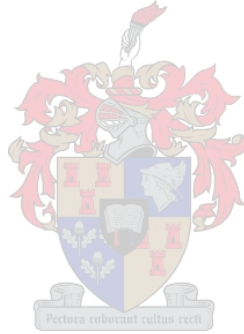
Attractive ☐

Interesting ☐

Relevant ☐

Informative ☐

None of the above ☐

…………………………………………………………………………………………

…………………………………………………………………………………………..

20. In your opinion, has the culture of your Department changed in the following ways
1. Staff now considers that sharing information and knowledge management will be god

for their careers in the department.

Yes ☐

No ☐

2. Staff spontaneously shares information with other staff from other divisions / departments/ branches.

Yes ☐

No ☐

3. Staff makes documents available to others more spontaneously

Yes ☐

No ☐

If no, please specify---

----

21. In your opinion, are there measures that you think should be taken to improve the e-government?

Yes ☐

No ☐

If yes, please explain in detail.

_____
_____
_____

Thank you for participating.

CONSENT FORM

In partial fulfillment of the M Phil in Information and Knowledge Management Degree, I am expected to do a research on the Information Management in the age of e-government: the case of South Africa.

This study will add to a better understanding of the role of information management in e-government, and to the benefit of the South African government in general.

The study and its procedures involve no foreseeable risks or harm to you. The procedures include:
1. reading and signing this content form
2. completing the questionnaire and returning it to the researcher or
3. emailing it back to the sender

Your participation in this study is voluntary and you are under no obligation to participate, you also have the right to withdraw at any time. This research and its procedure involve no foreseeable risks or harm to you.

I have decided to select you, randomly, because you are a government employee and your department automatically participates in the e-government. I presume that you are aware of e-government and the role of information in e-government, and you might have been involved in the initial implementation of the e-government.

The South African government launched e-government gateway portal which aimed to provide citizens, business and visitors to the country with a one-stop shop where they can access government services.

Your name is not required, except your position, and your identity will not be revealed when the study is being conducted or reported.

Thank you for your willingness to assist in this study. If there is anything that you are unsure of, or if you want more information before you sign the consent form, you are welcome to contact me at 0825677490

Kindly return or fax the signed consent form together with the questionnaire to **012-3261564, or** re email it back to me**, Noluthando.Sihlezana@dcs.gov.za**

Yours sincerely
ND Sihlezana

I have read this consent form and voluntarily consent to participate in this study.

--- (participant signature)

--------------- (date)