# An E-governance Training Model for public managers: The case of selected Free State Provincial departments

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**Thesis submitted for the degree *Doctor Philosophiae* in Public Management and Governance at the Potchefstroom Campus of the North-West University**

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**October 2015**

## DECLARATION

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**I declare that: "An E-governance Training Model for public managers: The case of selected Free State Provincial departments" is my own work; that the sources used or quoted have been indicated and acknowledged through complete references, and that this thesis was not submitted previously by me or any other person for purposes of degree qualification at this or any other university.**

**Signature:** V.E. Sithole **Date: 28/04/2015**

## ACKNOWLEDGEMENTS

This thesis is dedicated to Prof Gerda Van Dyk, for her leadership in swiftly appointing a promoter for my thesis at NWU. A dedication also to all academics of the North-West University (Potchefstroom Campus) for diligently engaging and guiding scientific researchers who contribute immensely to the development of South Africa and its society at large.

A special dedication to my promoter, the greatest study leader I have ever known! Prof Gerrit van der Waldt painstakingly moulded and crafted me in the art of research. He also dedicated his time to guide me with patience and respect. Thus he left nothing to chance in empowering me as student in the field of scientific investigation and research. He introduced me to the world of meta-theory and wisdom.

I have the deepest gratitude for my entire family who backed me up during the time of "sweat and toil". To my beloved, sweet wife Pam, my lovely young daughters Siphoesihle and Sibonisiwe, and my beloved only son Sandisiwe: Thank you for exercising perseverance when I was literally glued to my PC for this study and constantly denying you attention in pursuing my goal. I also dedicate this study to my parents, Mrs Maggie Nomathula Sithole and my late father Mr George James Sithole, as well as my older sister Constance Nomvula Sibanyoni and her husband, William Khuzani Sibanyoni. Also to my late sister Lindiwe and my late grandmother who shared the same name "Onnicah". This thesis is also dedicated to my brothers Nathaniel, Sithembiso and Jethro, and my nieces Sphiwe and Nomathula and the latter's children, Karabo and Lebo. Gratitude is expressed to my extended families that encouraged me to persevere in my studies until the end.

To my special friend and brother, Pastor Kenosi Isaac Motsamai (commonly known as Brother Brian to me!), who inspired me through my entire studies. He encouraged me to be calm, patient and optimistic throughout of finishing this enterprise no matter what the conditions were to be.

## ABSTRACT

The present study focuses on the application of electronic governance (e-governance) or implementation of ICTs by governments. This topic has been a worldwide focus for several years to date. This study has unpacked and analysed various contrasting views on the use of ICTs in promoting e-governance. In some quarters there is criticism about challenges and problems which include: lack of in-depth training of public personnel; the particular need to skill public managers in the use of ICTs; the development of training models for ICT/e-governance for public managers in order to improve the services rendered by governments. On the same note, some criticisms have been highlighted on insufficient alignment between governments and legislations governing the use of ICTs. The lack of adequately trained public managers in ICTs has also become a critical factor in African countries, including South Africa and its provinces.

This study works toward constructing a training model in e-governance for the selected Free State provincial departments. The aim was especially to empower public managers in order for them to participate effectively in e-governance applications and implementations and thereby fulfil the mandate of the South African legislation governing the use of ICT in Government. This study will start off with an orientation of the problem statement, as well as the goal and objectives as outlined in Chapter 1. The process of developing the e-governance training model will be aligned in Chapter 2 with training principles and theoretical underpinnings as perceived by various theorists who advocate management training. This implies that managers should be trained in interactions between levels and units of analytical skills in a work place.

Furthermore, the study will focus in Chapter 2 on the legislation that governs the training of public managers in South Africa. This legislation applies as a legal framework that guides the use of ICTs in government. This discussion will be followed by an examination (in Chapter 3) of the worldwide practices and models on the use of e-governance and ICTs. A selected number of these global e-governance practices and models in chapter 3 will be incorporated (in Chapter 4) into a workable, drafted e-governance training model for the selected Free State provincial departments, while the basic elements of managerial training and model development will be discussed as well.

The process of model development will be discussed in Chapter 4 based on the overarching principles such development. The exposition will focus on the concentric layers as macro-, meso- and micro- levels of model development. This will be followed by the processing in Chapter 5 of the empirical findings obtained from the data analysis on training in e-governance. This analysis will be a prelude to the development in Chapter 6 of a comprehensive, operational e-governance training model for Free State provincial public managers. The final, comprehensive e-governance training model will be presented in Chapter 6, after refining the drafted training model from Chapter 4, when the data will be collected, analysed and interpreted in Chapter 5.



**Key words:** *Government, e-governance, training model, public service, provincial government, Free State Province.*

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## ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| ADBI | : Asian Development Bank Institute |
| ADP | : Accelerated Development Programme |
| APCICT | : Asian & Pacific Centre for Information and Communication Technology |
| APF | : Africa Partnership Forum |
| BIS | : Business Innovation and Skills |
| BRRNS | : Basic Residential Registers Network System |
| CAQDAS | : Computer Assisted Qualitative Data Analysis |
| CBRMs | : Capacity-Building Roadmap |
| CDAC | : Centre for the Development of Advanced Computing |
| CDITP | : Centre for Developing and Information and Telecommunication Policy |
| CEC | : Commission of the European Communities |
| CELAP | : Executive Leadership Academy |
| DA | : Democratic Alliance |
| DCAO | : Divisional Controller of Accounts Office |
| DCDSPFM | : Draft Capacity Development Strategy for Public Financial Management |
| DHA | : Department of Home Affairs |
| DHET | : Department of Higher Education and Training |
| DIT | : Department of Indian Training |
| DoC | : Department of Communications |
| DPSA | : Department of Public Service and Administration |
| DSITIA | : Department of Science, Information Technology, Innovation and the Arts |
| DST | : Department of Science and Technology |
| ECA | : Economic Commission for Africa |
| EDP | : Executive Development Programme |
| E-Gov | : Electronic Governance |
| EIF | : European Interoperability Framework |
| ETQA | : Education and Training Quality Assurance |
| G2B | : Government-to-Business |
| G2C | : Government-to-Citizen |
| G2G | : Government-to-Government |
| GDP | : Growth Domestic Production |
| GOS | : Government Offices of Sweden |
| GPR | : Governance Public Relations |
| HEQC | : Higher Education Quality Committee |
| HRM | : Human Resource Management |
| ICTs | : Information and Communication Technologies |
| ICTS&HEA | : ICTs and Higher Education in Africa |
| IRA | : Islamic Republic of Afghanistan |
| ISAD | : Information Society and Development |
| ISD | : Integrated Service Delivery |
| IS | : Information Society |
| IT | : Information Technology |
| MMP | : Mission Modes Projects |
| MMS | : Middle Management Service |
| NSoG | : National School of Government |
| NLLGM | : National Law of Local Government Modernisation |
| NAO | : National Audit Office |
| NSF | : National Skills Fund |

NeGP : National e-Governance Plan of India
NEPAD : New Partnership for Africa Development
NPM : New Public Management
NPG : New Public Governance
NPC : National Planning Commission
NQF : National Qualification Framework
NGRR : National Government Research Report
OLLC : On-Line Learning Centre
OPPD : Office for Promotion of Parliamentary Democracy
OPSI : Office of Public Sector Information
PALAMA : Public Administration Leadership and Management Academy
PAM : Public Administration and Management
PIAC : Presidential International Advisory Council
PPP : Public Private Partnership
PSETAs : Public Service Education and Training Authority
QCs : Quality Councils
R&D : Research and Development
SAAA : South African Accreditation Authority
SAEEC : South African Electro-technical Export Council
SABC : South African Broadcasting Corporation
SADC : Southern African Developing Communities
SADIT : South African Department of Information and Technology
SAGS : South African Government Services
SAGNIP : South African Government National Infrastructure Plan
SAMDI : South African Management Development Institute
SAQA : South African Qualification Authority
SAITIS : South Africa's IT Information Strategy
SATRA : South African Telecommunications Regulatory Authority
SAYB : South African Year Book
SETAs : Sector Education and Training Authorities
SITA : State Information Technology Agency
SOEs : State-Owned Enterprises
SOA : Service Oriented Architecture
SPSS : Statistical Package for the Social Sciences
TSA : Texas State Auditor
UN : United Nations
UNDP : United Nations Development Program
UNDESA : United Nations Department of Economic and Social Affairs
UNESCO : United Nations Educational, Scientific and Cultural Organisation
UNMD : United Nations Millennium Declaration
USAASA : Universal Services and Access Agency of South Africa
WBGDLN : World Bank's Global Development Learning Network
WCEGS : Western Cape E-Governance Strategy
WPTPSD : White Paper on Transforming Public Service Delivery
WSIS : World Summit on the Information Society

# CHAPTER 1

# ORIENTATION

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## 1.1 INTRODUCTION

Worldwide studies have been conducted on e-governance. Theorists hold contrasting views on the effects of Information, Communication and Technology devices (hereafter referred to as ICTs) on current governments. As a result, in some quotas criticisms emerged on issues such as the lack of in-depth training of public personnel in the use of ICTs, especially in the skills levels of public managers in this regard. This includes the development of ICT/e-governance training models for public managers to improve the services which governments render. On the same note, some criticisms have been heard on the lack of alignment between governments and the forms of legislation that govern the use of ICTs. The lack of adequately trained public managers in ICTs has also become a critical feature in African countries, including South Africa and its provinces.

Various authors conceptualise and approach the concept of "government" from different theoretical vantage points. Similar connotations ascribed to this concept are, however, evident such as "public", "policies", "society" and "laws governing society". Way (2014:1) explains the concept as the "agent", or "instrument", of the political society of which the government forms part. Backus (2001:1) in turn, highlights the different institutional levels and branches through which the actions of governing occur. These levels typically include central or the national, regional or provincial, and local government institutions in the legislative, executive and judiciary branches of government. Within these branches, Idigo (2014:2) points out those political and executive institutions that "have been authorised to formulate and implement public policies and to conduct the affairs of the state". In similar vein, Cloete (2002:1) views government as a body of persons and institutions that makes laws for a particular society and enforces them. Bovaird (2003:1) in turn, emphasises the managerial dimensions of democratic activity, ensuring fairness and transparency of decision-making in public bodies.

Mogilevsky (2010:5) distinguishes government from governance with the latter explained "as the formation and stewardship of the formal and informal rules that regulate the public realm, the arena in which state as well as economic and societal actors interact to make decisions". The United Nations Development Program (UNDP) (2014:3) states that governance can be explained as follows*: Exercise of economic, political and administrative authority to manage a country's affairs at levels*. It comprises the mechanisms, processes and institutions, through which citizens and groups articulate their 'interests, exercise their legal rights, meet their obligations and mediate their differences'. In concert with this conception, Madonaldo (2010:3) describes the term "governance" as epitomized by predictable above, open, and enlightened policymaking (that is, transparent processes), a bureaucracy imbued with a professional ethos, an executive arm of government accountable for its actions and a strong civil society participating in public affairs and all behaving under the rule of law. Grindle (2010:5) adds to the conceptual clarification of governance by indicating that it encompasses the institutions, systems, "rules of the game" and other factors that determine how political and economic interactions are structured, decisions are made, and resources are allocated.

Bertot, Jaeger and Hansen (2012:1) point out that the government agencies are increasingly using ICT technologies, including TV, the Internet, and social media (e.g. Twitter, Facebook), to connect with the public whom they serve. Governments have taken governance to new extremes by introducing electronic governance (e-governance) by connecting ICTs for communicating with communities and role-players. These connections have the potential to extend governmental services, solicit new ideas, and dramatically improve decision-making. In other words, governments increasingly turn to initiatives of e-governance as a means of improving service-delivery to communities. Gronlund (in Ambali, 2013:4) defines e-governance as: *the use of information technology (IT) in an attempt to achieve more strategic advantage in all the activities and functions within the public sector.* As far as these strategic advantages are concerned, Nkwe (2012:2) views e-governance as an important innovation to provide good governance and strengthen a country's democratic processes. Nkwe (2012:2) further argues that e-governance can "facilitate access to information, contribute to freedom of expression, lead to greater equity, efficiency, productivity, and growth as well as social inclusion".

On a more operational level, Brown (2005:2) points out that e-governance includes all government roles and activities that are shaped by ICTs, while Kumar, Krishina and Megharaj (2013:3) emphasise the use of ICT in administrative support services. De Jager and Reijswoud (2013:1) in turn define e-governance as "an activity which operates at the crossroads between ICT and general government processes". According to them at precisely this crossroads e-governance can be divided into three overlapping domains, namely e-administration, e-services and e-society. As far as e-society is concerned, Tejasvee and Sarangdevot (2003:1), and Shailendra, Palvia and Sharma (2010:3), perceive e-governance as an instrument in transforming the relationship between government and society radically, and e-administration refers to administrative functions of the government processed though electronical resources, while e-service is precisely the services delivered by governments to societies electronically. Yildiz (2007) concurs with this claim and adds that;

> *The utilisation of the Internet and the World-Wide-Web, for example, revolutionised interactions between government institutions and the citizenry and the exchange of information.*

Morphet (2003:7) also indicates that technology helps government to provide the services in ways that people desire. Khalo and Hu (2010:5) draw attention to new channels that the state could utilise for improved service delivery. Barr (in Ambali, 2013:2) asserts that technological and protocols use by the states transform the effectiveness and the efficiencies of public service institutions. In other words, as described by the Gartner Group (in Ambali, 2013:2), e-governance can be regarded as the continuous optimisation of service delivery, constituency participation and governance by transforming internal and external relationships through technology, the Internet and new media. In light of this insight, Forman (2002:8) estimates that currently, 60% plus of Internet users do interact with government websites. Furthermore, Forman (2002:8) indicates that e-governance may save taxpayers money, and still add value to citizens' experience with government and serving their needs of the citizens.

From the brief theoretical orientation undertaken above it can be deduced that e-governance could enhance the delivery of services to communities. A possible gain could be a two-way-communication and information exchange between the government and the citizens on governance-related matters. It can be concluded further that e-governance could facilitate institutional effectiveness, accountability and responsiveness.

The present study focuses on developing an e-governance training model for the selected Free State provincial departments. The aim was to develop the e-governance training model for the Free State Departments' ICT units, especially for public managers to help them participate effectively in e-governance applications and implementations. This will help them to fulfil the mandate of the South African legislation governing the use of ICT in government. Below is a brief discussion on e-governance and the training of public managers.

## 1.2 E-GOVERNANCE AND THE TRAINING OF PUBLIC MANAGERS

The design and application of electronic resources in governance require a certain amount of skills and competencies. It becomes imperative for public service officials to train in skills which would enable them to utilise ICT successfully for adequate service delivery. Various advanced countries in e-governance applications worldwide have instituted training models to empower public service personnel in the use of ICTs. For example, India instituted various forms of training programmes to introduce e-governance within the public service. According to the National e-Governance Plan of India (NeGP, 2014:5), the e-governance training process was guided by the following model (figure 1.1).

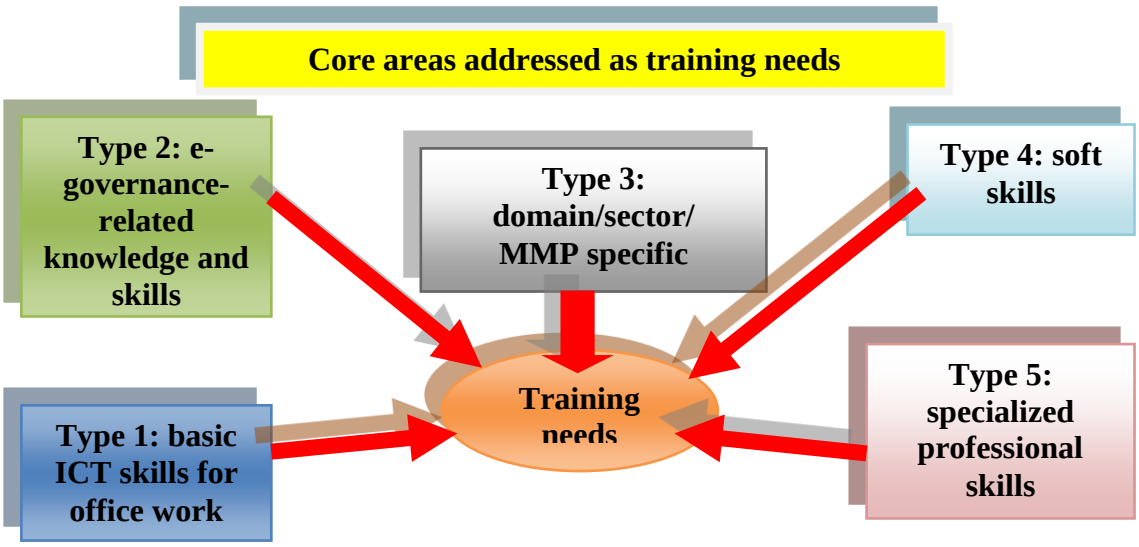


***Fig. 1.1*** **Training model with core areas addressed as training needs**
*Source*: NeGP, Master e-Governance Training Plan, 2014

According to the NeGP (2014:5), the following forms of training are provided to cultivate various e-governance skills required by public servants:

a. **Type 1:** Basic Information and Communication Technologies (ICT) skills for office work, applications for office productivity as well as Internet and e-mail.
b. **Type 2:** Governance-related knowledge and skills to address the competencies required to execute the projects. This form of training includes the following aspects: e-governance life cycle, Governance Public Relations (GPR), Business model and Public Private Partnership (PPP), regulatory framework and IT Act, Contract Management and Change Management.
c. **Type 3:** It includes the Mission Modes Projects (MMP), and specific e-governance competencies and applications.

d. **Type 4:** The soft skills to develop the right attitudes for e-governance transformations such as team building, leadership and effective presentation.
e. **Type 5:** The specialised professional skills in the areas of technology and management such as project management, IT Security, and IT Audits.

According to the NeGP (2014:5), the e-governance systems affected changes to the way governments operated previously for decades. The NeGP (2014:5) believes that the lack of adequate knowledge makes it difficult for employees to adapt to such new processes: "Unfamiliarity generally leads to insecurity, which translates to reluctance." In minimising the risks of failure such issues invoke, it seems that a comprehensive training programme is required to help employees "gear up to meet the changes" (NeGP, 2014:5). According to the NeGP this training programme significantly "contributed to successful implementation of e-governance initiatives and assisted with the motivation and change management processes of staff". The reason was that these staff could make the transition to e-governance smoothly by adjusting more rapidly to new methods and processes.

India is globally renowned as one of the leading countries in e-governance. Therefore, it is important to take cognisance of their e-governance training initiatives to facilitate capacity building and to create general awareness of ICT-initiatives. Misra (2011:10) identifies the following initiatives in this regard:

*a. Capacity-building efforts attend to the organisational capacity building, the upgrading of professional expertise and skills of individuals associated with the implementation of e-governance projects.*
*b. Each government organisation conducts a capacity assessment which forms the basis for training of the personnel. Organisations prepare a roadmap to help enhance the capabilities of both employees and organisations.*
*c. A network of training institutions is created in the Indian states with the Administrative Training Institutes at the apex. The Administrative Training Institutes in various states provide programmes for capacity building in e-governance, by establishing strong e-governance departments.*
*d. Governments are operationalising the Capacity-Building Roadmaps (CBRMs), under the overall guidance and support of the Department of Indian Training (DIT) of the government of India.*
*e. Lessons learnt from previous successful e-governance initiatives are incorporated in training programmes.*

As is the case in various European countries, some Arab states have also embraced the use of e-governance as a means to achieve the best results in rendering services to the community. As a result, Arab states have developed training models in e-governance to empower public servants in the use of electronic resources within government. According to Al-Khouri (2013:3), the Arab e-governance training model consists of four phases:

a. **Cultivation phase:** This includes horizontal and vertical integration within government, limited use of front-end systems for customer services, as well as the adoption and use of Intranet within government. Organisations in this group are not likely to have digital services and will rarely have instant processing capabilities on the Net. Less attention is given to the use of the Internet to increase the frequency of users, services provided, and/or the quality and speed of these services. The downside is that the public institution in this phase will be experienced as inaccessible.

b. **Extension phase:** This involves the extensive usage of Intranet and the adoption of a personalised web-user interface for customer processes. It may be characterised to involve costly user interfaces, no integration with other systems, expensive maintenance, and fading out of old software and data format. Thus, there are still many manual routines, while the user might find many forms and information where the agency re-directs users to information at other agencies.

c. **Maturity phase:** During this phase organisations mature and abandon the use of the Intranet, have transparent processes, and offer a personalised self-service web interface to process customer requests. In this phase, Internet and Intranet applications (*apps*) are merged to lower marginal costs for processing customer's services requests.

d. **Revolutionary phase:** This phase is characterised by data mobility across organisations, mobility of applications across vendors, and ownership of data transferred to customers.

Lessons learnt from these training initiatives of India and the Arab states, could serve as best practice guidelines and assist other countries to use similar e-governance programmes.

Some African countries have also embraced e-governance and e-governance training initiatives. Jayaram (2012:7) explores the e-governance training initiatives taken by sub-Saharan African countries such as Kenya, Uganda, Benin, Burkina Faso and Senegal. He (Jayaram) defines the skills required in e-governance training as cognitive, no-cognitive, specific and technical skills. According to Jayaram (2013:7), the skills required to implement e-governance successfully in sub-Saharan African countries, include examples such as listed below (table 1.1).

**Table 1.1 ICT skills required**

| Cognitive skills | Non-cognitive skills | Specific and technical skills |
|---|---|---|
| • Basic cognitive skills<br>• Analytical and critical thinking | • Openness to learning<br>• Communication: oral and written<br>• Work habits, i.e. punctuality and professionalism<br>• Teamwork<br>• Personal integrity<br>• Leadership<br>• Entrepreneurship | • Language proficiency<br>• Basic business skills<br>• ICT skills |

*Source:* Jayaram (2013:7)

According to the World Bank (in Jayaram, 2012:7), ICT contributes about 7% of Africa's gross domestic products (GDP), higher than the global average. Jayaram (2012) points to a study in Nigeria that found that one sixth of newly registered enterprises in Benin City were ICT-related undertakings. As a result, a breakdown revealed that wireless broadband was

expected to contribute over 1% of the GDP (including 1.7% of non-oil GDP) in 2015 in Nigeria, while broadband and related industries were expected to contribute a similar 1.8% of the GDP and 28 000 jobs by 2015 in South Africa (Jayaram, 2012:7). The fact is that specialised skills are required to operate this new digital economy. Jayaram (2012:7) explains the nature of these skills as follows:

a. Large-scale, formal production of ICT services (e.g., software development, provision of mobile and broadband services), and ICT-enabled services (e.g., business process outsourcing, mobile banking, and media).
b. ICT-focused Small Medium Micro Enterprises (SMMEs) and "micro-enterprises", which may often be found in the informal sector and include the following: mobile service providers, international telecoms and VoIP providers, cyber cafes, IT-training and ICT-repair services, often required in e-governance applications.
c. Indirect work and the various other services needed to support the growth of the digital sector (e.g. security workers, cleaners, and construction workers) in implementing the e-governance programmes.

Ojo, Janowski, Estevez and Khan (2007:4) further elaborate on the e-governance training needs formulated by the Organisation for Economic Co-operation and Development (OECD), specifically for African countries. According to Ojo *et al.* (2007:4) the OECD identified four sets of skills essential for e-governance:

a. **Information technology skills:** Information Technology (IT) skills are technical skills necessary to implement e-governance. These include basic IT literacy for all employees, and technical skills for IT specialists to design and implement technical elements (hardware, software, communication) of e-governance initiatives.

b. **Information management skills:** Information Management (IM) skills span the deployment of knowledge resources within the public administration and the sharing of knowledge with partners and other stakeholders outside the organisation.

c. **Information society skills:** Information Society (IS) skills include the ability to use ICT resources to implement an organisation's e-government strategy in accordance with its overall strategy. The skills involve understanding new technologies and their limits *vis-à-vis* the organisation's service strategy.

d. **Updated management skills:** Since e-governance has a significant impact on the structure and processes of public administrations, traditional managerial skills are insufficient for new organisational needs. Hence, managers need skills to manage organisational changes resulting from e-government (Ojo *et al.*, 2007:4).

El Din (2009:2) confirms that e-governance training models evolve around four stages. These stages are designed to train public servants in e-governance applications sufficiently that they are able to provide services to the public. The first stage is *training in cataloguing*, which provides governments with information by creating agency websites. Only limited, one-way communication between the government and society is possible during this first stage. According to El Din (2009:2) the second stage is *training in transaction,* which can provide online transactions with government agencies. El Din (2009:2) states that this process makes two-way communications between governments and communities possible. The third stage is the *training on the integration* of government operations within functional areas in

government. Agencies working in the same functional area integrate their online operations. An example is the sharing of databases by the Federal Bureau of Investigation (FBI) and the Central Investigation Agency (CIA) in United States of America (USA) (El Din, 2009:2). El Din (2009:2) believes the final stage to be *horizontal integration.* At this stage different functional areas are integrated within the same electronic system and put to use through a central portal. El Din (2009:2) also maintains that the last two stages focus on integrating the provision of e-governance activities within the existing governmental structures.

The Centre for the Development of Advanced Computing (CDAC, 2014:1) highlights the course content that is essential to develop e-governance, with respect to government managers and public servants. According to the CDAC (2014:1), the aim of the course is to train managers and government personnel in e-governance. As a result, the course also aims at developing government personnel in the use of e-governance through rapid building of human capacity. This is done by introducing the fundamental e-governance applications, and to develop managers' skills in handling e-governance projects. Furthermore, the course provides the following e-governance content:

a. E-government introduction, conceptual overview and need;
b. e-governance in developing countries;
c. benefits and impact of e-governance;
d. building human capacity, leadership for e-governance, steps and factors affecting e-governance projects;
e. management principles and an analysis of Strengths, Weaknesses, Opportunities and Threats (SWOT);
f. change management;
g. infrastructure development for e-governance technology perspectives;
h. meeting e-governance security challenges in e-governance: Regulatory Framework for Information Technology;
i. ICT tools and trends;
j. Cyber security infrastructure and e-security.

The United Nations Educational, Scientific and Cultural Organization (UNESCO, 2014:6) confirms that e-governance contributes to better knowledge management, improves information-sharing and helps to create conditions for a more open and transparent society based on trust and accountability. Furthermore, UNESCO (2014:6) believes that the integration of ICT in governance processes has the primary objective of transforming the relations between governments and their citizens, by improving the efficiency and accountability of governments and by allowing citizens to become active stakeholders in the decision-making process. In line with this argument, the UNESCO (2014:13) has developed a curriculum guide on e-governance for African government institutions. The curriculum guide is structured as follows:

a. E-Governance 01: Application of ICT in human resources management and development;
b. E- Governance 402: Application of ICT in financial management, budgeting and accounting;
c. E- Governance 403: Application of ICT in procurement;
d. E- Governance 404: Application of ICT in promoting gender equality;
e. E- Governance 405: Application of ICT in module preparation and management;
f. E- Governance 406: Application of ICT in public information and communication;

g. E- Governance 407: Application of ICT in environment management;
h. E- Governance 408: Application of ICT in general management and auditing;
i. E- Governance 409: Application of ICT in records management;
j. E- Governance 410: Application of ICT in democracy (voting, reforms);
k. E- Governance 420: Application of ICT in service delivery: e.g. health and education.

Furthermore, the UNESCO guide (2014:14) highlights the following curriculum outcomes for government officials:

a. The process of the delivery of electronic services and e-participation as a means of accessing information and being included in decision- and policy-making.
b. Providing for online payments and submission of forms.
c. Conducting online polls and surveys.
d. Understanding the quality and relevance of e-consultations and information-sharing.
e. Encouraging citizen participation in decision-making using ICT.
f. Understanding the need to establish a portal on public administration and governance.
g. Reporting cases of corruption.
h. Understanding the need for the establishment of policies and regulations on e-governance.
i. Understanding the need to provide continuous training in e-governance.
j. Understanding the need for regional networking and collaboration with partner institutions.

The Asian and Pacific Training Centre presenting Information and Communication Technology for Development (APCICT, 2010:4), explains that the training of public personnel in e-governance should include training in five steps of the strategic planning process. These entail visioning, goal forming, strategy development, objectives formulating, communication and review. Furthermore, the APCICT (2010:4) maintains that training in the above steps must include a SWOT analysis to identify the internal and external factors, which are favourable or unfavourable in achieving a particular e-governance aim or goal. Based on the reasons specified above, it can be deduced that most countries worldwide have resorted to e-governance training to empower public officials with the necessary skills to serve the community effectively through ICT skills.

South Africa is not left behind in the implementation of ICT in governance. The National Planning Commission (NPC, 2011:70) elaborates on the developments in science and technology as a means of altering the way people live, connect, communicate and transact. According to the NPC (2011:70), science and technology are key drivers as they underpin economic advances, improvements in health systems, as well as education and infrastructure. Therefore, the NPC (2011:70) maintains that access to and application of ICTs in governance is critical. This is because the extent to which developing economies emerge as economic powerhouses depends on their ability to grasp and apply insights from science and technology and use these creatively. The NPC (2011:70) proposes that the potential of technology is huge and still largely untapped in Africa. Furthermore, lesser developed countries do not only lack skilled labour and capital, but also employ ICT less efficiently. This makes training in ICTs a prerequisite, especially in government departments where direct services are rendered to the citizens. In an attempt at strengthening the application of e-governance, South Africa has instituted the South African Electronic Communications and Transactions Act 25 of 2002, which pursues the following objectives:

a. Provision of the facilitation and regulation of communications and transactions.

b. Make provision for the implementation of the national strategy of the Republic of South Africa.
c. Promote universal access to electronic communications and the use of electronics by small, medium and micro enterprises (SMMEs).
d. Make provision for the development of human resources in electronic transactions.
e. Prevent the abuse of information systems and encourage e-government services.
f. Provide for matters related to the above.

According to the President of South Africa, Mr Jacob Zuma in his 2014 State of the Nation address, there is a need to deploy qualified and experienced personnel in government departments. This sets a tone that training and development is required for the public service, especially for those public managers who utilise ICT in services delivery. This need for training is further accentuated in the Free State Provincial address by Mr Ace Magashule, who stated, "The National Development Plan has been finalised and aims to eliminate poverty and reduce inequality by 2030. According to the plan, South Africa can realise these goals by drawing on the energies of its people, growing an inclusive economy, building capabilities, enhancing the capacity of the state and promoting leadership and partnerships throughout our society." This justifies the need to train and empower public servants in the art of ICT. The reason is that the realisation of e-governance to attain goals set by the NPC as ICT utilisation is one of the cornerstones of the National Planning Commission (NPC, 2011:70).

## 1.3 PROBLEM STATEMENT

Chapter 2, section 3 of the Public Service Act 103 of 1994 deals with the functions of the Minister and the executing authority in relation to Public Service activities. The Act stipulates the following:

> *(2) (a) For the purposes of this subsection, any policy may relate to any of or all the following matters, namely – (i) The functions of, and organisational arrangements in, the public service; (ii) Employment and other personnel practices, including the promotion of broad representivity as well as human resource management and training, in the public service; (iii) The salaries and other conditions of service of officers and employees; (iv) Labour relations in the public service; (v) Information management and information technology in the public service.*

Furthermore, section 4 implicates the responsibilities of the (former) South African Management and Development Institute (SAMDI)(now the National School of Government) and the Training Fund. This section indicates that the management and administration of the South African Management and Development Institute shall be under the control of the Minister and *(a) shall provide such training or cause such training to be provided; conduct such examinations or tests or cause such examinations or tests to be conducted.* This implies that the Head of the South African Management and Development Institute may, with the approval of the Minister, *(b) decide or prescribe these examinations or tests as a qualification for the appointment, promotion or transfer of persons in or to the public service;* (*c*) This official may also *issue diplomas or certificates, or cause these documents to be issued to persons who have passed such examinations.*

The Skills Development Act 97 of 1998, Chapter 3, Section 10 (b) on Sector Education and Training Authorities (SETA), highlights the function of the SETA in relation to training and

skills development of public servants. The Act indicates that a SETA must in accordance with any requirement that may be prescribed, *(a) develop a sector plan within the framework of the strategy to develop national skills; implement the sector skills plan by establishing leaderships, approving workplace skills plans; allocate study grants in the prescribed manner and in accordance with any prescribed standards and criteria to employers, education and training providers and workers; and (b) monitor education and training in the sector.* Furthermore, the Act indicates that *(c) the SETA should promote leadership by identifying workplaces for practical work experience, support the development of learning materials, improve the facilitation of learning and assist in concluding learnership agreements.*

Furthermore, the South African Government Services (SAGS, 2014:1) stipulates that the providers of education and training must apply for accreditation with an Education and Training Quality Assurance (ETQA) body under the South African Qualification Authority (SAQA). The SAGS (2014:1) maintains that all providers of education and training that offer full qualifications *must be registered with the department of education. Subsequently, the education and training providers have to offer unit standards and/or qualifications that fall within the primary focus area of the EQTA body of the relevant Sector Education and Training Authority (SETA).*

The Department of Communications (DoC, 2014:1) confirms that the office of the South African Accreditation Authority is established in terms of Chapter VI, Part 1 of the Electronic Communications and Transactions Act 25 of 2002. This authority is responsible for the *accreditation, authentication and certification of products and services used in support of electronic signatures and monitoring of the activities regarding authentication and certification of service providers whose products or services have been accredited by the South African Accreditation Authority (SAAA) within the Republic of South Africa (DoC, 2014:1).*

However, a preliminary survey among selected Free State government departments revealed that some departments do not have e-governance training models which help them effectively fulfil the legislative mandate of the Public Service Act 103 of 1994, the Skills Development Act 97 of 1998 and the implications of SAMDI on training and development of public personnel. This especially applies to section 3(v) and 4 (a), which highlight information management and information technology in the public service and the training of personnel, and invoking the Electronic Communication and Transaction Act 25 of 2002. Therefore, the problem to be solved was the formation of e-governance training models to fulfil the mandate of the above legislation, to such an extent that provincial departments and ICT units within provincial departments apply e-governance optimally.

## 1.4 RESEARCH QUESTIONS

The research attempted to answer the following key questions:

a. What are the theoretical models, approaches and paradigms associated with managerial training and development, with specific reference to the public sector?
b. Which theoretical underpinnings and approaches can be employed in the use of ICT in government and managerial applications are typical of electronic government (hereafter referred to as e-Govt) departments?

c. What lessons can be learned from international cases and best practices of e-Govt and managerial training in its applications?
d. What is the status of e-Govt in the South African government and what training models and approaches are available for governmental departments?
e. Which e-governance training models are available in selected Free State Provincial Departments to promote e-governance effectively?
f. What are the challenges faced by Free State Departments' ICT managers in designing e-governance training models?
g. What standards and specifications should the Free State Departments' ICTs units ascribe to, in order to implement e-governance fully?
h. Which dimensions and elements should be incorporated in a comprehensive e-Govt training model for public managers?

## 1.5 RESEARCH OBJECTIVES

### 1.5.1 Primary objective

The primary objective was to develop the e-governance training model for the Free State Departments' ICT units. The aim was to ensure that these departments do participate effectively in applications and implementations of e-governance, in order to fulfil the mandate of the legislation governing the use of ICT in government.

### 1.5.2 Secondary objectives

The secondary objectives of this research were as follows:

a. Developing theoretical models, approaches and paradigms associated with managerial training and development, with specific reference to the public sector.
b. Determine the theoretical underpinnings and approaches to the use of ICT in government and establish the typical managerial applications of e-Govt departments.
c. Determine the lessons that can be learned from international cases and best practice with regard to e-Govt and managerial training in its applications.
d. Determine the status of e-Govt in the South African Government and the training models and approaches that are available to departments.
e. Formulate the training models on e-governance available in selected Free State Provincial Departments to promote e-governance effectively.
f. Suggest solutions to the challenges faced by the mentioned Free State Departments' ICT managers in designing training models for e-governance.
g. Determine standards and specifications to which the Free State Departments' ICT units may ascribe, in order to implement e-governance fully.
h. Suggest possible dimensions and elements that should be incorporated in a comprehensive e-Govt training model for public managers.

## 1.6 RESEARCH METHODOLOGY

The study employed three forms of research which will be expounded below.

### 1.6.1 Literature review

According to Jho (2005:4) the advent of the Internet introduced the new means of communication that has promoted and developed new forms of discourses affecting institutions and ushering in a new communication understanding to the mass democrats. In concurrence, Ojo, Janowski, Estevez and Khan (2007) postulate that the availability of a 'skilled workforce with a good capacity for learning is essential for e-governance, along with other factors such as leadership, regulatory frameworks, financial resources, organisational conditions, and IT infrastructure'. Keeping this in mind, Schweighofer (2008:4) maintains that the contemporary aims of legal orders are not determined by the status of being an information society. However, the laws of societies and their methodologies have to adapt to newly introduced concepts ushered by the electronic environment. In light of the above, there is a need to introduce training models, programmes and various initiatives to train public personnel in e-governance and ICTs. In the process of formulating e-governance training models, the present study examined various literature sources. The following database was consulted on literature covering training models for e-governance:

a. Academic journals such as; *Jstor, Sweet-Sweet Wise, Science Direct, etc.*
b. Publications on management practices.
c. Websites on the topics of e-governance.

### 1.6.2 Empirical research

This study utilised data-collecting methods such as sampling and semi-structured interviews to obtain data from sampled Free State Provincial departments on training models for e-governance. The sampled respondents were selected from the following ICT units of the following provincial departments:

a. Public Works
b. Police, Roads and Transport
c. Social Development
d. Health.

The above mentioned departments were used as units of study for convenience sampling, since their head offices are in close proximity to the researcher. This did save time and costs, and made the respondents more accessible. The directors, deputy directors and supervisors responsible for ICT units were interviewed individually on training models they employed for e-governance in their organisation. The data-collecting procedure did not proceed until the questions of semi-structured interviews were approved by the Ethical Committee of the North West University (Potchefstroom Campus). After the approval of these questions, the data collection continued through interviews conducted on the sampled departments, targeting individual respondents. The collected data was analysed, interpreted and findings drawn, after which discussions and recommendations were compiled.

#### *1.6.2.1 Interviews*

According to Woods (2012:8), a large amount of relevant information about the experiences of others may be collected by questioning or talking to people directly. Interviews, especially unstructured or semi-structured ones, offer considerable flexibility to the researcher. Furthermore, a great deal of research within at least the social sciences depends on interviews (Woods, 2012:8).

Flick (1998:94) in Mc Laughlin (2003:4) defines semi-structured interviews as "more or less open-ended questions which are brought to an interview situation in the form of an interview guide". The focus of the present study was to gain an understanding based on contextual information that was obtained. The depth of understanding the researcher pursues is used to characterise this type of interview (Mc Laughlin, 2003:4). The Texas State Auditor's Office (TSA, 2011) defines semi-structured interviews as interviews that are administered from a general outline of topics or issues but are not completely driven by prepared questions. Semi-structured interviews are perceived as enabling the researcher to obtain more information from respondents, as they are given ample opportunity to elaborate on the issues under investigation. According to Honaker (2008:2), semi-structured interviews with their open-ended questions provide a platform to gain a wider range of knowledge from the respondents.

In the present study, new ideas were required to determine whether the Free State Provincial departments have adequate training models for e-governance in place and also to investigate the need for e-governance knowledge and skills for public managers. Therefore, semi-structured interviews served to obtain more information from respondents on how to improve service delivery processes by implementing theoretical models for e-governance and training in e-governance content. The following public managers were interviewed: those responsible for ICT units and ICT resources in the identified provincial departments:

a. Directors
b. Deputy Directors
c. Assistant Directors.

The study focused on the above-mentioned management echelons, because they are responsible for managing, monitoring and training subordinates on electronic-governance resources. To enable analysis, an interview schedule was designed to pose similar questions to all respondents. Thereafter, a pilot study was done with three respondents to ascertain the validity and wording of the questions. Once it was established that the respondents would understand all the questions, the full roll-out of interviews commenced.

In designing the model, the following procedures were followed:

a. Training-model drafts were developed, based on the literature review and an analysis of existing departmental training approaches.
b. The content of the draft was adjusted and refined further, based on the input obtained from the respondents. Respondents were encouraged to criticise the draft in order to measure its legitimacy and usefulness for application in the selected departments. A final, comprehensive training model was then designed.

### 1.6.3 Data analysis

Schoenbach (2004:2) states that the processes of analysing data interpreting the results are the reward for work done on collecting the data. The process of data collection is thus justified by analysis and interpretation. Schoenbach (2004:2) further outlines the design, which entails operations performed on the data such as editing, cleansing, tabulation of, coding and transfer. The above-mentioned design was utilised in analysing the collected data. The data was edited through the Computer Assisted Qualitative Data Analysis (CAQDAS) under the guidance and assistance of the NK Environmental Consultants, a private company. With their assistance the data was monitored to ensure adherence to the data-collection protocol, and to prompt actions if necessary to minimise and resolve missing and questionable data.

Furthermore, the Statistical Services of the North West University (Potchefstroom Campus) was asked to assist with the interview schedule and with the researcher's usage of ATLASti (categorisation) and the Statistical Package for the Social Sciences (SPSS) software (cross-referencing of data).

*1.6.3.1 Data cleansing*

The data was also subjected to CAQDAS to "clean" the data before it was tabulated, coded and transferred. Lewins and Silver (2004) explain the benefits of CAQDAS by indicating that even when utilised in the most basic way, CAQDAS software significantly increases the researcher's access to the different elements and its sub-sets of data. As Schoenbach (2004:2) indicates, data editing were done to:

a. Detect and correct invalid values.
b. Note and investigate unusual values.
c. Note outliers (even if correct, their presence could have a bearing on the choice of statistical methods).
d. Check the reasonableness of distributions and also note their form, since that will also affect the choice of statistical procedures.

The Statistical Services of the North West University (Potchefstroom Campus) were asked to assist with the use of ATLASti and SPSS software to clean the data as well.

## 1.7 ETHICAL CONSIDERATIONS

The present study was subjected to ethical research principles. Trochim (2006:3) lists the key phrases that describe the system of ethical protections created by the contemporary social and medical research establishment to protect the rights of research participants. These protective measures form basic principles of ethics in social research. Phrases such as "voluntary participation", "informed consent"," risk of harm", "confidentiality", "anonymity", and "right to service", are commonly used to accentuate the ethical protection of participants in social research. The study was thus subjected to the NWU's ethical clearance procedures.

## 1.8 CONTRIBUTIONS OF THE STUDY

The European Union (EU, 2009:1) describes the impact of introducing technologies as measures enabling governments to overcome certain challenges. Therefore, this study should positively impact on the Free State provincial departments in overcoming challenges in the usage of ICT devices in service delivery. This especially applies to the design of a comprehensive training model to train public managers in its applications. Furthermore, the introduction of training models for e-governance to Free State provincial departments will enable managers to fulfil the goals of the South African Electronic Communications and Transactions Act 25 of 2002as it was explicated previously in this chapter.

Certain restrictions did apply. Firstly, a case-study design was utilised and, secondly, the data obtained could not be generalised to the entire Public Service of South Africa. Nevertheless, it is expected that the model could add significant value to government departments in other provinces of the country. The study will, furthermore, not only contribute to ICT-training in general (i.e. addressing a practical concern), but also add valuable insight to the knowledge

domain of Public Management as a discipline. This could be done by facilitating the construction and production of knowledge in the subfields of training and e-governance.

## 1.9 CHAPTER LAYOUT

Chapter 1: **Orientation:** The first chapter outlines the orientation to the study, the problem statement and the methodology that will be implemented in gathering data.

Chapter 2: **Public Management training: A theoretical exposition**: This chapter provides a theoretical exposition of theoretical models, approaches and paradigms associated with managerial training and development, with specific reference to the public sector.

Chapter 3: **ICT and e-governance:** This chapter evaluates the utilisation of ICT in government and explores international e-governance trends, principles and applications. It also discusses theoretical underpinnings and approaches to the usage of ICT in government and possible typical managerial applications of e-Govt in government departments.

Chapter 4: **Managerial training and e-governance: Towards a model.** The researcher explores the critical interface between the aspects of training and e-governance in the South African Public Service. The status of e-Govt in the South African Government and its alignment with training models and approaches in provincial departments will be assessed. The chapter will conclude with a draft training model for e-Govt., based on the theoretical contents of Chapters 2, 3 and 4.

Chapter 5: **Training for e-governance in the Free State Province: Empirical findings:** In this chapter, an analysis is done of e-governance training approaches and models available in the Free State Provincial Departments to promote e-governance effectively. It also discusses the challenges faced by Free State Departments' ICT managers when designing training models for e-governance. Thereafter it outlines the research methodology and data-collection instrument. The chapter includes data coding, interpretations, analysis and explanations. Based on the data triangulation of theory, practice and empirical data, the dimensions are highlighted of a comprehensive training model focusing on strategic, tactical and operational levels. The chapter also examines the elements that should be added to or incorporated into the draft training model, based on the input by provincial public managers.

Chapter 6: **Conclusions and recommendations: A comprehensive model for e-governance training**: The final chapter draws conclusions and recommendations. The chapter operationalise the main purpose of the study, namely designing a comprehensive training model for public managers to facilitate e-governance. The draft model (Chapter 4) will be refined, based on the input by respondents from the selected Free State Provincial Departments.

# CHAPTER 2

# PUBLIC MANAGEMENT TRAINING: A THEORETICAL AND CONTEXTUAL EXPOSITION

## 2.1 INTRODUCTION

The preceding chapter focused on the orientation of the study and the exposition of the research problem. The first chapter also gave a brief outline of the research questions, research objectives, the ethical considerations, the scientific contribution of the study and the research methodology used in this study. This exposition on substantiating the research study sought to develop a rationale for constructing an e-governance training model for selected Free State provincial departments. However, constructing an e-governance training model would not be sufficient without focusing on public management training. In other words, an effective application of an e-governance training model requires a detailed analysis of training principles, models and applications in general and public manager training in particular. In this regard the South African Qualification Authority (SAQA) Policy Document (2002:1) pinpointed the dire need for a "highly professional and competent public management corps". As is the case with similar countries around the globe, the shortage of management skills has forced the South African government institutions, especially departments to promote people into managerial positions without the necessary formal academic qualifications (SAQA Policy Document, 2002:1).

In order to attain the research objectives it is imperative to outline training paradigms, theories and principles developed by various theorists on the nature and evolution of Public Management as discipline and public management as practice. Thus far various theoretical debates and expositions took place on the status of Public Management and its evolution. The purpose of this chapter thus is to provide a basic exposition of theoretical models, approaches and paradigms associated with managerial training and development, focusing specifically on the public sector. Furthermore, concepts such as "training", "management training" and "development" will be outlined by means of a comparative analysis. This chapter will also focus on managerial principles, the uniqueness of public management training, the statutory and regulatory framework that governs public management training in South Africa, and training and development within a new public governance paradigm. The discussions will culminate in the scrutiny of public management training, with specific reference to e-governance.

## 2.2 THE CONCEPTS "TRAINING", "MANAGEMENT TRAINING" AND "MANAGERIAL DEVELOPMENT"

A theoretical discourse of public management training requires focused clarification of key concepts closely related to the topic. For this reason the concepts "training", "management training" and "managerial development" will be explored as key constructs.

The concept of training is perceived as incorporating words such as knowledge, skills, behavioural change and development of abilities, attitudes change and improvement of abilities to perform tasks. For example, Masada (2003:2) explains the concept training as

process of modifying attitudes through a planned process with an aim of achieving effective performance in any activity or a range of activities. He (Masada, 2003:2) also postulates that the purpose of training in the work situation is to develop the abilities of the individual and to satisfy current and future manpower needs of the organisation. Velada, Caetano and Kavanagh (2007:2) further define training as: *The degree to which trainees effectively apply skills gained in the training context to the job*. A similar sentiment is echoed by Niaz (2011:2), who sees the concept as referring to practical transferring of the obtained knowledge required to carry out specific managerial and leadership tasks. Ongori and Nzozo (2011:3) in turn, highlight the human dimension of training by stating that training is considered as the process of bringing about behavioural changes. The On-Line Learning Centre (OLLC) (2014:3) supports this notion by stating that the goal of training is primarily to empower employees to master certain specific behaviours related to their specific functions. From this brief orientation it can be deduced that the concept training encompasses aspects such as knowledge, skills, empowerment, and behavioural dimensions.

Although training may incorporate management training processes, the concept of management training requires scrutiny, as it may differ slightly from the general training practices. Westover (2008:2) points out that management training refers to initiatives that incorporate aspects such as learning theory, which focuses on the needs assessment, motivation, reinforcement, retention, transference and evaluation. In other words, management training aims at motivating managers in carrying their managerial tasks. In accordance with this view, Morgan (2011:1) explains management training as the application of skills improving methods and the development of people in leadership roles. Similarly, Ottaiano and Navarra (2013:1) perceive management training as incorporating the management's technical and professional know-how with managerial competencies. Ottaiano and Navarra (2013:1) add to this conceptual clarification by stating that the purpose of training is to develop mutual interrelations between the human resources and the technical environment such that both an individual and their capabilities are optimally developed. In a similar vein, Lutzenberger (2014:1) points out that the concept refers to empowering managers in multitasks such that they are also able to translate theoretical management into practice. To this, Sharma (2014:9) adds the aspect of growth of an employee in all respects. According to Sharma, the main concern of management training is to shape employees in their totality as human beings. From this brief conceptual orientation, it may be deduced that the concept of management training refers to the total development of an individual in managerial competencies to be capable of handling the complex strata of work-related dynamics.

An analysis of management training would be incomplete without considering the various types of management training involved. There is an indication that management competencies differ from general competencies expected of general personnel. Grensing-Pophal (2000:3) argues that managers need a broad variety of skills in leadership and supervision, communication, general business, organisational and technology as compared to personnel in general. Bolden, Gosling, Marturano and Dennison (2003:20) also outline some managerial training types as consisting of 'leadership, conceptual and strategic thinking'. In addition, Ejiogu (2000:3) and Obisi (2011:2), identify two major types of training, namely on-the-job and off-the-job training. According to Obisi on-the-job training is involves the personnel such as colleagues, supervisors, managers and mentors who are engaged in ushering employees to adjust to their work and also equip them with necessary working skills. Off-the-job training is "usually conducted by training consultants outside the work context". McKay (2014:1) indicates the primary categories under which certain types of

management training for employees can be sorted. These categories may include the following: well-planned and properly implemented management programs as well as management training curriculums aimed at building confidence and skills to create well-rounded managers. In this regard, McKay (2014:1) identifies the following elements as types of managerial training: employee relations, time management and planning, human resource management, leadership and supervision, and customer services.

It is important to note that different conceptions are attached to management *training* as opposed to management *development.* Since the focus of this study is on management training it is important to contrast this aspect with development. The following table analyses the contrast between training and development, in order to highlight the distinctions between the two concepts (table 2.1).

**Table 2.1 A comparative analysis between the concepts training and development**

| Protagonist/ theorists | Training | Development |
|---|---|---|
| **Aim College of Management and Information Technology (2014)** | Generally imparts specific knowledge. | Is more general in nature skills to the employees. & aim at overall growth of the executive personnel. |
| | It is concerned with maintaining work-related processes and tasks. | Builds up competencies for current and future job performances. |
| | Involves a short-term perspective. | Involves a long-term perspective. |
| | Is job-concerned by nature. | It is career-concerned by nature. |
| | The role of trainer or supervisor is to develop all workers or personnel. | Is self-orientated. |
| | Divides into three groups:<br>• workers or operative group<br>• supervisory group<br>• management group | Its methods are:<br>• position rotation<br>• conferences<br>• Service providers' services. |
| **Ahmad and ud Din (2014:1)** | Improves the knowledge, skills and attitude of the workforce and develops their services. | Entails any attempt to obtain information (feedback) on the effects of the training program, and to assess the value of the training in light of that information. |
| | Prepares employees for the new job while development is essential for future assignments. | Entails imparting of knowledge, skills and attitude, and intends changes in abilities for present and future activities. |

| | | |
|---|---|---|
| **Devi and Shaik (2012:2)** | It is the process of imparting knowledge, skills and abilities to employees. Training is considered as a program to help enhance the technical skills of employees | Focuses on enhancing behaviours and improves performance. Training is more present-day oriented, focusing on individuals' current jobs, enhancing those specific skills and abilities to perform their immediate jobs. |
| | Defined as a planned learning experience designed to bring about permanent change in an individual's knowledge, attitudes, or skills. | Generally focuses on future jobs in the organisation. |
| **Fitzgerald (2003:1)** | It is a temporary endeavour to create unique service in relation to capacity building. | It is permanent and future orientated. |
| | Entails the acquisition of knowledge and skills for present tasks, a tool to help individuals contribute to the organisation and be successful in their current positions. | Refers to the acquisition of knowledge and skills that may be used in the present or future. |
| | The preparation of individuals to enrich the organisation in future and the act of being involved in many different types of training activities and classes. | Entails acquisition of skills that may assist employees, even in future. |
| | The preparation of individuals to enrich the organisation in future and the act of being involved in many different types of training activities and classes. | The focus is beyond current day needs. |
| | Has a short-term focus. | Has a long-term focus. |
| **Flagean (2010:3)** | It is short-term inclined | Implies a long-term educational process. |
| | Refers to instruction in technical problems. | Refers to philosophical and theoretical educational concepts. |
| | Targets both managers and non-managerial personnel. | Aimed at both management and personnel. |
| | It is specifically job related. | It is also characterised with general knowledge. |
| **Obisi (2011:2)** | It is a short-term process, utilising a systematic and organised procedure by which non-managerial personnel acquire technical knowledge and skill for a definite purpose. | It is a long-term educational process utilising a systematic and organised procedure by which managerial personnel acquire conceptual and theoretical knowledge for general purposes. |
| **On Line Learning Centre (OLLC) (2014:3)** | Refers to a planned effort by a company to facilitate employees' learning of job-related | Provides employees with competencies for anticipated future jobs and roles. |

| | | |
|---|---|---|
| | competencies. | |
| | Its competencies include knowledge, skills, or behaviours that are critical for successful job performance in the immediate term or near future. | It is future orientated |
| **Sharma (2014:9)** | Implies learning skills and knowledge for performing a particular job, and increases skills required for that job. | Refers to the growth of an employee in all respects. It is more concerned with shaping the individual's attitudes. |
| | Typically imparts specific skills to the employees. | Is more general in nature and aims at overall growth of the executives. |
| | Is concerned with maintaining and improving current job performance, and thus a short-term perspective. | Builds up competencies for future performance and has a long-term perspective. |
| | Is job-centred by nature. | Is career-centred by nature. |
| | The role of trainer or supervisor is crucial in training. | Entails "self-development" and the executive have to be internally motivated |

From the comparison between *training* and *development* in table 2.1 above, it is evident that training is generally regarded as a short-term activity, whereas development is seen as a longer term process. The common elements of distinction between the two concepts illustrate that development is broader than training and thus oriented towards addressing future demands. Training is aimed more at addressing current skills gaps to improve job performances.

In the next section, the focus shifts to the theories and approaches associated with management training. This perspective is imperative to guide the researcher towards the theoretical vantage points from which management training can be approached. This will also provide the necessary theoretical underpinnings for developing a model to train employees.

## 2.3 THEORIES AND APPROACHES RELATED TO MANAGEMENT TRAINING

Management training initiatives and procedures are grounded in various theories and approaches. The rationale for examining management theories when developing a training model is based on the fact that theories and approaches provide foundations for meta-theoretical arguments and set theoretical parameters for an analysis of management training. What follows is a brief exposition of theories and approaches related to management training.

McAuley, Duberley and Johnson (2007:25) reflect that over the past 100 years or so, management theories have developed into a distinct social science discipline, a body of thinking and writing that attempts to describe, explain and sometimes influence management within organisations. Zeithaml, Varadarajan and Zeithaml (2014:8) concur by adding that especially during the early 20$^{th}$ century management theorists and researchers began to adopt new perspectives and orientations that enabled significant advancements in the study of management and organisations. Olum (2004:12) confirms the notion that these new

perspectives and orientations in the field of management led to an escalation in the development of various theories. These theories can be classified according to different periods, namely classical, neo-classical and more contemporary theories. To this, Pham (2014:1) adds that variations in management thought associated with each period is mainly the result of multiple perspectives, including modern and postmodern views, and management culture globally. Thenmozhi (2014:12) explains that the respective classifications of management theories attempt to determine predictable relationships between management actions, outcomes and situations. In addition, Subedi (2014:1) states that trends analysis in management theories illustrates the dynamics and evolutionary nature of management thoughts and practice. Nadeau (2008:1) share the same view about the classification of management thought and add value by proposing that management theories could be categorised in terms of the following approaches: behavioural school, contingency, systems approach and the dynamic engagement approach. For purposes of analysis below, the researcher will utilise the proposed classification system of the classical, neoclassical and contemporary management theories.

### 2.3.1 Classical theory

According to Sahu (2009:1), theories classified under the classical domain are characterised by the fact that they regard management functions, principles and skills as universal. Zeiger (2014:1) further defines classical management theories as those that emphasise the hierarchical relationship in organisations and are characterised by the fact that workers are seen as a mere extension of the production line. At the various levels, employees are expected to perform tasks according to strict procedures designed to maximize productivity. To this Francis (2012:1) adds that classical management theory considers management of an organisation as a chain of inter-related functions with emphasis on efficiency and formal organisational structures. Pham (2014:2) confirms that authors mainly perceive this theory as an overarching theoretical framework consisting of three main subcategories of theory, namely bureaucratic, scientific management, and administrative. These three theories are briefly highlighted below emphasising their influence on managerial training.

#### *2.3.1.1 Bureaucratic theory*

According to Akrani (2011:1), as well as Mahmood, Basharat and Bashir (2012:9), bureaucratic theory was conceptualised by the German Sociologist, Karl Emil Maximilian, known as "Max Weber". His design culminating into the theory called "Weber's Theory of Bureaucracy" which was used in defining management between 1864 and 1920. The main focus of the bureaucratic theory was organisational structure. Max Weber focused on dividing organisation into hierarchies and establishing strong lines of authority and control. Warwick (1975) in Mahmood, Basharat and Bashir (2012:9), point out Max Weber's premise of a need for different training programs for the various systems of organisations. Managers' needed managerial training according to their duties, and workers needed work training for their specific occupations. McNamra (2014:4) explains that Weber suggested organisations should develop comprehensive and detailed standard operating procedures for all routine tasks. The idea of formulating comprehensive and detailed standard operating procedures is accepted by Islam (2009:2) who highlights the following bureaucratic theoretical principals as proposed by Max Weber:

a. clearly defined and specialised functions;
b. the use of legal authority;

c. hierarchical form;
d. written rules and procedures; and
e. technically trained bureaucrats

Weber's principals render the bureaucratic theory relevant to contemporary management training, as managers need to be cognisant of their functions in order to produce optimum results. These functions include the legal authority, the hierarchy within which they function, including its political leadership, the rules and procedures (e.g. those regarding grievances or internal discipline), legislation (e.g. legislation governing the public service) and the technical skills such as ICT skills.

*2.3.1.2 Scientific management theory*

According to McNamara (2014:4), Frederick Taylor is regarded as the originator of scientific management theory. Since Taylor searched for the "one best way" of managing, "he applied scientific methods to the field of management" (Hersek, 2007:1). This theory espouses the careful and detailed specification and measurement of all organisational tasks. According to this theory, tasks should be standardised as much as possible.

Eve (2010:3) points out that Frederick Taylor's scientific theory was all about the "science of work" to be brought together with scientifically selected and trained people with the aim to achieve the best results. Eve (2010:3) also asserts that Taylor advocated the systematic training of workers in "the one best practice" rather than allowing them personal discretion in their tasks. Islam (2009:3) highlights Frederick Taylor's following principals of scientific management theory:

a. replacement of old rule of thumb method;
b. scientific selection and training;
c. maximising output;
d. equal division of responsibility;
e. initiative; and
f. esprit de corps

Subedi (2014:1) indicates that these scientific principles should be used to define the best way of managing managerial tasks. Therefore, there should be standardisation in management. Eve (2010:4) confirms that, in light of this theory, managers require training in scientific management skills derived from Frederick Taylor's scientific management principles as listed above. It should be noted, however, as McNamara (2014:4) confirms, that the "rewarding and punishing" approach followed based on scientific management theory, was mainly aimed at achieving optimum performance from workers. This approach appeared to work well for manufacturing companies with assembly lines and other mechanistic, routine activities, but not as well in other organisational settings.

*2.3.1.3 Administrative theory*

Hanson (2014:2) confirms that the initial theories of administration were developed by Henry Fayol who identified the basic principles of administration. Fayol specified that all administrators/managers had to plan, organise, command, coordinate and control. Similarly, Akrani (2011:1) states that according to the Administrative Management Theory School,

management is the "process of getting things done through people". Islam (2009:3) identifies the following five principals of the administrative theory:

a. division of labour;
b. authority and responsibility;
c. discipline;
d. unity of command;
e. unity of direction; and
f. subordination of individual interest to general wellbeing

The implication of this theory is that it is inevitable that managers will be trained appropriately in skills such as dividing labour, unity of command, direction and redirecting the workers' interest to the general organisational interest. Programmes for management training should also incorporate skills in division of labour, discipline, command and subordination of individual interests to that of the organisation in general.

### 2.3.2 Neoclassical theory

Nedau (2008:1) traces the origins of the neoclassical theory to the work of scholars such as Stanley Jevons, Leon Walras, Francis Ysidro Edgeworth, and Vilfredo Pareto. From the early 1840s these scholars designed theory which was mainly aimed at the human dimension of organisation. According to Weintraub (2014:1) this focus was a dramatic shift away from classical management theory. Neoclassical theory mainly concerns human dynamics and the social needs of employees. Hartzel (2014), Clark (2014) and Earl (2014) indicate that most authors concur that neoclassical theory comprises three sub-theories, namely human relations theory, behavioural theory, and systems theory.

#### *2.3.2.1 Human relations theory*

Francis (2010:2) explains that human relations theory emanated from Elton Mayo, who conducted various experiments from 1924 to 1932 at the Fritz J. Roethlisberger's Hawthorne plant of the Western Electric Company. Mayo tested human relations of workers rather than favourable physical conditions. According to Francis (2010:2) and Hartzel (2014:1), these experiments led to the emergence of the human relations movement. This movement resulted in the construction of various theories related to people at work. Collectively these theories are known as human relations theory.

Paul (2009:2) maintains that the advancement of the human relations theory takes into account human factors such as employer-employee relationships and skills. Bianca (2014:2) and Hartzel (2014:1) in this regard believe that formal education and training is needed to skill managers in the art of supervision, people dynamics, and interrelationships. Based on these arguments it could be deduced that human relations theory justifies a need to expose public managers to formal education and training on human dynamics.

#### *2.3.2.2 The behavioural school*

McNamara (2014:1) points out that the behavioural school emerged during the 1930s when more attention was paid to individuals' unique characteristics and capabilities in organisations. According to Mahmood, Basharat and Bashir (2012:9) and Thenmozhi (2014:12), the behavioural school emerged partly because the classical approach to people at

work did not achieve efficient production and workplace harmony. There was thus a need to change the behaviour of workers through training and skills development.

According to Zeiger (2014:3) and Subedi (2014:1), the behavioural school is closely related to the human relations theory since it focuses on individual behaviour and dynamics in the workplace. Sahu (2009:1) explains that the behavioural school gained significant impetus with the seminal work of Abraham Maslow. In his 1943 paper "A Theory of Human Motivation", Maslow proposed a hierarchy of human needs. He identified the pattern that human motivations generally follow in terms of: physiological, safety, belongingness and love, esteem, self-actualization and self-transcendence motivators. Paul (2009:3) expands on Maslow's needs by reflecting on people's desire for stability and achievement in the workplace. Hartzel (2014:1) continues this theme by arguing that people have a general desire to work towards personal growth, accomplishment, and achievement.

The behavioural school highlights the complexities associated with personalities, human dynamics and the fact that workers do not always follow predicted or expected patterns of behaviour. Due to this realisation there was increased interest in helping managers deal more effectively with people issues. This was done by introducing training and development initiatives for managers (Paul, 2009:2). It is imperative that managers are trained in various behaviours of workers which may impact on organisations.

*2.3.2.3 Systems theory*

According to McNamara (2014:4), systems theory can be regarded as a collection of sub-theories that are combined to provide a general framework of open and closed systems. Zeithaml, Varadarajan and Zeithaml (2014:2) argue that the open systems perspective views a complex organisation as a set of interdependent parts that together constitute a whole. In the same vein, Olum (2004:18) asserts that systems theory had a significant effect on management science and understanding of organisations. Olum (2004:18) defines a system as a collection of parts unified to accomplish an overall goal. If one part of the system is removed, the nature of the system is changed as well. According to Thenmozhi (2014:12), the system approach to management views the organisations as a unified, purposeful system composed of integral parts. This approach gives managers a way of looking at the organisation as a whole and simultaneously as a part (i.e. subsystem) of the larger external environment (i.e. system). Subedi (2014:1) contends that the system theory is thus concerned with the total picture of interdependence and environmental influences. To this perspective Hartman (2014:3) adds that organisational systems can be analysed in terms of their subsystems, which include operations, production, finance, marketing, and personnel.

The significance of systems theory on management training and development are mainly imbedded in the realisation that managers need to develop cognitive abilities to see the "whole". They should cultivate systems thinking and be able to analyse the interrelationships between various subsystems within organisations.

### 2.3.3 Contemporary theories of management

Although there is a compendium of contemporary management theories applicable to management, only the contingency theory and the dynamic engagement theory will be examined for the purpose of this study. These two theories are selected based on their specific relevance to management training and development.

*2.3.3.1 Contingency theory*

Paul (2009:3) traces the advent of contingency theory from the early 20th century. According to Paul, the contingency theory was developed by Niklas Luhmann as an alternative to the theoretical foundations of Human Resource Management (HRM). In contrast, Pandey (2011:1) associates contingency theory with Henry Fayol who stressed that when managers make decisions they have to take all key factors into account. Burns, Stalker, Lawrence and Lorsch (2014:1) bring another dimension to the contingency theory by arguing that the contingency approach to organisational design tailors the design to the sources of environmental uncertainties. The point they make is that organisational design should enable it to deal successfully with these uncertainties. McNamra (2014:3) adds to this by indicating that the contingency theory does not prescribe the application of certain management principles to any situation as in the case with the systems theory. Instead, according to Zeithaml, Varadarajan and Zeithaml (2014:1), the contingency theory is mainly derived from the recognition of the extreme importance of the individual manager's performance in any given situation. From this brief orientation it may be deducted that the contingency theory differs from the behavioural theory by focusing specifically on situational analysis within a work place, whereas the behavioural theory focuses on the behaviour of workers per se (cf. Charlton and Andras, 2014:3).

Pham (2014:1) maintains that in line with contingency theory, productivity is a result of a manager's ability to adapt to environmental changes. According to Pham (2014:1), the contingency theory views conflict in the work place as inescapable, but also manageable. This differs from classical and neoclassical theories, which interpret conflict as "interference" with the organisational equilibrium. Therefore, managerial authority is especially important for highly volatile industries that allow managers the freedom to make decisions based on current situations (Pham, 2014:1). This implies a need to train managers in handling volatile situations within the workplace. Therefore, there is a need to develop training programs in contingency management to train managers in handling uncertainties which may arise in their organisations.

*2.3.3.2 The dynamic engagement theory*

According to Marcum (2014:1), the notion of "engagement" emerged in recent years as a key ingredient to effective work and learning. The engagement theory was developed as a result of the need for management to engage constantly with workers in order to achieve the goals of the organisations (Pham, 2014:1). Marcum (2014:1) points out that the engagement is a process and an on-going activity, not a conclusive event. Learning and involvement are the determining characteristics of management activities. Thenmozhi (2014:12) complements the above by establishing that the dynamic engagement approach refers to the emphasis of the modern organisational relationships and the intensity of time pressures that govern the relationships. Lombardi (2014:1) supports Marcum (2014) and Thenmozhi (2014) by indicating that the dynamic theory, like most theories, defines progress as the development of forces. Grodsky (2014:22) further argues that the dynamic engagement approach challenges current managers to perceive organisations and management as integral parts of modem global society. Therefore, the above mentioned theory indicates a need to train managers in handling dynamism in a workplace, as the working environment (i.e. systems) is characterised by dynamic changes.

The following table outlines a comparative analysis of management theories with their proponents, authors and the implications for management training (Table 2.2).

**Table 2.2 A comparative analysis of management theories and implications for management training**

| Author(s) | Theorist(s) | Theory/approach | Implications for management training |
|---|---|---|---|
| **The classical theories of management** | | | |
| **Akrani (2011:1); Pandey (2011:1); Hanson (2014:2); and Subedi (2014:1)** | **Henry Fayol** | *Administrative theory*<br><br>When managers make decisions they have to take all key factors into account. | The scientific method of defining the best way for a job to be done requires training and development. Managers should be trained in sound decision-making and judgement. |
| **Islam (2009:2)** | **Henry Fayol** | *Bureaucratic theory*<br><br>Basic principles of management and all managers have to plan, organise, command, coordinate and control. | Managers require training in skills of planning, organising, commanding and controlling. Appointment to positions based on technical expertise (Islam, 2009:2). |
| **McNamra (2014a:4)** | **Frederick Taylor** | *Scientific management theory*<br><br>Defined as the use of the scientific method to define the "one best way" for a job to be done. | Managers require training in scientific methods of defining and executing their tasks. |
| **The neoclassical theories of management** | | | |
| **Charlton and Andras (2014:2); Zeithaml, Varadarajan and Zeithaml (2014:2); and Mc Namara (2014a:4)** | **Henry Fayol** | *Social systems theory*<br><br>Based on the view of social systems as auto-poetically closed systems. The conceptualisation of organising and managing human resources as social processes, thus | The systems theory advocates that managers should be trained in skills to select appropriate techniques effective to particular situations and |

| | | | |
|---|---|---|---|
| | | overcoming an individualistic angle.<br><br>The interaction between various levels and units of analysis built into the theory, which is essential for comprehensive and in-depth analyses of HR phenomena and the openness for additional theories for which this theory provides the overall framework. | appropriate management functions.<br><br>Managers should be trained in interaction between levels and units of analysis skills in a work place. |
| **Hartzel (2014:1); Mahmood *et al.* (2012:9); Paul (2009:3); Subedi (2014:1); Sahu (2009:1); and Thenmozhi (2014:12)** | **Stanley Jevons, Leon Walras, Francis Ysidro Edgeworth, Vilfredo Pareto and Niklas Luhmann**<br><br>**Henry Fayol**<br>**Marx Weber** | *Behavioural theory*<br><br>This theory is often called the human relations movement because it addresses the human dimension of work.<br><br>Managers are frustrated, and therefore, there is a need to change the behaviour of workers through training and skills development. People did not always follow predicted or expected patterns of behaviour. This leads to increased interest in helping managers deal more effectively with a people side of their organisations by introducing training and development initiatives. | Managers should be trained in human relations.<br><br>In order to alleviate frustrations and being able to monitor the workers' behaviours, managers should be trained and exposed to relevant skills in people management. |
| **Earl (2014:1); Hartzel (2014:1); Nedau (2008:1); Paul (2009:3); and Sahu (2009:1)** | **Stanley Jevons, Leon Walras, Francis Ysidro Edgeworth, and Vilfredo Pareto Niklas Luhmann** | *Human classical theory*<br><br>Working from the premise that functions, principles and skills of management are universal. Formal education and training is needed to help develop the required skills. | There is a need to expose public managers to formal education and training. |

| | | | |
|---|---|---|---|
| | | | |
| **The contemporary management theories** | | | |
| **Hartman (2014:3); Mc Namra (2014:3); Pham (2014:1); Paul (2009:3); and Thenmozhi (2014:12);** | **Henry Fayol** | *The contingency theory*<br><br>Also called the *situation approach* – developed by managers, consultants and researchers who tried to apply the concepts of the major schools to real life. The contingency theory asserts that when managers make a decision, they must take into account all aspects of the current situation and act on the aspects pivotal to the situation at hand. | Training and development should be geared towards empowering managers to apply concepts and knowledge to real life. |
| **Mc Namara (2014a:3); Thenmozhi (2014:12); Lombardi (2014:1); and Marcum (2014:1)** | **Henry Adams** | *The dynamic engagement theory*<br><br>Dynamic engagement occurs when people undertake tasks related to their competence, learn continuously, immerse themselves and persist because of the value they attribute to the work. The engagement is a process and on-going activity, not an event, with learning and involvement as determining characteristics.<br><br>*The dynamic engagement theory (continued)* | This is a prerequisite for training, as managers will require knowledge in pursuing their tasks and attributing value to their work as learning and involvement are the determinants of the dynamic engagement theory. |
| **Grodsky (2014:22)** | **Henry Adams** | This approach challenges current managers to perceive organisations and management as integral parts of modem global society. | Managers require training in adjusting to societal environments and values. |

The preceding discussion and Table 2.2 above highlight the theoretical underpinnings, which determine management practices particularly in training and development. As such, the management theories provide a cognitive justification of public managerial training on management skills. These aspects should be considered in designing comprehensive training programmes.

## 2.4 MANAGEMENT TRAINING WITHIN A PUBLIC SECTOR FRAME

The preceding discussion highlighted the theories guiding managerial training. It should be noted, as confirmed by Islam (2009:1), that contemporary management theory derives managerial themes its themes from more classical and neo-classical management theories. The orientation provided in this section is necessary to contextualise and place management training within a public administration and management frame.

Van den Dool (2003:6) argues that a starting point for any overview of theoretical developments in Public Administration as "mother" discipline for the study of the public sector should be Max Weber. The reason is that he is the first author to describe public bureaucracies and to analyse their meaning for society. Brillantes and Fernandez (2005:4) introduce another dimension by reiterating that that public administration is as old as the ancient empires of China, India, Egypt, Greece, Rome and Mesopotamia which dates back to as early as the 18$^{th}$ century. Caiden (1982) in Brillantes and Fernandez (2005:4), stretches the origins of public administration further backward by contending that the idea that "public administration should not be considered administration of the public but administration for the public" as it has been practiced and expressed in the Code of Hammurabi, in Confucianism and in the funeral oration of Pericles, also known as the Middle chronology dating as far back as between 1792 BC and 1750 BC. In other words, the idea of client-oriented public administration has its roots in public administration of ancient times.

Brandsen and Holzer (2009:3) introduce another dimension by indicating that from Frederickson's attempts to define governance or to provide an umbrella under which many definitions may fall, the quote: *Public Administration has always been about governance, not merely management,* might be a more appropriate way to explain public administration as an *application.* According to Brandsen and Holzer (2009:3), Bailey (1980) introduced the traditional government structures that are still applicable today:

a. increased stakes and risks of government decisions;
b. science and technology issues in almost all facets of social policy giving rise to more moral and philosophical concerns;
c. people problems in the bureaucracy;
d. shorter decision intervals and reaction times to meet citizen's demands, even while relying increasingly on information systems and technology;
e. relentless social criticism and dissatisfactions with quality of life and political leadership; and
f. sheer growth in federal grant programs and a drastically changed view and practice of federalism

Madureira and Ferraz (2010:38) indicate that the first type of public administration reforms was between 1990 and 2000, and focused on the de-bureaucratisation of administration and on the need of more proximity and transparency to the citizens, whilst the second type of reforms occurred between 2000 and 2009. Patil (2011:1) differs slightly with the above

authors, as he traces Public Administration within the Marx Weberian period (1930-1950). He schematises these as; Period I (1887-1926), Period II (1927-1939), Period III (1938-1947), Period IV (1948-1970), and Period V (1971 – to date). Patil (2011:1) asserts that the discipline of Public Administration was born in the USA. Jugović (2012:2) complements Patil (2011:1) by pointing out that Public Administration as an institution underwent numerous reforms from 1864 to the 1970s. These reforms, according to Patil (2011:2), entail:

a. Transition from a patrimonial to professional management, but until the present public administration continues to be a central institution of the state system.
b. Instead of a vertical, there a horizontal functional integration occurred, that is, differentiation by which the society is changed and adapted through specialised activities, professions and institutions, with public administration becoming one of the specialised areas.
c. Within these units public administration still retains a vertical administrative hierarchy. Parallel with the differentiation of the society, there was an inner differentiation of the state, which meant that governmental and other organisations appear around public administration and the related organisations through which the government achieves its objectives.

In the Western world, according to Patil (2011:1), the discipline of Public Administration thus originated from the USA between 1887 and 1926. Patil (2011:1) asserts that the credit for initiating Public Administration as an academic study goes to Woodrow Wilson, who was teaching Political Science at Princeton University and who later became the President of the USA. Therefore, Woodrow Wilson should be regarded as the father of this discipline (Patil, 2011:1).

From the discussion above, it is evident that the evolution of Public Administration might have hasten the advent of the concept "management", especially when considering Brandsen and Holzer's (2009:3) explanations about the origins of the said concept. Gültekin (2011:1) defines management as "an entrepreneurial approach to Public Administration that emphasizes management rights and reinvigorated scientific management". Pine (2014:1) attests to the above by pointing out that the field of "Management" became more formalised from "Public Administration" during the latter part of the 19th century and throughout the 20th century, along with the rise of the Industrial Revolution. According to Pine (2014:1), many of the early writers in Management argued that there was a right way of organising work and accomplishing tasks in order for goals and objectives of institutions to be realised. That way would soon become known as the management function. Mc Namra (2014:3) concurs with Patil (2011:1) and Pine (2014:1) by pointing out that the concept of management should be traced back to the era of theorists such as Karl Marx (1818-883), Henry Adams (1838-1918), Henri Fayol (1841-1925), Frederick Taylor (1890-1940) and Max Weber (1930-1950). These theorists played a vital role in the development of the concept of management by initiating various theories on the concept. For example Montemurro (2014:2), outlines Taylor's four principles of scientific management, which formed part of the formalising and underpinning of the conceptualisation of "management" between 1930 and 1950, as indicated in Figure 2.1 below.

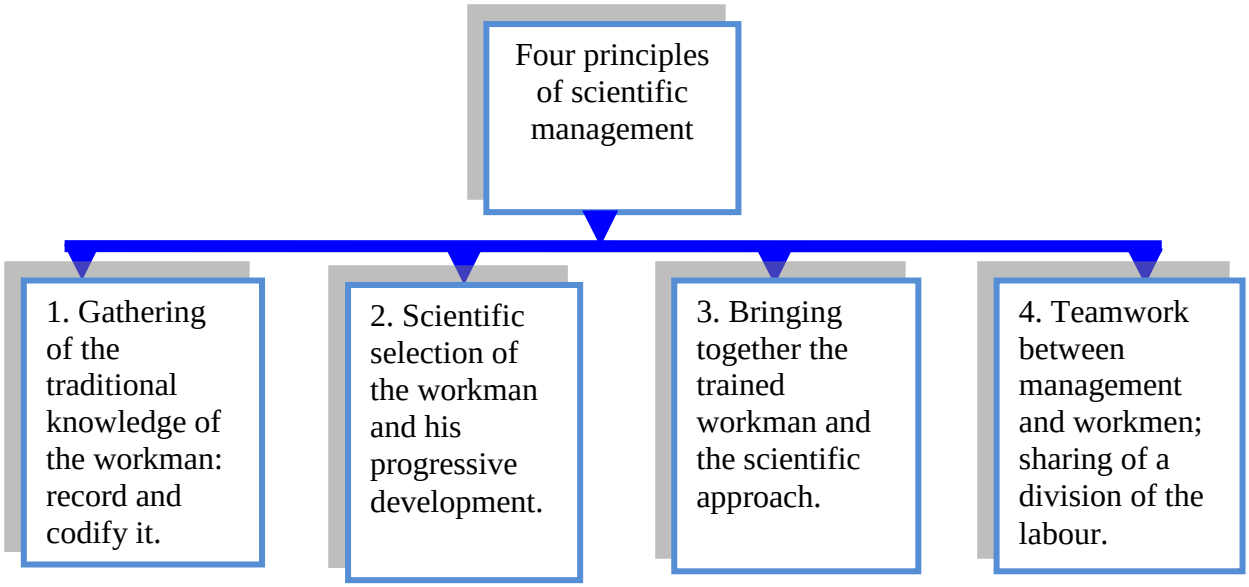


***Fig. 2.1*** **Taylor's four principles of scientific management**
*Source:* Montemurro (2014:6)

In relation to Figure 2.1 above, Montemurro (2014:2) contends that in his Management Theory, Frederick Taylor believed that increasing the efficiency of the workman scientifically would increase not only the opportunity for more work, but also the real wealth of the world. As a result, Taylor's concept of management was based on gathering traditional knowledge based on scientific selection covering the workmen and their progressive development. This conceptualisation linked trained workmen with the scientific as well as teamwork between management and workmen sharing the division of labour (Montemurro, 2014:2). Therefore, scientific management implied that managers needed to be trained in implementing the principles of management through scientific means. Ashworth, Ferlie, Hammerschmid, Moon, and Reay (2013:4) assert that there has been on-going debate about the relationship and the potentially widening gap between management defined in broad terms, and the form conducted from a "Public Management" perspective by many scholars. The debate seeks to unfold the meaning of Public Management as defined by political activities and policy considerations.

Building on this debate, Henry Fayol (1841) in Thenmozhi (2014:1), postulates that management includes elements such as forecasting, planning, organising, commanding, co-ordination and control. Drucker (1841) in Thenmozhi (2014:1) defines the concept of management differently by pointing out that management is work and, as such, it has its own skills, its own tools and its own techniques. Thenmozhi (2014:1) goes on to note management as the art of getting things done through the use of human resource or people. In other words, the concept of management implies carrying tasks by guiding and monitoring other people. The concept of management thus seems to have transcended into the concept of Public Management. This is mainly due to scholarly interventions attempting to authenticate the practical applications of management in a workplace environment. The discourse mentioned seems to have become a prelude to various proponents' explanations of what the concept of Public Management should mean. What follows is a brief discussion of the concept Public Management.

In line with the exposition above, various proponents have contrasting views on the explanation of the concept of public management. Jones, Thompson and Zumeta (2000:5) share the similar views to that of McCourt and Minoque by perceiving public management to include planning, organising, leading, and controlling of institutional resources such that organisational goals are effectively and efficiently powered by political leadership and authority. Lynn and Steyn (2001:2) postulate that Public Management is the subject of a "rapidly growing literature that is international in scope and multifarious in content". Furthermore, McCourt and Minoque (2001:347) view the field of public management as including the "study of good governance and devolving of authority, especially political authority oriented towards managing the public sector in general". In other words, public management as activity is perceived as a process of governing which includes tools such as leadership skills, delegation and monitoring from the political authoritative view.

Ferlie, Hartley and Martin (2003:3) argue that considerations regarding political and policy issues are significant when managing public organisations, especially in defining public management as both a public activity and a scholarly unit of study. Promberger and Rauskala (2003:8) in turn explain the concept "public management" as incorporating basic management tasks such as budgeting and accounting, customer service, performance management, output measurement, and information technology (IT) management. In addition, Grobbler, Warnich, Carrel, Elbert, and Hatfield (2006:491) also explain the concept of management as a process which involves the study of organising, directing and controlling the allocation and information in pursuit of organisational goals, especially the public sector organisational goals designed by political leadership as custodians of the public sector. Mhina (2008:1) asserts that public management also refers to managing and implementing sets of government activities that deal with the application of laws, principles, regulations, policies and decisions related to the provisions of the public service.

Jones, Thompson and Zumeta (2014:3) emphasise that the concept public management relates to institutions that are designed to perform some tasks related to policy implementation of the publicly supported programs. Furthermore, public management as a practical operational task within the public service can be characterised by the following functions:

a. *Planning:* Formulating a product/market strategy allowing the organisation to exploit its core competencies in order to meet the demands of its external environment.
b. *Organising*: Aligning the organisation's administrative, responsibility, and account structures with its strategy.
c. *Staffing*: Motivating and inspiring employees to serve the interests of the organisation, recruiting, training, and guiding of facilitating them and coordinating their activities to do its work.
d. *Developing:* Creating a culture and a web of personal relationships that strengthens and maintains the organisation's core competencies and reinforces its formal structures.

From the discussion above, it seems that the discipline Public Management is perceived as the study of public management tasks such as organising, controlling and devolving of authority, and applying leadership skills such as delegation and monitoring within the public sector.

Feldman and Khademian (2001:339) stress the fact that the environment in which public management presently functions, differs radically from that of the few decades ago. This is informed by the fact that most contemporary managers face a difficult task in managing complex governmental programmes. Training forms a basic and integral part of development in order to meet the heterogeneous demands associated with the translation of national policies into institutional strategies programmes and projects for service delivery. In this regard, Supic, Bjegovic, Marinkovic and Milicevic (2010:84), indicate that formal public management training should be treated as a learning experience helping managers "to gain the proper knowledge and skills needed to meet societal demands, environmental challenges, and to operationalise strategic objectives". In evaluating a Corporate Leadership Council's study conducted in 2004, James-Sommer (2008:3) points out that 50 000 employees worldwide revealed that the effectiveness of public managers is the important driver for the public sector performance and societal engagement.

Table 2.3 below outlines the perceptions of various proponents of management training by identifying common elements. These commonalities are important for incorporation in a comprehensive e-government training model, which is the focus of this research. The foundational argument is that management training in private-sector settings differs from such training applied to public sector dynamics.

**Table 2.3 Management training skills**

| Theorists and protagonists | Management training skills | Commonalities |
|---|---|---|
| **Business innovation and skills (BIS) (2012:20-23)** | Core skills for managers include:<br>• Reviewing and guiding performance.<br>• Offering constructive feedback and praise.<br>• Identifying current and future skills needs. | • Problem solving<br>• Change management<br>• Seeking suggestions and help from "clients" in order to improve the services provided by the department/unit concerned.<br>• Operating and controlling of systems for the department |
| **Hissom (2014:4)** | Three main kinds of managerial skills:<br>• conceptual,<br>• human, and<br>• technical<br>• Organisations divide managers into departments according to their job responsibilities because of the need to develop and build technical skills. | |
| **Khawandwalla (2004:4)** | • Implementing policies.<br>• Implementing changes and innovations in the area of jurisdiction.<br>• Setting of short-term tasks and targets for area of work<br>• Fair allocation of the work to staff members.<br>• Seeking suggestions and help from 'clients' to improve the services provided by the department/unit. | |

| | | |
|---|---|---|
| | • Operating an appropriate controlling of ICT systems for the department/unit.<br>• Providing periodic feedback to staff and helping to review their performance.<br>• Making decisions-based on evidence<br>• Rewarding or encouraging good performance.<br>• Anticipating and/or mitigating crises. | • Operational planning<br>• Applying creative techniques<br>• Conceptual and technical skills<br>• Applying creative techniques |
| **Rao and Shah (2012:4)** | • Basics of finance management.<br>• Change management.<br>• Managing disciplinary action.<br>• Integrated productivity improvement.<br>• Making decisions-based on evidence.<br>• Team-effectiveness and cohesiveness.<br>• Problem-solving.<br>• Decision-making for effectiveness. | |
| **Supic, Bjegovic, Marinkovic and Milicevic (2010:84)** | • Situation analysis.<br>• Strategic planning.<br>• Technical application of creative techniques and professional skills.<br>• Operational planning.<br>• Making decisions based on evidence.<br>• Change management.<br>• Problem-solving.<br>• Organising daily activities<br>• Time management.<br>• Motivating and guiding others.<br>• Supervising the work of others. | |

With reference to Table 2.3 above, it is evident that authors agree that some of the management skills required to empower public managers include the following: problem solving, change management, operating and controlling of systems, as well as operational planning. The elements or dimensions of management skills as highlighted above dependents on the specific context. The managerial echelon or level as well as the nature of the manager's functional responsibility, will, to a large extent, influence the particular skills a manager should possess. The particular context is discussed briefly below.

Researchers are unanimous that there are typically three levels of management evident in public sector institutions: top-level, middle-level, and first-level. This fact is corroborated by authors such as Juneja (2008:1), Francis (2010:1), Busch (2011:1), Akrani (2011:1), Hissom (2014:4), Mazen and El-Kayaly (2014:5), Simmering (2014:1), and Steyn (2014:1). The first-level is regarded as the junior or operational level of employees who mainly act as supervisors. The middle-level is regarded as the tactical layer and the top level refers to the senior-management echelon. These senior managers are mainly responsible for a strategic orientation to lead institutions towards a desired future. According to Simmering (2014:1), these three main levels of managers form a hierarchy which determines the rankings

according to the order of importance depending on the individual organisational structural layout. Hissom (2014:4) indicates that while first-line managers are responsible for the day-to-day supervision of non-managerial employees; middle managers are responsible for developing and utilising organisational resources efficiently and effectively; and top managers have cross- departmental responsibility.

A literature review reveals that authors agree*: that managerial tasks and skills on the different managerial layers or levels do differ*. In this regard, Mc Namara (2014b:3) alludes to the "so-called Human Relations movement that came to the fore in the early 21st century. In an answer to this movement, Mc Namara (2014b:3) indicates that training programmes in organisations recognised the need to build certain supervisory skills such as delegating, career development, motivating, coaching or mentoring, which featured on the first level of management. Thus, it is evident that more visionary leadership abilities are cultivated through training programmes targeting senior managers. Furthermore, it becomes clear that certain tasks are commonly assigned to senior or top managers. These tasks include determination of policies and plans of the organisation, direction for the organisation, as well as the planning and co-ordination functions. Tasks commonly assigned to middle-level managers include long-range planning, implementing the top management goals, as well as co-ordinating and communicating functions. The tasks centred on directing lower-level employees and training those employees is commonly assigned to lower-level managers.

As far as ICT skills are concerned, Akrani (2011:1) reflects that the managers on middle and lower levels need more technical and less conceptual skills. Technical (ICT) skills form a dimension that describes a tension-line in the present study, as this study seeks to develop a training model for public managers, especially on middle and lower levels, which are in direct contact with the public on a daily basis. Table 2.4 below outlines a contrasting view of various authors' perceptions of managerial levels and tasks. The table also highlights the authors' shared views on the levels and tasks of management.

**Table 2.4 Comparative views of managerial levels and tasks**

| Authors | Management levels and tasks | Shared views |
|---|---|---|
| **Akrani (2011:1)** | *Top-level management:*<br>The top level or strategic managers determine the objectives, policies and plans of the organisation.<br>a. Mobilise (assemble and bring together) available resources.<br>b. Mostly perform actions of thinking, planning and deciding.<br>c. Spend more time in planning and organising.<br>d. Prepare long-term plans of the organisation which are generally made for 5 to 20 years. | *Levels:*<br>Top-level, middle-level, and first-level/first-line (junior or operational), middle (tactical) and top (senior or strategic) managers.<br><br>*Tasks:*<br>*Top/Senior or Strategic management*<br><br>a. Managers direct and control functions.<br>b. Perform planning and co-ordination functions.<br>c. Have maximum |

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| | e. Require more conceptual skills and less technical skills.<br><br>*Middle management:*<br><br>a. Managers give recommendations (advice) to top-level management.<br>b. Execute (implement) the policies and plans made by the top-level management.<br>c. Co-ordinate the activities of all organisational units.<br>d. Communicate with top-level management and lower-level management.<br>e. Spend more time in co-ordinating and communicating.<br>f. Prepare short-term plans for their departments which are generally made for 1 to 5 years.<br>g. Have limited authority and responsibility.<br>h. Are directly accountable to top-level management.<br>i. Require more managerial and technical skills and less conceptual skills.<br><br>*Lower level management:*<br><br>a. Managers direct the workers / employees.<br>b. Help develop morale in the workers.<br>c. Maintain a link between workers and the middle- | authority and responsibility. Act as the final authority.<br>d. Are directly responsible for organisational functions and accountable to government and the general public.<br>e. The success or failure of the organisation largely depends on their efficiency and skills.<br><br>*Middle management/tactical:*<br><br>a. Primary function is long-range planning.<br>b. Managers implement the top-management goals.<br>c. Ensure that the daily work of the organisation gets done.<br>d. Execute (implement) the policies and plans from top-level management.<br>e. Co-ordinate the activities of all departments.<br>f. Communicate with top-level and the lower level management.<br>g. Spend more time in co-ordinating and communicating.<br><br>*Lower/first line/operational management:*<br><br>a. Oversee and direct the lower-level employees.<br>b. Decide on employee-related issues, such as |

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|---|---|---|
| | level management.<br>d. Inform their workers about decisions taken by top management. Also inform management about the workers' performance, difficulties, feelings, demands, etc.<br>e. Along with the experience and basic management skills, they also require more technical and communication skills. | pay rates, training, evaluations, raises, overtime, promotions, hiring and disciplining. |
| **Busch (2011:1)** | *Senior managers:*<br>a. Set the direction for the organisation.<br><br>*Line managers:*<br>a. Ensure that the daily work of the organisation gets done.<br><br>*Lower managers:*<br>a. Translate the vision of senior management into concrete, tangible, usable assignments, the programmes, policies, daily practices, procedures, resources, and talent needed by line management and the workforce who ultimately must realise the vision in the every-day world of their work. | |
| **Francis (2010:1)** | *Top management:*<br>a. Their major functions are planning and organising.<br>b. Managers determine the mission and set the goals for the organisation.<br>c. Their primary function is long-range planning.<br>d. Accountable for the overall management of the organisation.<br><br>*Middle management:*<br>a. Managers implement the top-management goals. | |

| | | |
|---|---|---|
| | b. Monitor and control the operating performance.<br>c. Train, motivate and develop supervisory level.<br>d. Coordinate the functions of various departments.<br><br>*Lower management:*<br>a. Supervisors' major functions emphasise directing and controlling the work of employees in order to achieve the team goals.<br>b. The only level of management who manage non-managers.<br>c. Most of the supervisor's time is allocated to the functions of directing and controlling.<br>d. Maintain discipline and good human relations among the workers. | |
| **Juneja (2008:1)** | *Top management:*<br>a. Managers perform planning and co-ordination function.<br>b. Establish the broad policies and goals of the organisation.<br>*Middle management:*<br>a. Fulfil organising and directing functions.<br>b. Act as mediator between top-level and lower-level management.<br>c. Communicate significant data and reports from lower-level to the top-level management.<br><br>*Lower management:*<br>a. Oversee and direct the lower-level employees.<br>b. Fulfil directing and controlling functions.<br>c. Facilitate the problems and grievances of the workers and attempt to solve them. | |

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|---|---|---|
| **Steyn (2014:1)** | *Top management:*<br>a. Decisions related to institution's corporate strategic planning and organisational development.<br>b. Develop budgets and set long-term goals.<br><br>*Middle management:*<br>a. Handle tactical decisions.<br>b. Manage lower management and determine the issues need to be addressed with top-level managers.<br><br>*Lower management:*<br>a. Decide on employee-related issues, such as pay rates, training, evaluations, raises, overtime, promotions, hiring and disciplining.<br>b. Reward productivity among employees. | |

Martin (2007:34) stresses that the training of public managers is distinct seeing that the tasks of the managers are seen to be more complex than those of their subordinates. According to Poór (2008:3) the assessment or analysis of training needs are "common methods of determining the type of managerial training required in relation to tasks of that specific field of management". Furthermore, these methods can be used to determine whether a particular training need is inevitable and, if proves to be, what training is appropriate to fill the gap. Poór (2008:3) points out the following factors:

a. vision, mission, and strategy of public service institutions;
b. new legislation (e.g. accounting systems, acquisition, regulations);
c. introduction of new management systems; and
d. the knowledge, skills and behavioural competencies gained during the training which will increase abilities and allow participants to perform their jobs at an acceptable level

The stated purpose of the present study is to formulate an e-governance training model for public managers. Therefore, it is important to be guided by the factors as highlighted above. In the same vein, it is necessary to focus on management training and development within a new paradigm for public management, thereby accommodating more recent thinking on management practices. It is thus important to assess the evolution of Public Management as discipline and the advent of New Public Management since it introduced various systems and approaches to management training and development.

## 2.5 TRAINING AND DEVELOPMENT: THE NEW PUBLIC MANAGEMENT PARADIGM

The evolution of management as highlighted above did not conclude with the advent of Public Management. On-going scholarly interventions and discourses led to the introduction of the field of New Public Management. The analysis below scrutinises how *management* and *public management* evolved into the notion of *new public management* (hereafter referred to as the NPM).

According to Larbi (1999:16), the bureaucratic failures of traditional notions and applications to public administration gave rise to the concept of the "New Public Management". Political leaders and bureaucrats became increasingly pressurised to establish user-friendly environments for governance arrangements in order to improve the governments' efficiencies, effectiveness and economic developments of the public sector. As a result, according to Polidano (2000:2) the New Public Management (NPM) surfaced as a dominating phenomenon that focused on the public sector reform by politicians, practitioners and scholars. Some have hailed it as a "new (Kuhnian) paradigm" (Dobel, 2001:4). Gültekin (2011:1) and Ocampo (2014:2) add that NPM can be regarded as 'shorthand for a group of administrative doctrines' in the reform agenda of several Organisations for Economic Cooperation and Development (OECD) countries starting in the 20th century.

Boin, James and Lodge (2006:1) support Dobel (2001:4) above by indicating that the NPM proponents in the field of academia and the government institutions aimed at reinventing the public sector by engaging in probing academic research. The above authors contend that the NPM did not only promise a "cheaper and better government", but it also came with the benefits to the political leadership especially in adding the new administrative dimensions. According to the above authors, by considering the dire straits that many governments were experiencing during the 20th century, many politicians needed to adopt the new philosophy of administration. Osborne and Gaebler (1992:5) contend that the "core element of government 'reinvention' and the establishment of NPM thinking relied in the belief that government should 'steer' rather than row". In this case, the concept of steering hereby refers to setting common directions and guiding societies by means of establishing the relevant statutory and regulatory frameworks. Rowing in turn, refers to basic functions of government (i.e. service delivery), which are facilitated by private sector partnerships.

Some authors point out that towards the end of the 1990s it was evident that NPM had a significant influence on the way the public sector was managed. In this regard, Cabrero (2005:1) states that "most contemporary processes of government reform were inspired by the ideas, techniques, and methodologies postulated by the New Public Management trend". Hess and Adams (2007:4) explain the transition:

> *The current wave of government reforms that has dominated the international scene in the last decade is based on the conviction that governments should become more "business-like", that they should be evaluated based on their results that it should work in "quasi-market" conditions, and be focused on citizens as clients of their products and services.*

According to Hess and Adams (2007:4), the above-mentioned rhetoric was about cutting through the red tape to embrace market values and instruments in businesses through bureaucratic ways. The NPM did not come without a challenge though. According to Denhardt and Denhardt (2007:38), some eminent authors challenged the NPM movement by

"asking questions about the private sector values it emphasises, the tensions between the emphasis on decentralisation promoted through the 'market model', the need for coordination in the public sector, and the implied roles and relationships of the executive and legislative branches". Examples of such authors were indicated as Fox (1996), Frederickson (1996), Peters and Savoie (1996), Carroll and Lynn (1996), Schachter (1997), as well as de Leon and Denhardt (2000).

As far as the influence of NPM on Public Administration and Management is concerned, Kumara and Handapangoda (2008:4) point out that there were extensive debates raging about its impact. Champions of the NPM such as Caiden (1991), Barzelay (1992), Osborne and Plastrik (1997), and Kettle (2000), argue that the historical traditions of the public administration were overridden by the demands for change which resulted into post-global bureaucratic forms of governments. Omoyefa (2008:4) adds that the theoretical and practical terms can be the basis for the influence of NPM on Public Administration and Management. As perceived by Kumara and Handapangoda (2008:4) the main objective of public sector reform was mainly based on achieving better delivery of the basic public services that affect the living standards of poor citizens and trim the state apparatus to lean, decentralised and customer friendly. In an attempt to answer these issues, a new way of thinking on management was introduced.

The evolution of management into the NPM form did not only affect European Countries. There are traces that African states were also included in the evolution of management which led to NPM and ultimately New Public Governance paradigm (Ocampo, 2014:2). The Economic Commission for Africa (ECA, 2003:8) points out that some earlier reforms on shaping the public administration in Africa which lead to national developments were derived from the colonial period. The ECA (2003:8) indicates that many African countries such as Ethiopia, Ghana, Mauritius, Senegal and Uganda were also engaged on the processes of comprehensive that were aimed at improving the quality of lives of citizens, and creating new systems for government to establish efficient and effective public management systems. Otenyo (2006:2) agrees that the need was to transform African governments by eradicating dictatorship in order to develop public administrations and management of change to "improve public management in Africa".

Aligned with Otenyo (2006) above, Vyas-Doorgapersad (2011:4) asserts that the experience indicates that most African countries have in one way or the other, experienced a form of crisis of political turmoil, intolerance and harsh dictatorship, while some countries experienced military regimes with highly centralised government processes which had a directly or indirect impact on the public management practices. Guma (2013:1) also places Africa into the Public Administration evolution by indicating that the available literature do indicate that the public-sector in Africa is set on a premise of the traditional model of public administration which has its roots in the colonial era that begun effectively in 1900. Guma (2013:1) contends that the Afro-centrists share the same traditional view, which asserts that long before the advent of colonial systems African villagers had already established administrative systems headed by chiefs and kings.

Some South African proponents also hold a specific view on the evolution of the concept public management and its functionalities, within a South African experience and context. FitzGerald and McLennan (1995:5), for example, indicate that there an attempt is to move away from a descriptive, academic approach of the concept public management which emphasises processes and procedures to an acceptable value-oriented public South African

public governance approach tailor-made for South Africa. In relation to the above authors' views on the evolution of the concept public management within a South African context, Picard (2005:295) continues to narrate that prior to 1994, before the advent of the democratic state in South Africa, tens of thousands of black, poorly trained subalterns were performing either menial or basic administrative functions were found in homelands. According to Picard (2005:297) before 1980 an insufficient number of trained black personnel worked as senior managers in the so-called Bantustans. Consequently, the Bantu education of that time, and the inadequate opportunities for black South Africans to obtain tertiary education provided a limited number of skilled managers to the so-called homeland administrations (Picard, 2005:297). Picard (2005:297) pointed out that the "nurturing of a skilled, black, bureaucratic class was a perceived threat to the apartheid state, and to the privilege of the white civil service". Picard (2005:297) also adds that the white civil servants who were down-graded were joined by black officials that were drawn from the rank of the chefferie who were 'prized for their obedience and loyalty rather than their education and competence.' Cloete (2007:5) highlights the South African public management status:

> *In the South African democracy after 1994, the interaction between both the spheres of the government and the public, the private sector and political and administrative institutions displayed a multiplicity of forms which is "inherently complex".*

The influence of NPM was also duly felt on a more managerial level. Rajca (2010:1) postulates that the NPM drove reforms that led to the inception of management principles geared towards customer-focus practices, marketisation and outsourcing of certain public service functions. In addition, Swart and Malan (2007:5) reflect that currently, South African public managers' primary concern is the designing and implementing of policies and programmes to realise the government's broad social and economic developmental objectives. Swart and Malan (2007:5) believe that require skills that will enable them to coordinate a variety of activities within the public service. Polidano (2000:8) further states that the advent of democratisation brought a new mode of thinking to the Public Service. This is confirmed by the advent of new ideas of NPM and institutions in South Africa such as the Department of Public Service Administration (DPSA) and the Public Service Commission (PSC), which have played a significant role in institutionalising the notions of NPM by promoting new ethos and values on the public service.

On a training and development level, the influence of NPM is also apparent. Mc Entire (2004:1) asserts that contemporary management training initiatives are inclusive of all forms and systems that meet the current challenges with a new revised purpose and nature of public management. Ottaiano (2013:2) maintains that according to the NPM paradigm, public managers are required to have sound professional know-how, knowledge of their production processes which includes knowing what is happening outside their working environment Therefore, Ottaiano (2013:2) believes that the transition from a traditional bureaucratic organisation to the so-called "post-bureaucracy" requires public managers to turn the professional know-how into the development of new products and services. This is possible through skilful handling of changing processes and rules, but also by focusing on innovation, and on motivating their employees. Thus the managers keep improving enhancing the learning process throughout the organisation. Khan (2014:2) argues that the "current management competencies of the NPM paradigm depend on what the organisation produces and what the organisation perceives as inevitable for its operations and productions".

Regarding the type of "new public management" competencies, there is a broad consensus among scholars that the current public management training processes should include elements such as results focus, making change, planning, team development, decision making and customer service focus (Brodie, 2008:1; Mc Kimm, Jollie and Hatter, 2003:2; Promberger & Rauskala, 2003:8; Patil, 2011:4; the Washington State Human Resources, 2014:1; Thompson & Zumeta, 2014:3). The following competencies are pointed out:

a. *Budgeting and accounting:* According to Promberger and Rauskala (2003:8), modern public managers should be trained in the implementation of an output-driven accrual accounting systems that provide the foundation for public management reforms in many countries. Accrual accounting has been an important tool in helping to make government financial management policies more transparent. It helps increase managers' flexibility in deciding how to meet the targets within broad resource allocations (e.g. through "portfolio budgeting", which lays down goals and targets but leaves the allocation of resources to meet the targets up to the managers' discretion).

b. *Customer service:* Public managers should be trained in implementing broad initiatives to improve the responsiveness of public programmes according to citizens' needs. Officials have put in the effort to make services friendly in order to improve the citizens' trust and confidence in and support for government. Contemporary public services are expected to accommodate the citizen's needs (e.g. office hours, schedules and in the way of doing business). Furthermore, governments have developed "one-stop shops", interactive technology or case-management strategies in an attempt make service delivery seamless for citizens.

c. *Performance management and output measurement:* Public management reforms have linked the process of assessing performance with the management of government's goals and objectives. In some systems, the assessment of performance has been extended to performance pay for managers and senior officials.

d. *Information technology:* In many ways contemporarily, technology is the ultimate boundary-spanning technique, as it has the ability to traverse organisational boundaries and allows quick and easy connections between citizens and Government, regardless of the agencies in charge of providing the services concerned. Information technology (IT) is not only perceived as providing a boundary-spanning approach to public sector reform, it also serves as a change agent by its ability to bring about innovative ways of service delivery. On the other hand, the spread of IT raises questions about privacy issues as well (e.g. which information is being collected? Who will have access to the collected information?). Thus, technology forms the integral part of training programs and initiatives for contemporary public management.

In response to the demands posed by the NPM, the South African government has developed a Competency Framework for the Senior Management Service (SMS). The Department of Public Service and Administration (DPSA, 2003:1) and the former Public Administration Leadership and Management Academy (PALAMA), presently the National School of Government (NSG, 2003:1) describe the introduction of the SMS Competency Framework as key to ensure that the South African Public Service will reach its goal of professionalising the Public Service, especially at senior or strategic managerial levels. According to the DPSA (2003:1) the Framework helps the Public Service by ensuring a consistent approach to

employees' performance throughout the Public Service from the national to provincial levels. Thus, such a framework helps to "drive and support all human performance initiatives". The SMS Competency Framework consists of a set of generic competencies that communicate expectations of senior managers, including the following:

a. *Strategic capability and leadership:* Managers are expected to be able to drive and lead strategies.
b. *Programme and project management*: Public managers are expected to lead government programs and projects. Therefore, training in project management and management of programmes forms an integral part of training initiatives.
c. *Knowledge management:* Public managers are expected to possess extensive knowledge of their organisations and utilise the knowledge to the benefit of the organisations.
d. *Service delivery innovation:* Service delivery forms the crux of the government services. Therefore, public managers are expected to lead service delivery applications and processes, which require knowledge, competencies and technical know-how.
e. *"Problem-solving" and analysis:* Through training and development, public managers are expected to develop skills in problem-solving and analysis.
f. *People management and empowerment:* When aiming to achieve certain goals and objectives of the organisations, public managers are trained and developed in people management.

All the competencies mentioned above are viewed as critical for high performance in the Public Service. The National Planning Commission (NPC) also emphasises the importance of managerial competencies. The NPC (2011:371-381) outlines the objectives of the South African Government and states that these objectives could only be realised if a skilled and professional Public Service is established that share a common purpose and commitment to work towards the stated developmental goals. Furthermore, the NPC (2011:371-381) indicates that the South African Government has set out the following key proposals to achieve a skilled public service (NPC, 2011: 371-381):

a. a formalised graduate recruitment scheme for the Public Service;
b. a career path for government officials;
c. Making adequate experience a prerequisite for senior posts; and
d. a long term perspective on training and management

The discussion above focused on training and development within a NPM paradigm. It is evident that this paradigm brought significant changes to the notions, approaches and practices of public administration and management. The following section outlines the statutory and regulatory framework governing Public Service management training in South Africa. This outline is imperative since government reforms, practices and eventually management training is conducted within the framework provided by legislation and regulations.

## 2.6 THE STATUTORY AND REGULATORY FRAMEWORK GOVERNING PUBLIC MANAGEMENT TRAINING IN SOUTH AFRICA

Training of public managers cannot take place outside the constraints of the legal framework. The reason is that public managers are generally perceived of and expected to fulfil, enforce

and uphold the laws of the country. This section outlines the statutory and regulatory framework governing the training regarding public management in South Africa.

Kishore and Taylor (2014:6) argue that South African public managers' ethical convictions and accountability are bound to be tested legally, since they operate in a widely diversified society. They (Kishore and Taylor, 2014:6) furthermore stress that the Public Service should be staffed with professional, skilled and competent managers. They recommend establishing a relevant policy framework to govern the appointment, training and development of new managers.

South African executive authorities are regulated by Acts of Parliament such as the Constitution of South Africa of 1996, the Public Service Act 103 of 1994, the Skills Development Act 97 of 1998, the Skills Development Levies Act 9 of 1999, the South African Qualification Authority Act 58 of 1995, and the National Qualification Framework Act 67 of 2008. The regulatory framework is derived from national legislation and includes white papers, strategies, programmes, and departmental guidelines for public-management training in South Africa.

### 2.6.1 The Constitution of the Republic of South Africa, 1996

The Constitution of South Africa 1996, chapter 10, section 195, outlines the following basic values and principles governing public administration:

195. *(1) Public administration must be governed by the democratic values and principles enshrined in the Constitution, including the following principles:*

- *a. A high standard of professional ethics must be promoted and maintained.*
- *b. Efficient, economic and effective use of resources must be promoted.*
- *c. Public administration must be development-oriented.*
- *d. Services must be provided impartially, fairly, equitably and without bias.*
- *e. People's needs must be responded to, and the public must be encouraged to participate in policy-making.*
- *f. Public administration must be accountable.*
- *g. Transparency must be fostered by providing the public with timely, accessible and accurate information.*
- *h. Good human-resource management and career-development practices, to maximise human potential, must be cultivated.*
- *i. Public administration must be broadly representative of the South African people, with employment and personnel management practices based on ability, objectivity, fairness, and the need to redress the imbalances of the past to achieve broad representation.*

The Constitution provides guidelines on the need to develop the public personnel and effect basic values and principles governing the public administration on a high standard of service delivery of the South African public administration. Regarding the stipulations of the Constitution on principles of administration above, section 195, (c) and section 195 (h) motivates and encourages the training and development of public personnel, which includes public managers.

### 2.6.2 Public Service Act 103 of 1994

The South African Public Service Act 104 of 1994, chapter 2, section 4, outlines the following stipulations in relation to training of public service personnel:

4. The South African Management and Development Institute and Training Fund -
*The management and administration of the South African Management and Development Institute shall be under the control of the Minister.*

*The Institute -*

- *Shall provide such training or cause such training to be provided or conduct such examinations or tests or cause such examinations or tests to be conducted as the Head: South African Management and Development Institute may with the approval of the Minister decide or as may be prescribed as a qualification for the appointment, promotion or transfer of persons in or to the public service;*
- *May issue diplomas or certificates or cause diplomas or certificates to be issued to persons who have passed such examinations.*

According to the Act, the fund is made available mainly for training and developing the public personnel, who seek to fulfil the Constitutional principle on Public administration to be development-oriented. This also includes the Constitutional principle on the good human-resource management and career-development practices, which should maximise human potential and must be cultivated.

The above mentioned section of the Public Service Act stipulates the implications on training and development in this regard of public personnel and the public managers in particular.

### 2.6.3 The South African Qualification Authority Act 58 of 1995 (SAQA)

The objectives of National Qualifications Framework as contemplated in the South African Qualifications Authority Act, 58 of 1995, are:

a. *To create an integrated national framework for learning achievements;*
b. *To facilitate access to, and mobility and progression within education, training and career paths;*
c. *To enhance the quality of education and training;*
d. *To accelerate the redress of past unfair discrimination in education, training and employment opportunities; and thereby; and*
e. *To contribute to the full personal development of each learner and the social and economic development of the nation at large.*

The Act mentioned above has direct implications on training and developing public personnel and public managers, by emphasising the full personal development and redressing of past discrimination in education, training and employment opportunities. The Act also has a direct impact on the training of managers as it highlights the importance of access to mobility and progression within education, training and career path.

Overseeing qualifications through the framework ensures that public managers also become beneficiaries of training and development.

### 2.6.4 The Higher Education Act 101 of 1997 (as amended)

The Higher Education Act 101 of 1997 highlights the following aim:

*The aim of the Act is to promote good-standard education beyond formal schooling. It regulates higher education in South Africa and governs all the legislation related to the establishment and operation of a Council on Higher Education (CHE) and the funding and operation of public higher education institutions. It also provides for the appointment and functions of an independent assessor as well as the registration of private institutions.*

Chapter 2 on the Council on Higher Education (CHE), section 7 also highlights the following:

*1) The CHE performs its functions in relation to qualifications, quality assurance and quality promotion –*

a. *In terms of this Act; and*
b. *In its capacity as the quality council for higher education, in terms of the National Qualifications Framework Act.*

Furthermore, the Act emphasises that only registered private higher education institutions (and public higher education institutions) are allowed to provide higher education services. In addition, only the Registrar may register such institutions as is an offence to offer a programme without the authority of a higher education institution. The Act promotes good standards on education beyond formal schooling, which gives public manages an opportunity for self-development and empowerment. The implications of the above to public management training are that public managers can only be trained and developed by accredited and registered institutions.

### 2.6.5 Skills Development Act 97 of 1998

The Skills Development Act 97 of 1998, Chapter 3, section 10, deals with the Sectoral Education and Training Authorities (SETA) and the functions of the SETA. The Act indicates that a SETA prescribed in accordance with any requirement be should do the following:

*Develop a sector skills plan within the framework of the National Skills Development Strategy.*
*Implement the Sector Skills Plan by –*

a. *Establishing leanerships;*
b. *Approving work place skills plan;*
c. *Allocating grants in the prescribed manner and in accordance with any standards and criteria to employers, education and training providers and workers and;*
d. *Monitoring education and training in the sector.*
e. *Promote leaner-ships by;-*
f. *Identifying workplaces for practical work experience;*
g. *Supporting the development of learning materials;*
h. *Improve the facilitation of learning;*
i. *Assist in the conclusion of learnership agreements;*
j. *Register leaner-ships agreements; and*
k. *Within a week from its establishment, apply to the South African Qualification Authority for accreditation as a body contemplated in section 5(i) ii (bb) and must within 18 months from the date of that application, be so accredited.*

The need for skills in public management cannot be overemphasised, hence the establishment of this Act. The Act seeks to enforce training of skills and the development of public personnel, which also benefits public managers. It is noteworthy that the Skills Development Act seeks to address the scarcity of skills in the workplace, especially the public sector.

### 2.6.6 Skills Development Levies Act 9 of 1999

The Skills Development Levies Act, 9 of 1999, Chapter 2, Section 7 outlines the following on the payment of levy to Sectoral Education and Training Authorities (SETAs) and refund:

a. *Subject to subsection (2), the Minister may, in consultation with the Minister of Finance and by notice in the Gazette, determine that all employers that fall within the jurisdiction of any SETA specified in that notice, must pay the levy to – (a) That SETA; or (b) a body nominated by the SETA and approved by the Minister to collect the levy on behalf of that SETA.*
b. *Before making a determination contemplated in subsection (1), the Minister and the Minister of Finance must be satisfied that - sufficient grounds exist for the SETA to collect the levy from the employers in its jurisdiction; the SETA, or the body nominated by the SETA to collect the levy on its behalf, has demonstrated the required competence to collect the levy; and the costs pertaining to such collection will not exceed two per cent of the total amount of the levies collected.*

The funding of skills development through the Skills Levy Act encourages the training and development of public managers.

### 2.6.7 The National Qualification Framework Act 67 of 2008 (NQF)

The National Qualification Framework Act 67 of 2008, Chapter 2, section 5 outlines the following objectives of the National Qualification Framework (NQF):

a. *Create a single integrated national framework for learning achievements.*
b. *Facilitate access to, and mobility and progression within, education, training and career paths.*
c. *Enhance the quality of education and training; and*
d. *Accelerate the redress of past unfair discrimination in education, training and employment opportunities.*

The objectives of the NQF are designed to contribute to the full personal development of each learner and the social and economic development of the nation at large. Furthermore, the National Qualification Framework Act 67 of 2008 stipulates that the South African Qualification Authority (SAQA) and the Quality Councils (QCs) must seek to achieve the objectives of the NQF by:

a. *Developing, fostering and maintaining an integrated and transparent national framework for the recognition of learning achievements;*
b. *ensuring that South African qualifications meet appropriate criteria, determined by the Minister as contemplated in section 8, and are internationally comparable; and*
c. *Ensuring that South African qualifications are of an acceptable quality.*

### 2.6.8 White Paper on Human Resource Development, 1997

The White Paper on Human Resource Management in the Public Service (1997:1) outlines the following purpose for its establishment:

a. *A professional and impartial Public Service which is representative of all sections of society is essential for efficient and effective government and the achievement of South Africa's democratic, economic and social goals. Transforming the Public Service into an instrument capable of fulfilling its role in bringing about the new South Africa depends on many things but, above all, it depends on the commitment and effectiveness of its employees, which in turn depend on the way in which those employees are managed.*
b. *South Africa's first democratically elected Government inherited a Public Service whose role in bringing about economic and social equity is pivotal, but whose capacity to do so is severely limited by outmoded and inappropriate human resource management practices. Transforming the way human resources are managed is, therefore, the catalyst for the transformation of the Public Service itself.*
c. *The purpose of this White Paper is to provide a policy framework that will facilitate the development of human resource management practices which support an effective and efficient Public Semite, geared for economic and social transformation. Human resource management is therefore, regarded as one of the strategic instruments of the transformation agenda for the' Public Service.*

Furthermore, section 1.2.2 of the WPHRMPS (1997:56) outlines the following:

> *The White Paper on the Transformation of the Public Service sets out a comprehensive framework for change, in line with these constitutional principles. The transformation agenda is being informed by nine priority areas as identified in the aforementioned White Paper and is being taken forward on all fronts through a series of policy initiatives. One such key area is human resource management and training.*

De Wet and Van der Waldt (2013:6-7) point out that the South African Public Service as an institution enforces the directives of the Green Paper on Public Service Training and Education (1997), Part 2, Chapter 5, to implement a competency-based approach. Paragraph 5.7.5.4 of Part 2, Chapter 5 of the Green Paper on Public Service Training and Education (1997), directs that

> *All public service institutions will be required to conduct job evaluations or re-evaluations of all posts, with the purpose of ensuring that they are expressed in terms of the essential competencies required for effective job performance in the context of the new vision and mission determined for the Public Service in the White Paper on the Transformation of the Public Service* (1995).

The process should involve both sector-specific competencies and core-transversal competencies. In concurrence, Mac Gillivray (2002:7) and De Wet (2010:97) in De Wet and Van der Waldt (2013:6-7) state that "public service organisations that are competence-based, meticulously select, employ, empower, and foster excellence that includes efficiency, effectiveness, economy and accountability amongst its public servants".

### 2.6.9 The Public Service Regulations, 2001

The Public Service Regulations Notice 1 of 5 January 2001 highlights the following in relation to education and training of public personnel:

a. *A head of department may;-grant bursaries for higher education to both serving and prospective employees, but may allocate bursaries for general education and further education and training only to serving employees; and not require contractual service in recompense for assistance received in respect of general education or further education and training.*
b. *A head of department may defray any genuine expenses associated with study, research or training, but need not cover the full expenses.*

### 2.6.10 The Framework for the National Skills Development Strategy (I-III of 2011/12 – 2015/16)

Section (3.6) of the National Skills Development Strategy (NSDS III) highlights the following issues, which should be executed in a new environment:

*Public institutions of learning and institutions of the skills development sector are now in one department, With the birth of the Department of Higher Education and Training (DHET), the work of "Skills Development", with its Sector Education and Training Authorities (SETAs) and National Skills Fund (NSF), can now more easily complement that of our public institutions the colleges, the universities of technology, comprehensive universities and universities. For the first time workplace learning can become the visible supplement to institutional learning and it need no longer be seen as the invisible dimension of learning for those on the road to professional, vocational or other occupational status. The potential for these partnerships to deliver more than the sum of their historical parts is great and must be realised in the interests of all South Africans.*

### 2.6.11 Public Service Education and Training Authority (PSETAs)

According to the Public Service Commission (2014:2), the government agencies such as the Public Sector Education and Training Authority (PSETAs), were established in terms of the Skills Development Act, 1998, in order to *facilitate the improvement of the skills and advance competence of employees in the Public Service*. The Public Service Commission (2014:2) confirms that the PSETA is "of the institutions that were to ensure that the skills and competencies of public servants are systematically developed".

Although guided by legislation, policies and guidelines, public management training is not left without challenges. The following paragraph seeks to unfold challenges for management training of which some may be resolved by the legislative guidelines outlined above. Any training strategy should attempt to address typical challenges associated with managerial training. It is thus imperative to gain insight into the challenges that typically concern managerial training.

## 2.7 TYPICAL CHALLENGES ASSOCIATED WITH MANAGERIAL TRAINING

Although public service training and development is inevitable, government institutions often experience a variety of challenges. These challenges include: costs, ageing personnel, rapid

changing dynamics and policies, cultural diversities, availability of training management, the quality and nature of training providers (i.e. accredited training providers with programs relevant to the government institutions), and the dualism between vocational and theoretical (academic) training. The following brief exposition highlights the challenges associated with managerial training.

Kotter (1996:3), Fernald, Solomon and Bradley (1999:5), Harrison (2000:4) in Desimone, Werner and Harris (2002:2), agree that the human resource development practitioners, employers and trainers are generally faced with the challenge of changing employees' attitudes, behaviour and mind-set towards positive learning and continual development. Bova and Kroth (2001:4), and Chermack, Lynham and Ruona (2003:7) concede that there are other major concerns about the demographics of a changing workforce as well as possible deficiencies related to human capital and training. These factors include the increase of the ageing workforce (or the so-called "baby boomers") and the exponential entrance of "elite expertise workers", also known as "generation X", and the "gold collar" workforce as identified by O'Hara, Devereaux and Johansen (1994), Wedell (1999), O'Connell (1999), and Holland, Hecker and Steen (2002:34). In extending the argument, Swanson and Holton III (2001:2), as well as Chermack, Lynham and Ruona (2003:7), argue that "elite expertise workers" are viewed as technically expert, skilled and competent workers who have the bargaining power to take control of the development, training and advancement for their own careers.

Ayee (2005:27) points out serious problems regarding training and the development of capacity which are prevalent in the public service in most African countries. Ayee (2005:27) asserts that one of the initial tasks undertaken as part of civil service reform in Africa is the revision of the training policy and development of a strategy document to reflect the new liberal and decentralised environment within which the civil service operates. Ayee (2005:27) explains that even due to strategies aimed at promoting effective training and capacity development, problems still exist. The reason is that most of the training is not 'demand-driven and tailor measured to the job of personnel' (in other words, relevant to the governmental institutions).

Vemić (2007:3) asserts that the learning organisation is essence is about obtaining and sharing knowledge. However, the procedures of management training and development within public sector organisations within African countries are generally undeveloped. Vemić (2007:3) highlights the following specific challenges associated with management training:

a. *Gender:* Some training contents may be sensitive to certain genders, and thereby the content may be deemed vulgar or inappropriate.
b. *Age:* Certain training programmes require a specific age regarding agility and understanding.
c. *Ethnicity:* In a diversified cultural society there are some aspects of culture which may be sensitive to certain ethnic groups.
d. *Religious culture*: Religion may restrict presenters in offering some content to certain individuals, seeing that they may perceive it as insulting to their culture, or violating their religious beliefs.
e. *Language:* Language barriers may create challenges in training procedures.
f. *Communication style:* The style of communication may differ between societal groups. Therefore, the training process may be impacted negatively by the style of communication.

g. *Ideology:* Overt ideological stances are restrictive in gleaning knowledge that may be regarded as challenging or disregarding the ideology of certain members.
h. *Organisational culture.* The culture within the organisation may be an obstacle in training certain managers, seeing that the service providers may be insensitive to the inner culture of the organisation.

According to Abdullah (2009:10) "top managers' allegiance and support for Human Resource Training and Development (HR T&D) can facilitate the monitoring of employees' continuous learning and development" he continue to point out that unfortunately only a miniscule segment of the top managers are indeed involved in and committed to HR T&D, which can help counter the above mentioned list of challenges. Therefore, the South African National Planning Commission (NPC) (2011:283) stresses that the providers of training, further education and training colleges seem to have extremely weak relationships with workplaces, which may result in training that is inappropriate or incomplete.

A further challenge concerns the relative low number of managers who are trained annually. This trend generally indicates of the low organisational capacity to conduct training and also the relative priority that senior management and politicians attach to training. The *South African Annual Report Book* (2013:106) for example, highlights the following statistics (see Table 2.5 below) of training provided for various government occupational categories, gender, number of employees, leanerships, skills programmes and short courses conducted which were reported between 1 April 2012 and 31 March 2013.

**Table 2.5 Training provided from 1 April 2012 to 31 March 2013**

| **Training provided within the reported period** | | | | | | |
|---|---|---|---|---|---|---|
| **Occupational category** | **Gender** | **Number of employees (Permanent and contract)** | **Leanerships** | **Skills programmes and other short courses** | **Other forms of training** | **Total** |
| **Legislation, senior officials and managers 9 - 12** | Female | 85 | 0 | 22 | 4 | 26 |
| **Clerks 7 – 8** | Male | 124 | 0 | 25 | 5 | 30 |
| **Plant and machine operators and assemblers** | Female | 427 | 0 | 160 | 10 | 170 |
| **Service and sales workers** | Male | 562 | 0 | 160 | 15 | 175 |
| **Elementary occupations** | Female | 1552 | 0 | 160 | 27 | 187 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Gender sub totals** | Male | 1240 | 0 | 141 | 10 | 151 |
| | Female | 4 | 0 | 1 | 0 | 1 |
| | Male | 21 | 0 | 5 | 0 | 5 |
| | Female | 3 | 0 | 5 | 0 | 5 |
| | Male | 23 | 0 | 25 | 5 | 30 |
| | Female | 42 | 0 | 7 | 0 | 7 |
| | Male | 54 | 0 | 7 | 0 | 7 |
| | Female | 2113 | 0 | 355 | 41 | 396 |
| | Male | 2024 | 0 | 363 | 35 | 398 |
| **Total** | | 4137 | 0 | 718 | 76 | 794 |

*Source: African Annual Report Book (2013:106).*

The third row of Table 2.5 above indicates training that was provided to senior public managers. The statistics indicate the scarcity of managerial training and development within the South African Public Service. Furthermore, the *South African Annual Report Book* (2013:107) provides the following table for skills development for the occupational category presented between 1[t] April 2012 and 31 March 2013. This can be seen in Table 2.6 below.

**Table 2.6 Skills development, 1 April 2012 to 13 March 2013 for occupational category**

| **Occupational category** | **Male** | | | | **Female** | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **African** | **Coloured** | **Indian** | **White** | **African** | **Coloured** | **Indian** | **White** | **Total** |
| **Legislation, senior officials and managers,** | 77 | 8 | 14 | 28 | 61 | 2 | 4 | 24 | 218 |
| **Professionals** | 488 | 26 | 12 | 37 | 344 | 19 | 9 | 55 | 990 |
| **Clerks** | 695 | 47 | 7 | 18 | 868 | 56 | 5 | 75 | 1771 |
| **Service and sales workers** | 34 | 1 | 0 | 0 | 13 | 0 | 0 | 0 | 48 |
| **Machine operators and drivers** | 19 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 22 |
| **Elementary occupations** | 24 | 1 | 0 | 0 | 15 | 1 | 0 | 0 | 41 |
| **Employees with disabilities** | 17 | 2 | 0 | 3 | 7 | 0 | 0 | 9 | 38 |
| **Total** | 1337 | 83 | 33 | 83 | 1304 | 78 | 18 | 154 | 3090 |

*Source: African Annual Report Book (2013:106).*

The third row of Table 2.6 above indicates a total number of 218 officers such as legislation, senior officials and public managers trained in skills development between 1 April 2012 and 13 March 2013. This indicates a relatively low number of trained public managers in relation to the total number of 3090 of all public officers within the public service who are trained in

various skills as indicated on the table. The table above provides an illustration of the challenges facing the South Africa public service in training and developing public managers regarding the following matters (*South African Annual Report Book*, 2013:107):

a. *costing*
b. *rapid changing dynamics and policies*
c. *cultural diversities*
d. *availability of training management*
e. *the quality and nature of training providers (i.e. accredited training providers with programs relevant to the government institutions*

The discussion above sought to unpack the challenges and problems related to management training, which should not be overlooked when designing relevant training models. The challenges serve as guidelines to formulate a basic training model for managers. Although training and development may be typified through challenges, the process of training public service managers in contemporary ICT skills cannot be overlooked. To follow is a discussion on the training of public managers within the context of e-governance, as e-governance training models are a central theoretical aspect of the present study.

## 2.8 PUBLIC MANAGEMENT TRAINING WITHIN E- GOVERNANCE

The preceding section identified typical challenges associated with managerial training. These included issues such as costs, rapid changing dynamics and policies, cultural diversities, and aligning training programmes with public management activities. The following assessment focuses on the training of public managers within the context of e-governance. The assessment also outlines how various authors perceive the use of ICTs in the public service, which will lead to the examination of the e-governance applications within the South African public-management context.

Bekkers and Zouridis (1999:184) identify the relations between ICT policies and public management reform (i.e. NPM) imperatives as an important field of study, even though it has been neglected somewhat. This study is necessary to grasp the factors that steer and form e-governance enterprises. In concurrence, Ramió (2001:4) warns that e-governance should not only be understood as a "mere modification of the basic technical elements, technology, structures, and processes". It rather entails the more important focus on the change of values and behaviours comprising the existing organisational culture. Similarly, Fang (2002:3) believes that e-governance affords role-players the opportunity to move forward with what he terms as qualitative, cost effective government services, which help improves the relationship between citizens and a government's administration.

According to Gage (2002:5) and Grande, Araujo and Serna (2002:2) e-governance acts as trigger for change in governments and public administrations in which training is needed for contemporary public managers. Gasco (2003:4) confirms that training of public managers in e-governance competencies is aimed at improving relationships between governments and citizens by creating new spaces for citizens in which to participate. According to Sriram and Srinivasan (2004:2), ICT training in general and e-governance in particular, should incorporate the following key aspects:

a. *Training in e-governance:* Typically e-governance is perceived as electronic delivery of governmental services (essentially via the Internet), primarily to the citizens and

residents, and secondarily to other internal clients within government. Thus there is a need to train contemporary public managers in e-governance.

b. *Training in e-governance framework:* The e-governance framework covers the legislative and regulatory mechanism to ensure effective and secure delivery of e-governance services. This emphasises the need to train public managers in the formulation of an e-governance framework.
c. *Training in introducing a digitally-enabled and connected society*. The digitally-enabled and connected society should be applied with ease and render all sections of society affordable access to e-governance service-delivery systems to. Therefore, public managers should be trained in introducing the ICTs to communities to improve citizens' feedback in this regard.

According to Dunleavy, Margetts, Bastow and Tinkler (2005:6), the gain of digitally enabled and connected societies, is that it also improves the accountability in the procedures of public administration and the application of public management. Hallman and Hanna (2006:3) concur by pointing out the focus for public sector reforms: *it should harness new technologies' strategic role as enablers of public management transformation*. In this sense, ITC can be seen as indispensable devices that create new options and "enable the creative design of reform processes", which are adapted to the current challenges governments face. According to Hallman and Hanna (2006:3), the transformative role of training public managers in ICTs within the public sector is indispensable to address some of the most important flaws of governance and public management institutions.

Junge, Kelleher and Hadjivassiliou (2006:15) also argue that any consideration of creating citizen-centric e-governance has to start with the training of public managers in ICTs. This should be done from the perspective that successful e-governance implies the citizen-centric provision of public services, and this in turn implies radical organisational changes. Such changes may target the following public management competencies:

*a. organisational culture, orientations;*
*b. governance and strategy;*
*c. leadership and management*
*d. systems, structures and infrastructures;*
*e. work design; and*
*f. staffing and staff development*

Gortner, Nicolus and Ball (2007:3) also assert that an organisation's communication system is a key in "achieving integration and coordination for being successful'. Therefore, training public managers in ICTs for e-governance processes ensures a commonality of purpose and understanding of roles in the organisation. This is confirmed by Pathak, Singh, Belwal, Naz and Smith (2008:1), who point out some of the potential benefits of trained public managers in the use of ICTs within government. These include gains such as efficiency and effectiveness. Naz (2009:1) concurs with the view of Pathak *et al.* (2008) that a "key measure of good governance lies in public management that can facilitate the delivery of "transparent and quality services". Furthermore, Naz (2009: 1) stresses the focus of governance – ensuring that the available resources are used for the citizens' benefit. To recap: Trained public managers will help ensure that resources are used correctly for the citizens. . In light of the argument above, Newman and Clark (2009:4) see the need for an innovation to answer the wishes of citizens and companies. Such innovation/s may actually contribute to the "publicness" of the public management, and thus improving its legitimacy.

In line with the authors mentioned above, Shehadi and Khoury (2009:13) propose guidelines for training contemporary public managers in e-governance for public management. These guidelines include establishing basic elements such as the environment, readiness and usage, before e-governance applications can be considered. These elements can be expounded on as follows:

a. *Environment:* Political leaders at a national level must support the e-governance training initiative to ensure that the endeavour receives the requisite sponsorship and drive. Other factors to consider include the following: the population's level of computer literacy and awareness, willingness to participate in e-governance; the affordability of ICT; local politics; budgetary requirements; and the needs of ICT infrastructure. It is also crucial that the correct legal and regulatory framework should be in place. This includes the creation of an agency, committee, or department that accept the responsibility for implementing the developmental agenda.

b. *Readiness*: Careful planning is needed regarding the following: the technology infrastructure, selection of appropriate service providers, collaboration strategies (between government entities). This should go hand in hand with adherence to ICT standards and architecture, as well as ICT resources and capabilities. The initiators of the process should ensure that the agenda is not too ambitious either for government entities or communities as customers. Hence the final part of readiness is management of human resources, in terms of abilities, and the overall management of the organisational culture within the public service.

c. *Usage*: The usage stage is the most crucial aspect, seeing that it examines the actual service provision of e-governance. Usage should include prioritisation of services, examination of the most effective channels, and feedback on the direct experience of its usage. Therefore, the government must look at the entire portfolio of services required for training, cluster these by common service themes, and then prioritise them for implementation.

Hood (1991:2), Barzelay (2001:3), Cordella (2007:7), as well as Cordella and Iannacci (2010:2), amicably point out that the process of management training is aimed at governments more accountable and transparent regarding information rationalisation such as ICTs and e-governance. They perceive this training as an effective means to achieve those reforms in public management that is envisaged by the new public management (NPM) ideology. Cordella and Iannacci (2010:2) add that the NPM proposes a reform project to redefine managerial and governance practices in public management. This is in accordance with objectives typical of market economics that duly make use of the ICTs. Funami (2010:1) argues that management elements can change from time to time due to developments and innovations. However, the basic elements such as human resources (people), products, money (funds, expenses or spending) have remained unchanged over time (Funami, 2010:1). Funami (2010:1) further asserts that recently, even these basic elements have been affected due to the development of the Internet. Therefore, there is a need to empower current public management in the usage of ICTs to meet management challenges (Funami, 2010:1). Dogra (2012:1) complements Funami (2010) by pointing out the basic role of contemporary public management. In addition to knowledge of ICT skills, their role is to lead, motivate, and facilitate co-operation among employees to achieve the organisation's goals. Therefore, Dogra (2012:1) maintains that to achieve the goals, manager have to plan, organise and

control the available resources, including human resources, of the organisation. To achieve this they need certain skills and qualities that they acquired through training, which enables them to perform their job to the best of their ability.

Hague, Pathrannarakul and Phinaitrup (2012:1) contribute to the idea above by focusing on the distinction between public organisations from private organisations regarding their legal, economic and political nature and roles. In light of this distinction they point out that public organisations exist for different purposes than private organisations. Therefore, public managers' skills in handling public organisations differ and require specific training. Gortner, Bekkers, Tummers and Voorberg (2013:4) argue that "although liberalisation and marketisation have been introduced in public management environments as ways to ensure efficiency based forms of innovation, the main driver for public innovation is to create public value, which is more than sheer efficiency". Gortner, Bekkers, Tummers and Voorberg (2013:4) highlight the public sector innovations that deal with various values, which may contradict or reinforce each other. Therefore these values have to be balanced in assessments when training managers from the public sector.

Kroukamp (2005:3) brings a contemporary South African perspective to e-governance by depicting the South African government's situation since 1994. According to Kroukamp (2005:3) South Africa has launched a number of e-governance initiatives of which some display advance technology use. Mphidi (2008:7) adds that each of South Africa's nine provinces has its own Provincial Legislature and Provincial Administration that is also responsible to train and empower public managers in management skills. Mokhele and Deer (2007:2) point out that each of these Provincial governments has various departments that are responsible for numerous aspects of service delivery. These include the following: health, social development and welfare services, as well as education and training of personnel. Provincial departments are thus key agencies of service delivery, especially in ICT development of public managers.

The rapid rise of ICT should be taken into account, according to Zwahr, Finger and Mueller (2014:2). They assert that this transition saw the emergence of various tools and techniques with the aim of digitally mapping government and public sector related transactions. Naturally these equipment and resources necessitates the training of public managers. Zwahr, Finger and Mueller (2014:2) also point out that "due to their superior capabilities to adapt to and to make use of technological innovation, non-state actors are increasingly infiltrating government functions, namely service provision (especially in training), regulation and policy making (political process)". In order to grasp the process of public-management training within the context of e-governance better, the contrast in e-governance training between South Africa and India is outlined in Table 2.7 below.

**Table 2.7 South African contrasted with Indian managerial skills in e-governance**

| Author | Country | E-governance skills | Common skills |
|---|---|---|---|
| Dogra (2012:1) | South Africa | a. interpersonal<br>b. Communication<br>c. Decision-making<br>d. Leadership<br>e. Technical | a. Interpersonal<br>b. Leadership<br>c. Computer appreciation programmes |

| | | | |
|---|---|---|---|
| United Nations Public Administration Network for Africa (UNPAN) (2014:1)<br><br>National Skills Development Strategy 2011/12-2015/16 | South Africa<br><br>South Africa | f. Time management<br>g. Conceptual<br><br>a. E-governance Interoperability<br>b. What a government leader should know about e-governance.<br>c. What a government leader should know: tactical aspects on e-governance<br><br>a. "Pivotal programs" which are those professional, vocational, technical and academic learning' programmes that meet the critical needs for economic growth and social development. | d. ICT tools for information management (technical skills) |
| Sharma & Shekhawat (2010:4) Vasiu & Vasiu (2005:8) Gupta (2014) | India | a. Technical skills: program development and design, ICT, presentation<br>b. Computer appreciation programs ICT tools for information management (technical skills)<br>c. Technology and management programs | d. Interpersonal skills<br>e. Leadership skills<br>f. Computer appreciation programs ICT tools for information management (technical skills) |

## 2.9 CONCLUSION

This chapter highlighted the meaning of concepts such as "training", "management training", "development", "management" and "public management". The discourse on the concepts was done in order to identify the overarching foundations and premises according to which management and training theoretical models function. Various types of management and managerial levels were discussed, with a view to focus on the distinctiveness of managerial training, based on specific level of management and specific tasks performed by the various management levels. These discussions of theoretical models would be incomplete without mentioning theorists such as Henry Fayol, Max Weber, Frederick Taylor, Henry Adams, Stanley Jevons, Leon Walras, Francis Ysidro, Edgeworth, Vilfredo Pareto and Niklas Luhmann.

The discussions in this chapter also centred on the statutory and regulatory framework that governs public-management training in South Africa. This discussion sought to justify the need for such training as stipulated in South African legislation. The statutory framework also included the papers, guidelines and frameworks underpinning training and development of the public sector in South Africa. Furthermore, the implication on training and development of personnel was discussed, especially public managers. This exercise sought to confirm the need for South African public management to take advantage of the statutory framework's backing in self-development and empowerment.

The study investigated typical challenges associated with managerial training in any country. Thereafter challenges associated with managerial training in South Africa were also discussed. The challenges that were outlined included the following: costs, rapid changing dynamics and policies, cultural diversities, availability of training management, and the quality and nature of training providers (i.e. accredited training providers with programmes relevant to the government institutions).

The shift from public from public administration to public governance shed further light on the evolution of public administration to NPM, as perceived by various theorists and proponents of public administration. It was also confirmed that the main objectives of public sector reform were to improve delivery of the basic public services that affect the living standards of the poor and to create a market-friendly, decentralized and "customer-friendly" institutional apparatus of the state.

The chapter concluded with a brief exposition of public management training within the context of e-governance. The discussions highlighted the contrast between the skills of the Indian and South African e-government. Thereby the research wanted to determine which skills are inevitable and thus required for public management development and training. The aim of this discussion was to introduce the e-governance practices and theoretical models, which will be discussed in the next chapter (chapter 3) with a view to construct an e-governance theoretical training model for public managers (chapter 4).

# CHAPTER 3

# ICT AND E-GOVERNANCE: TRENDS, MODELS AND APPLICATIONS

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## 3.1 INTRODUCTION

Chapter 1 provided an orientation to the problem statement of this study, as well as the hypothesis, research questions and research objectives. The chapter also examined the central theoretical statements, and explained the scientific contribution of the study and the research methodology to be used in this research. Subsequently, Chapter 2 dealt with the basic concepts. The theoretical vantage point which underpins management practices was also analysed and the implications that management theories hold for the training of public managers. The second chapter also assessed the evolution from public administration to public management, as well as the statutory framework guiding the training and development of public managers in South Africa. This assessment led to an exploration of public-management training within the context of e-governance. The particular e-governance skills used by India's public service were contrasted to those applied within the South African context. The comparative analysis was followed by an exposition of international practical applications of e-governance, as the focus of this chapter. As this study seeks to develop an e-governance training model, there is a need to scrutinise relevant international models, which will help develop an appropriate model for the training of public servants in South Africa, with specific reference to the Free State Province.

The application of e-governance models is significant due to their impact on state administrations in general and management applications in particular. Theorists such as Zourdis and Thaens (2003:1), for example, indicate that governments' processes of change and renewal worldwide depended heavily on e-governance applications "to improve the overall effectiveness and efficiency of state administrations". As a result, universities and schools, in the form of e-learning, and the private sector, in the form of e-commerce, entered the fray by introducing skills, knowledge and expertise in e-governance applications. The advocates of e-governance argue that only governments that are "online" would survive future demands placed on their administrations. Based on these sentiments, the "online" dictum became the basis for the construction of theoretical models for e-governance.

This chapter (Chapter 3) analyses various international models of e-governance. This is done with a view to identify appropriate elements and dimensions for the design of an e-governance training model for Free State provincial departments. A comparative study will determine commonalities in the approach, content, and application of these models. This would help the researcher select implementable elements within the Free State provincial public management context. The discussion will also evolve around the usage of ICT in governments, as e-governance practice is mainly dominated by ICT applications. An exploration of international e-governance trends, principles and applications will be examined with a view to identify best practices and potential challenges in e-governance applications. This will also help develop an operational and implementable e-governance training model.

## 3.2 THEORETICAL UNDERPINNINGS AND APPROACHES TO THE USE OF ICT IN GOVERNMENT

The theoretical underpinnings and approaches to the use of ICTs in a government are the basis on which implementation are formulated for models for e-governance. What follows is an exposé of various authors' theoretical views, arguments and rationale on the utilisation of ICT in government.

Robitaille and Maxwell (1996:3) assert that studies focusing on theoretical models and ICT applications in public sector settings, traditionally differentiated between three dimensions of analysis: (1) intended; (2) implemented; and (3) achieved. Markauskaite (2006:2) explains further that the mentioned dimensions mainly refer to the "learning goals or objectives" of public management as well as ICT applications in the public sector. The *intended* dimension refers to the expected, planned ICT system, whilst the *implemented* dimension refers to an analysis of ICT systems that are already applied. The third dimension achieved entails the successes of ICT systems. These three dimensions proposed by Robitaille and Maxwell (1996:3), and Markauskaite (2006:2) are prevalent in the three strands of ICT interoperability by Misuraca, Alfano and Viscusi (2011:98). As confirmed by the European Interoperability Framework (EIF) and the United Nations Development Program (UNDP), the following three strands underpin e-governance applications in governments:

a. *Technological interoperability:* This includes both ICT hardware and software issues. The former (hardware) mainly concerns connectivity and protocols, whereas the latter (software) concerns a common syntax for data, and also standards for messaging. A technological-interoperability platform allows two organisations to exchange messages reliably through ICTs, but the actual understanding of message's content remains outside its scope.
b. *Semantic interoperability:* This implies that, despite divergences in the ICT structure, organisation as well as the content of the exchanged data, the intended meaning is conveyed correctly, the information is correctly acquired and the expected actions are understood and undertaken.
c. *Organisational interoperability:* For an effective and far-reaching cooperation between two (or more) organisations, organisational ICT interoperability also needs to be addressed. This means that the two (or more) cooperating organisations are able to perform a cooperative task effectively, by exchanging information and services through ICTs.

According to Misuraca, Alfano and Viscusi (2011:98), these strands are "interdependent". For instance, the user-interface and the interaction methods (for civil servants and end-users) require solutions that cut across the mentioned strands. The strands also indicate an inherent progression, in terms of the scope of ICT interoperability that they are able to achieve (Misuraca, Alfano and Viscusi, 2011:98).

Gurstein (2000:1), Day (2001:3), Schuler (2001:4) and Marshall (2014:2) all suggest that governments may also use ICT in order to address the imbalance of power between government, the private sector and the community when creating what they term "civic intelligence". This "intelligence" is fostered by having access to government information and through the participation in government decision-making processes. In this regard Goldkuhl (2008:1) points out the growing use of the notion of citizens as "customers" of government services. Thus ICT applications should facilitate this customer orientation. Ho (2002:440)

also mentions that ICT applications helped government to move from a traditional bureaucratic model to an e-governance paradigm which "propagates transparency, participation and access to government information". This paradigm focuses on a customer-orientation as well as collaboration and coordination between organisations.

In this sense, the Asian Development Bank Institute (ADBI) (2004:1) emphasises the role ICT have played in public administration reforms in several countries and governments. According to the ADBI (2004:1) ICTs have changed the way governments perform functions and have also helped to reduce operational costs. The ADBI (2004:1) argues that ICTs can increase the efficiency of governments' services by increasing its transparency and accountability to its citizens. Birrer (2014:1) and Marshall (2014:2) support the ideas by pointing out that "many governments and global agencies have recognised the growing issues associated with ICT access and have provided funded programs aimed at addressing specific needs within nation states". Some of the positive effects of fundamental changes brought about by ICTs in public administrations include greater efficiency and the improvement of administrative processes.

The theoretical underpinnings and approaches to the use of ICT in government are also traceable in some African states. According to the Africa Partnership Forum (APF) (2008:2), African leaders and their development partners share the vision and commitments of the World Summit of the Information Society (WSIS). This became clear during their 10th meeting, in which African leaders committed their respective countries to the resolutions the APF took on the key ICT should play in creating "inclusive, globally competitive and knowledge-based governments". The APF (2008:2) outlines the following specific recommendations on ICT applications:

a. African governments and their international partners should make an unprecedented effort to address infrastructure bottlenecks on access, operational capacity and maintenance requirements of ICT infrastructure, transport and electricity.
b. Governments should assign the highest priority to ICT developments and applications, to advance the New Partnership for Africa Development (NEPAD)'s ICT broadband initiative. This should be done by mobilising funding and investments, and providing the necessary regulatory and legal frameworks within governments.
c. African governments and their international partners should prioritise the access to ICTs and its effective use at all levels, including providing public-access facilities, relevant content, and increased ITC capacities.
d. Governments have an obligation of creating enabling environments that consist of ICT-specific regulatory frameworks and policies that promote sound economic political governance.

The Southern African countries and states are also not left behind in embracing ICT in government. The United Nations E-Governance Report (2008:2) indicates that countries such as Mauritius, South Africa, Mozambique, Botswana, and Namibia have begun putting in place institutional and regulatory frameworks solely to advance ICT in general and e-governance in particular. Bwalya (2010:2) mentions that "at the regional level, the Southern African Developing Communities (SADC) sought to develop policies that may be adopted and further adjusted to suit the local contexts of individual countries' ICT use in governments".

As a form of a buy-in to the resolutions and recommendations of AFP (2008) outlined above, the South African ICT regulatory framework and the commitment of the state in e-governance applications and implementations are also factored into the state's partial ownership of ICTs in the private/corporate sector. According to Esselaar and Gillwald (2010:13), the South African Government plays its part in the ICT sector. This is done through shareholdings in Telkom, Sentech, Infraco, Eskom, and Transtel. Esselaar and Gillwald outline these ownerships and shareholdings as indicated in figure 3.1 below.

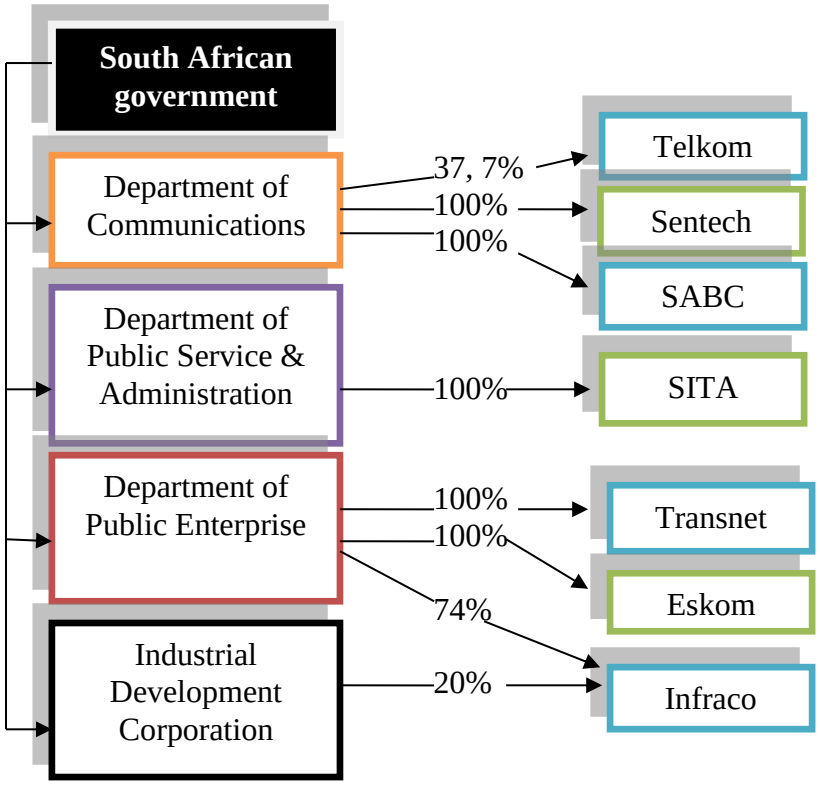



***Figure 3.1:*** **The South African government's ICT ownerships and shareholdings**
*Source:* Esselaar and Gillwald (2010:13)

The Department of Communications, for example, owns 37% of Telkom's ICT, 100% of Sentech' s ICT and 100% of the South African Broadcasting Corporation (SABC)'s ICT. Furthermore, 100% of ICT of the State Information Technology Agency (SITA) are owned by the Department of Public Service and Administration (DPSA).

The partial ownership of corporate sector ICTs by Government is not only indicative of its commitment to ensuring control of ICTs, but also indicates that the Government takes responsibility for ICT applications. The South African Government's commitment to applying ICT and e-governance is further evident in the formulation of regulatory frameworks as were dealt with in Chapter 2. Corporate ownerships and shareholdings further signify justification for the incorporation of private-sector models for the training and development of public managers in ICT in general, and e-governance in particular.

## 3.3 THE APPLICATION OF ICT IN GOVERNMENT

As indicated above, the application of ICT in government becomes increasingly wide-spread and more sophisticated. Technological advancement in society is applied in various forms

and systems as a means of improving services governments render to communities. The following discussion evaluates governments' utilisation of ICT. This section focuses in particular on the rationale for applying ICT in government and how governments may benefit from these applications. Schweighofer (2008:13) maintains that the advent of the so-called "information society" brought about significant changes to the mandates of governments. In this regard Coe, Paquet and Roy (2001:1) concur that "globalisation has triggered more intense economic and political interdependencies and has challenged fundamental assumptions about sovereignty and the role of the nation states". Colesca (2008:1) argues that governments' use of ICTs has influenced societies spectacularly, mainly due to the development of the Internet. Countries have recognised the advantages of this development and duly entered the "digital highway".

ICT applications involve new ways of disseminating information with the aim to empower citizens and develop a country's economy. Schweighofer (2008:13) cautions that countries that do not make use of ICT adequately will find it hard to adapt to "global economic trends, societal changes, and development". Complementarily, Van der Meer and Van Winden (2012:3) explain the information society in terms of fundamentals that focus on the impact of investment decisions, of which many come to the four in operations by telecom firms.

Pina, Torres and Acerete (2005:584) highlight the advantages of applying ICTs in government by stressing that it brought about a total "reinventing" orientation. The emergence of networks, in which citizens, governments and the private sector form a web of relations, is mainly driven by this "reinvention". According to Westholm (2005:99), the Internet has become a channel for service delivery as a comfortable way for customers to interact with government. The quality of these services is largely based on the level of integration and the citizens as receivers' access to ICTs. Schoeman (2007:188) justifies the advantages of ICT applications in government by pointing out that the information systems implemented in governments are designed to support service delivery to the broadest spectrum of customers. In this regard Kudo (2008:104) indicates that the advantages brought about by applying ICTs in governments, have influenced the organisational and managerial dimensions of governmental institutions and helped create stakeholder networks, which it maintains. Schoeman (2007:188) is of the opinion that ICT applications in governments did introduce "an interactive mechanism for public administrations to enhance the rationality of public policy and the efficiency of administration". Chadwick (2011:1) in this regard argues that contemporary ICTs enhance public policy-making, seeing that the decision-makers can more easily absorb the norms and practices of contemporary democracies through this medium.

The National Audit Office (NAO) (2014:6) confirms this trend that the dependence of almost all public organisations on ICT applications has accelerated since the turn of the 21st Century. The NAO (2014:6) foresees in the following decade that both customers and users of government ICT systems will be demanding improved functionality and availability of these systems. The Aid-Star-Two Project (2011:12) shares the same opinion by pointing out how the use of ICTs globally has skyrocketed in the last two decades. There is however, a distinctive difference in the use and scale of ICTs between the so-called "Global North" and the "Global South". This is mainly due to factors such as "cost, availability, accessibility, and interoperability". The exponential dependence on ICT is confirmed by Sharim and Islam (2013:8) who conducted an e-governance survey at the Divisional Controllers of Accounts (DCA) in Bangladesh. These researchers identified some benefits associated with ICT

applications. They reflect that the following benefits are directly responsible to help improve the "goodness" of governance in the country:

a. *Transparency*: In manual systems various delays occurred in administrative processes. However, through ICT applications work could be monitored electronically, a situation that overall contributed to greater transparency in government.
b. *Accountability*: The use of ICTs for filling and record-keeping led to improved accountability among government officials.
c. *Efficiency*: In manual systems mistakes were often made and time was wasted. However, through the use of "e-Journal Entry", for example, such errors could be corrected and significant time was saved.
d. *Consensus-oriented:* The Divisional Controller of Accounts Office (DCAO) had their own website on which citizens and service providers could lodge complaints. In addition, citizens and service providers could claim against any mismanagement.
e. *Responsiveness*: The responsibilities of government managers decreased as their work was facilitated through the use of ICT systems and tools.
f. *Equity and inclusiveness*: All services provided through the ICT applications became inclusive, with no exception for a particular class of clients or stakeholders.
g. *Participation*: All role-players could participate in governance through ICTs and could also get direct feedback from Government.

The Department of Science, Information Technology, Innovation and the Arts (DSITIA) (2014:1) endorses the contributions mentioned above, which are also identified by the NAO (2014:6) and Sharim and Islam (2013:8). They point out that governments have become "owners" of ICT facilities and devices on behalf of the citizens. This ownership imposes responsibility and accountability for the way these assets are employed. The DISTIA (2014:1) confirms that government-owned ICT facilities and devices, including internet, email facilities and various other electronic devices, should be utilised for officially-approved purposes only. This implies only limited personal use of these facilities and devices. The DISTIA (2014:1) also stresses that the use and/or access to these facilities and devices should withstand public scrutiny and disclosure.

The State of Tasmania (2011:1) outlines the experiences and benefits of the ICT applications in government by indicating that, typically, governments' rational objective of its strategic and efficient investment in ICT is to reduce costs, to ensure the realisation of whole-of-government benefits and the efficient use of resources, to encourage capacity-building across government departments, and to help maintain the on-going management of information assets and its associated risks. The State of Tasmania (2011:1) supports the ideas of Kudo (2008:104) and, Sharim and Islam (2013:8) above by stating that ICT applications in government should be used to transform government service delivery only. This is also supported by Kiula and Wafula (2014:1), who argues that "effective penetration and utilisation of ICT in government operations is crucial to enhance effective and efficient services that satisfy the needs of citizens and other stakeholders". This sentiment is echoed by the Government Offices of Sweden (GOS, 2014:10), emphasising the massive opportunities which ICT presents to governments who plan to improve services delivery to its communities. GOS perceives ICT as playing a crucial role in development, democratisation and the liberation of people in many parts of the world.

The contributions of ICT for democratic processes are evident from the above discussions. In this sense, the Office for Promotion of Parliamentary Democracy (OPPD, 2010:10) in South

Africa points out that ICT was viewed initially as a domain of a few "technicians" who provided stern support to government's legislature. However, as the "digital revolution" increasingly transformed the world, the importance of ICT applications began to increase throughout parliaments worldwide. These devices facilitate democratic processes, the dissemination of information to constituencies, and promote the general public's participation. Also the Islamic Republic of Afghanistan (IRA, 2003:5) accepts that the tools which technology offers in the area of citizen's rights helps to build a strong and democratic society. According to the IRA (2003:5), ICTs are implemented in order to provide effective government services in the following areas:

a. *Health services*. This includes the provision of health services face-to-face in local health centres and hospitals, but also those services provided "virtually" by specialists at a distance by employing e-medicine techniques. This includes ICTs to make the provision of health services less bureaucratic, simpler to obtain and more readily available.
b. *Agriculture*. ICT provide access to information on commodity markets, including market prices of locally-grown crops, weather data and other information. This information is critical for farmers who aim to raise their standard of living in the currently growing global marketplace.
c. *Administrative and social services*. Access to government administrative and social services manually is often time-consuming, or simply beyond the reach of people in some rural areas. In an attempt to achieve equal access to all citizens wherever they reside, the Government of Afghanistan (GoA) has initiated actions to make all public government documents available through the ICTs.

The above listed advantages and benefits indicate the broad scope and value in which the application ICTs helped improve government services.

In the educational sector in South Africa the ICTs and Higher Education in Africa group (ICTs & HEA, 2014:1) recently (2014) made various calls for what may be termed "status reports" on the emergence of ICT in educational contexts. The national Department of Education (DoE) published its White Paper on E-Education in 2004. This White Paper provides a healthy foundation for ICT application in education. The DoE furthermore established a "thinking tank" in 2006 to plan a broad overview of research and delivery needs that are focused on the roll-out of e-learning in schools. According to the ICTS&HEA (2014:1) these deliberations and initiatives "increasingly lead to a situation where national and provincial departments are queuing to put into the public domain their local analyses of e-learning delivery at school level". Examples in this regard include the provincial Department of Education in KwaZulu-Natal province, which held an ICT in Education Indaba (2006), and the Gauteng province's e-learning road-show (2007). Furthermore, regulatory authorities in education, such as the South African Qualifications Authority (SAQA) and the Higher Education Quality Committee (HEQC), increasingly aims to analyse the national ICT landscape to inform more extensively the work performed in various institutional contexts, especially in improving e-learning services to communities.

Al-Azri, Al-Salti and Al-Karaghouli (2010:3) sound a warning that that it is harder than it seems to put ICT into practice. The reason is that governments have to overcome various challenges to the implementation of ICT systems in general and initiatives of e-governance in particular. Holmes (2001:2), for example, indicates that over 60% of all e-governance projects worldwide are unsuccessful. The main reason for these failures can be attributed to a

general resistance to change. Beer *et al.* (1990) in Al-Azri, Al-Salti and Al-Karaghouli (2010:3), are of the opinion that changes brought about by ICT are not managed successfully and that the "theory of change adopted is fundamentally flawed". In this regard, the Gauteng Province's ICT Development Strategy (2014:3) outlines some change-related challenges that surface in the process of realising the objectives of the e-strategy. Some of these challenges include the following:

a. Provide universal access to broadband (as defined by the South African national broadband policy) for citizens, businesses as well as government institutions.
b. Build the network infrastructure and information super-highway to encourage the development of an advanced workforce who shows improved ICT skills.
c. Enhance economic productivity by developing ICT infrastructure in order to lower the cost of doing business and increase connectivity for companies, especially Small, Medium Enterprises (SMEs), and Small Medium Micro Enterprises (SMMEs).
d. Increase the ICT-skills capacity within the public and private sectors.
e. Create a pool of ICT practitioners and entrepreneurs.
f. Improve service delivery by providing high-quality ICT services through e-governance.
g. Build an economic and industrial sector with a focus on ICTs, and in particular, software industries.
h. Ensure that innovation becomes part of the economic network in Gauteng Province in relation to ICTs.
i. Reduce the carbon footprint of the province through green ICT systems.
j. Create employment in the ICT sector.

From the exposition above of ICT applications in government, it can be deduced that ICT in governments accentuate the role of public managers in the successful implemention of these applications. Thereby the public managers realise the vast array of benefits and advantages associated with ITC. Public managers also play a significant role in overcoming the typical challenges which these applications hold, which in particular require appropriate skills and competencies.

## 3.4 E-GOVERNANCE MODELS

A discourse on ICT applications in government is incomplete without a thorough analysis of e-governance models. Each country typically adopts an existing model (i.e. framework for systems and structures) and adjust it to suit their specific circumstances, or may decide to design a totally unique model. The successful utilisation of ICT and e-governance applications in the final analysis depends on the successes of the particular model that was adopted.

The purpose of this section is to outline various e-governance models that are internationally available. The section that follows this outline will focus on international examples of governments' adoption and adaption of these models. It should be noted that the models outlined below cannot be categorised according to chronological development. Due to the relative contemporary nature of ICT and e-governance applications in government, these models were developed more or less concurrently across the globe. Some commonalities between the respective models are thus evident. Note should also be taken that some e-governance models are tailor-made for the Southern African region and South Africa,

which have more influence on the formulation of a Free State e-governance training model. These models will be discussed in Chapter 4 (4.2.4).

### 3.4.1 Ojhai, Palviaz and Gupta's Self-service Model

Ojhai, Palviaz and Gupta (2014:7) outline an e-governance model, which they name the Self-Service Model. It is argued that this Model provides the means to reach the entire population of a country. In other words, the Service Model was designed to service every citizen of the country, including communities in rural areas, businesses and government institutions. The model is structured in such a way that ICT resources are user-friendly to all citizens and stakeholders who wish to access service information about the government. Ojhai, Palviaz and Gupta (2014:7) highlight e-governance-generated statements such as status of pending complaints, applications awaiting final disposal, hourly/daily computer logs in respect of transactional e-governance services (i.e. delivered at counters or desks). The above authors argue that ICTs can help align the functioning of government agencies. The Self – service Model is based on three facets of governance as illustrated in Figure 3.2 below.

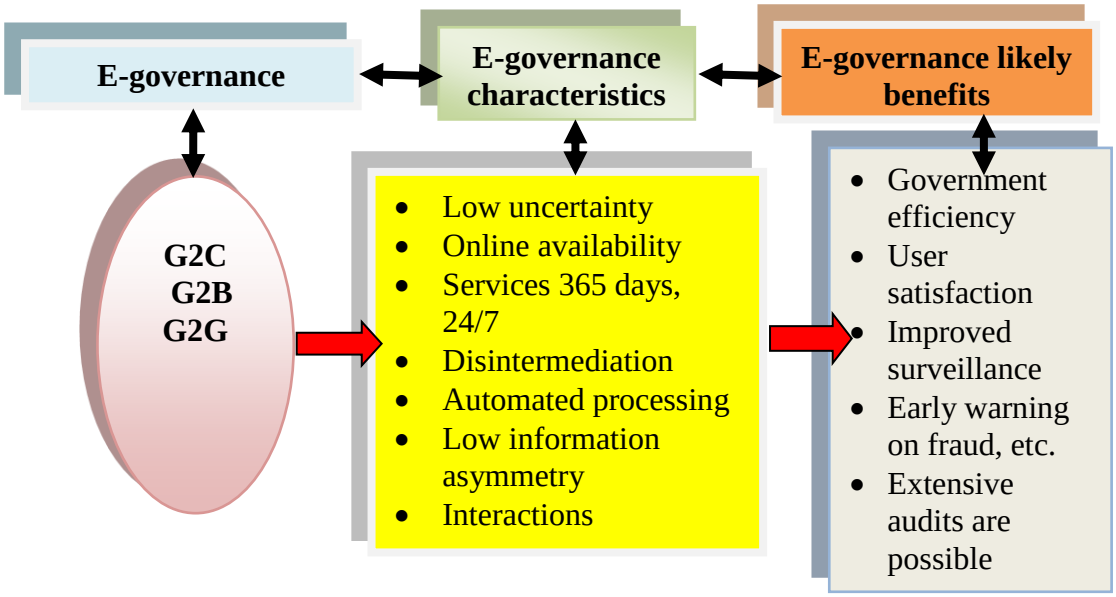



***Figure 3.2:*** **Ojhai, Palviaz and Gupta's E-Govt Self-Service Model**
*Source: Ojhai, Palviaz and Gupta (2014:7)*

The three e-governance facets, on which the models are based, are *services*, *characteristics*, and *benefits*. E-governance services refer to government-to-government (G2G), government-to-business (G2B), and government-to-community (G2C) services. The e-governance characteristics in turn, refer to low uncertainty, online availability, 365 days of services, disintermediation, automated processing, low information asymmetry and interactions. The benefits facet refers to government efficiency, user satisfaction, improved surveillance, early warning on issues and extensive audits. Ojhai, Palviaz and Gupta (2014:7) believe this model may illuminate and advance the present understanding of e-governance's impacts, and may further stimulate research on the effects of e-governance in public administration.

### 3.4.2 Ebrahim and Irani's Access and E-governance Layer Model

Ebrahim and Irani (2005:589) suggest a model based on two layers, namely the *access* layer and the *e-governance* layer. The access layer involves channels through which government users can access various government services. Government users include citizens, business, employees and other governments. The access channels are regarded as the most critical component of e-governance. It consist of online and offline channels or routes of distribution through which products, services and information are used, accessed and communicated through multiple technologies. This may include government websites accessible from PCs, kiosks, mobile phones, digital TV, or contact centres. Ebrahim and Irani (2005:589) believe this layer can be considered as the foundational platform for e-governance's architecture, since it is controlled and managed by government users. The success of this foundational platform or layer will ultimately determine the efficiency of the government's information and service distribution, the observation of policy guidelines, as well as government officials' adherence to technical standards and protocols. This layer thus may result in improved access to government resources, reduce service-processing costs, and enable organisations to provide services of a higher quality.

According to Ebrahim and Irani (2005:589), the e-governance layer is about integrating digital data of various organisations into a web-portal of government services. This is done in the form of a "one-stop" e-governance portal. The main contribution of this model is that it integrates government functions and provides citizens access to government services. Furthermore, citizens are able to give feedback to government through the use of kiosks, mobile phones, contact centres, and the Internet.

### 3.4.3 Nabafu and Maiga's Four-Stage Model

Nabafu and Maiga (2013:5) designed the Four-Stage Model for e-governance, which comprise of four stages:

a. "web-presence" stage;
b. interactive stage;
c. transaction stage; and
d. transformation stage.

The "web-presence" stage is the phase in the incremental development and adoption of e-governance applications in a country. This stage is usually characterised by a website which enables the government to offer static information to citizens. The next stage in this evolutionary process is the interactive stage where search functionality is added to the existing website. This functionality enables citizens to interact more directly with government institutions. The third stage is the transaction phase that enables direct exchange of services such as making payments and receiving services online. The final transformation stage entails the complete online execution of public services by electronic means. This requires the integration of services from all ministries and government departments to provide all kinds of information to citizens through a "one-stop" government web portal.

The main contribution of the Four-Stage Model is that it provides a holistic perspective on the evolutionary and incremental nature of the adoption of ICT applications to facilitate e-governance. The model further accentuates the interactive nature of engagement between the government and citizens.

### 3.4.4 Layne and Lee's Four-stage Model

Similar to the stages idea of Nabafu and Maiga (2013) highlighted above, Layne and Lee (2001:3) designed a Four-stage Model. Whereas the model of Nabafu and Maiga focuses on the incremental development of e-governance capacity in a country, the Four-stage Model has an operational-application focus.

Layne and Lee's model is based on four stages of operational capacity, which are the catalogue, transaction, vertical, and the horizontal stage. Figure 3.3 below illustrates the respective stages.

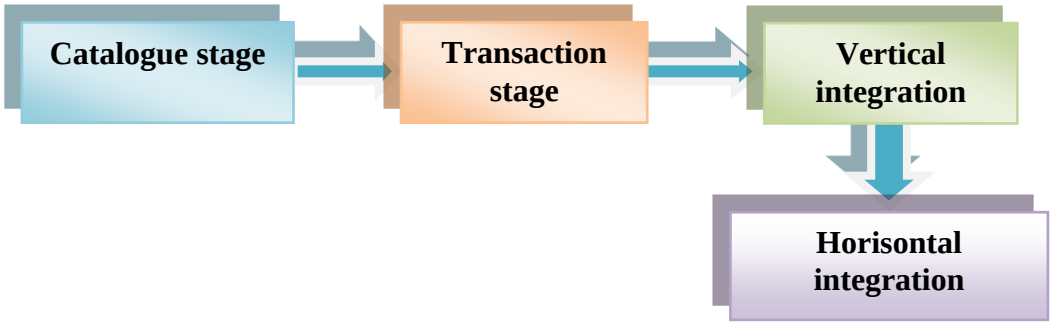



***Figure 3.3:*** **Layne and Lee's E-Governance Four-Stage Model**
*Source: Layne and Lee (2001:3)*

According to Layne and Lee (2001:3), during the *catalogue* stage, static information is posted on the government's website for public viewing, but citizens can neither reply, nor make any comments. The major task of the administration is to manage the content published on the web. The *transaction* stage enables citizens to have two-way communication functionality. Thus clients can read, download forms, as well as fill in and submit any information required by government agencies. The *vertical integration* stage is where different government ministries and departments are linked or connected to offer fully integrated "seamless" information to citizens, employees and government agencies. Layne and Lee (2001:3) stresses that the vertical-integration stage focuses on integrating government functions at different levels such as those between local, provincial and national government departments. *Horisontal integration* refers to coordination and interactions between institutions on the same level.

The main contribution of this model is the emphasis on integration of government agencies on all spheres and tiers of government. It further accentuates horisontal integration between departments of different ministries to enable easy exchange and dissemination of information. The intended outcome of horisontal integration is an automated process to enable interaction between different institutions and to share resources.

### 3.4.5 Westholm's Triangular ICT Model

Westholm's Triangular ICT Model is based on the tri-partite governance interrelationship between the state, business and civil society. According to Westholm (2005:100), the electronic delivery of services to citizens and business is a major task of public administration within the governance triangle that is formed by the three entities mentioned above'. Electronic service delivery through ICT applications has become the *de facto* modus for customers to fulfil their information and service requirements. Westholm's model outlines the

integration of state services by describing interoperability among agencies of the state. Figure 3.4 below illustrates this model.

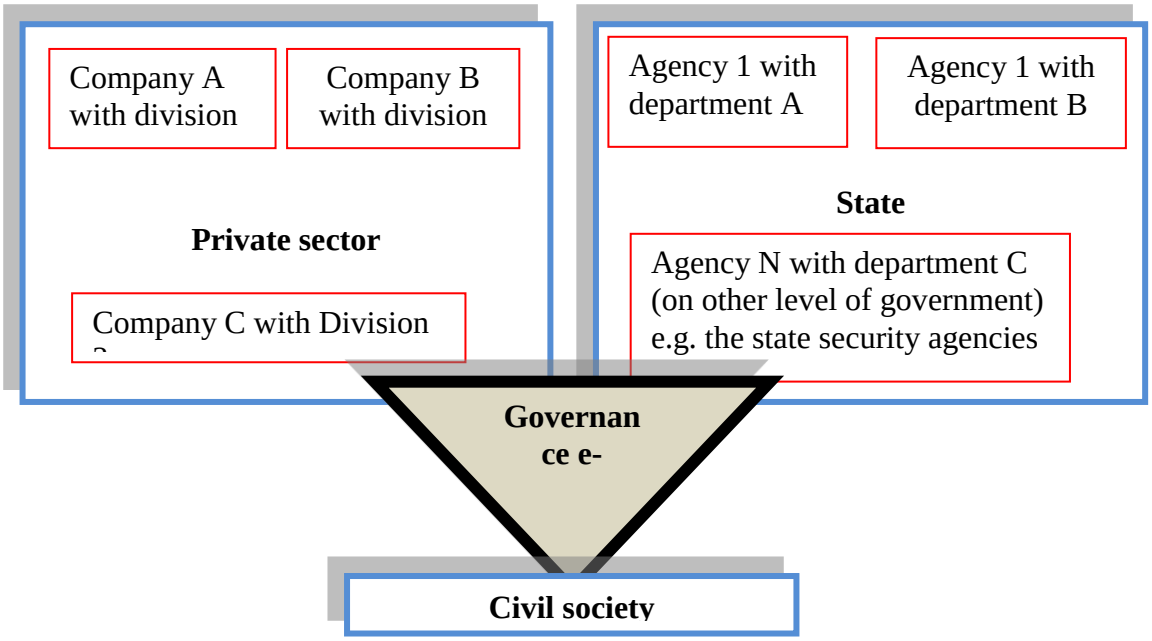



***Figure 3.4:*** **Westholm's Triangular ICT Model between the actors of governance**
*Source: Westholm* (2005:100)

According to Westholm (2005:100), the following key processes define the triangular relationship between the private sector, the state and civil society:

a. governance between entities in the state and the private sector;
b. governance within the state's sector between back-offices on different governmental levels; and
c. governance within the state sector within a single agency

The main contribution of the Triangular ICT Model is the focus on an interrelationship between the private sector, the civil society and the state. The model is informed by the Commission of the European Communities (CEC) that promotes improved governance as defined by principles such as openness, participation, accountability, effectiveness and coherence. The model furthermore highlights the necessity of promoting interoperability between different agencies in all three sectors. This implies that private actors should be involved in decision-making on the application of ICT resources.

### 3.4.6 Gohel and Upandhyay's E-governance Model

Gohel and Upandhyay (2014:2) outline the objective of more conventional e-governance. This form of governance is to help citizens (i) pay basic amenities (telephone, water, electricity, etc.) and taxes (ii) handle registration formalities for land ownership, marriage, birth, and death, (iii) process application forms and renewal of driving licenses, work permits and passports, and (iv) to lodge complaints. With the development of their E-governance Model, Gohel and Upandhyay (2014:2), however, point out that "the more contemporary conceptions and applications of e-governance demands far more than the mere replacement

of manual documents (e.g. rule books, guidelines, files, applications, circulars, government orders, memorandums, letters, and archives) into electronic format". Gohel and Upandhyay's model is illustrated in Figure 3.5 below.

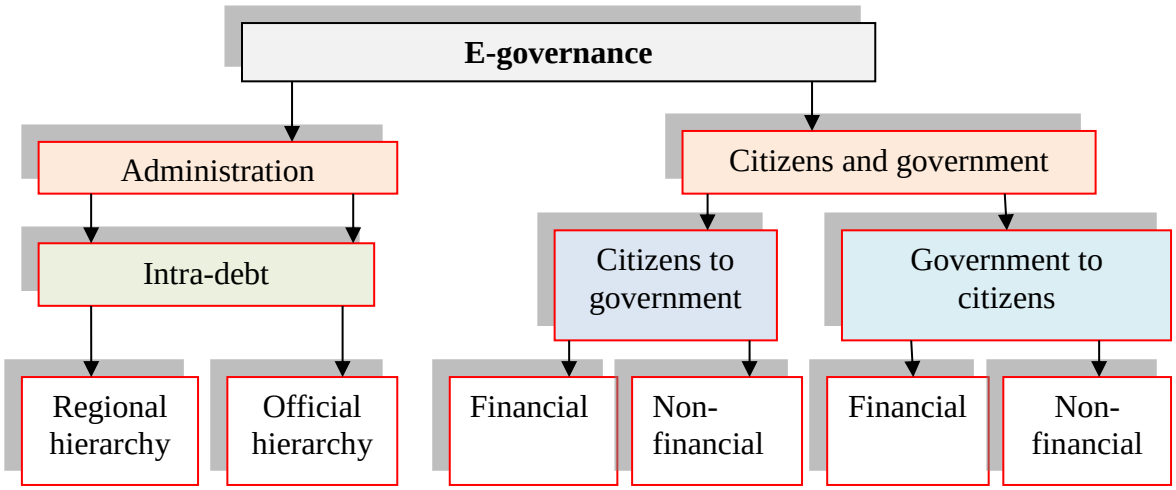



***Figure 3.5:*** **Gohel and Upandhyay's E-governance Model**
*Source: Gohel and Upandhyay (2014:2)*

The model consists of two independent components: (a) Administration, and (b) Citizens and government. The *administration* component has two major subdivisions, which are inter-department and intra-department. In the same way the component of *citizens and government* has the two major subdivisions: citizen to government and government to citizen. The *intra-debt* further services the regional and official hierarchies of the administration with ICT resources, whilst the *citizen-to-government* and the *government-to-citizens* components take care of the *financial* and *non-financial functions* of the state through ICT resources.

The main contribution of the model is that it provides a comprehensive framework for e-governance applications (i.e. administration) as well as the intended benefits and outcomes of these applications (i.e. citizens and government). The respective elements and dimensions of this model are extremely useful as framework to design model for e-government training of public managers.

### 3.4.7 Islam and Ahmed's E-service Delivery Model

Islam and Ahmed (2007:3) work from the premise that "e-governance supports and facilitates good governance in a country". According to these authors there is a need to understand that e-governance is not just about a website or merely a digitisation of service delivery. They rather argue that e-governance is based on engagement and the depth and quality of relationships that surround both citizens and the government. Based on these realities, Islam and Ahmed (2007) developed the E-service Delivery Model to facilitate electronic service delivery in a country. The model is depicted in Figure 3.6 below.

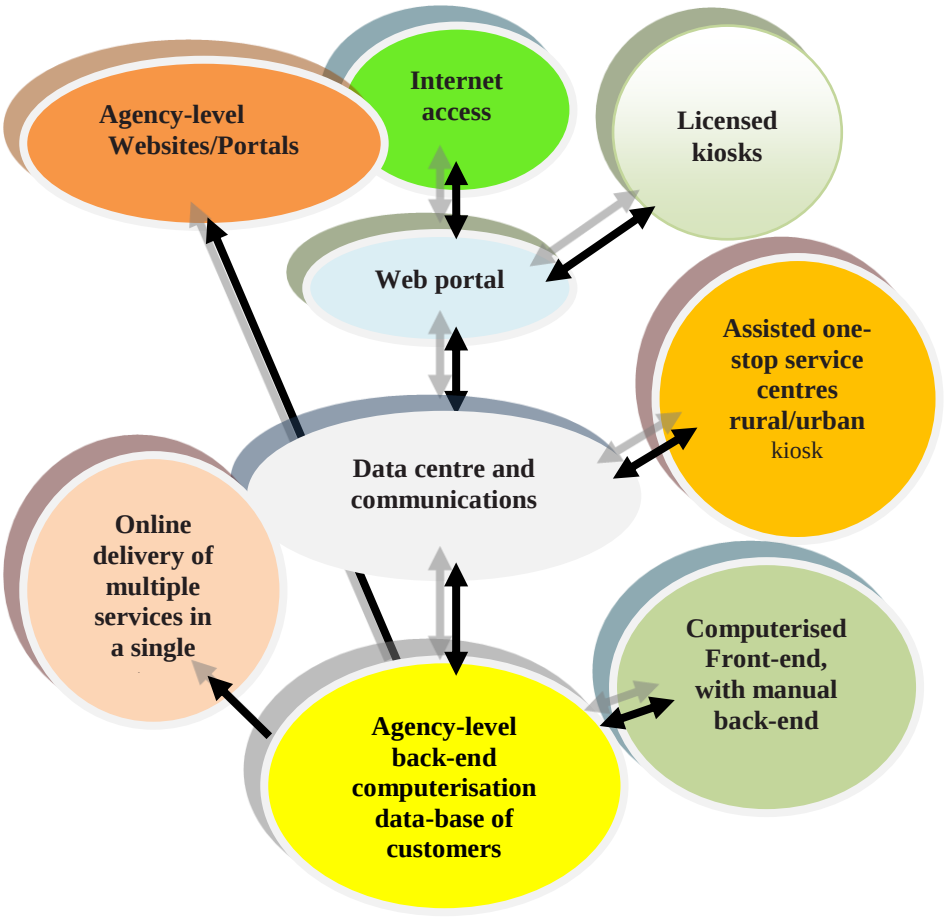



***Figure 3.6:*** **Islam and Ahmed's E-service Delivery Model**
*Source: Islam and Ahmed (2007:3)*

According to Islam and Ahmed (2007:3), the agency-level, back-end-computerisation data-base of customers serves as a basis for the model. This provides a one-stop service centre in rural and urban settings. The agency-level (i.e. government departments) websites and portals are linked directly to the customer data base. As in the case of similar models highlighted above, the main contribution of this model is that it accentuates the necessary interface between government and citizens. Governments are able to disseminate information to citizens, business and service providers, while they are able to give feedback and interact with the government.

### 3.4.8 Teerling and Pieterson's Citizen Multi-channel Behaviour Model

Teerling and Pieterson (2011:5) used empirical data to indicate the extent to which citizens utilise the Internet when searching for governmental information. Teerling and Pieterson (2011:5) point out that, despite the advantages of the Internet, citizens usually prefer the "more expensive personal channels such as front desks and telephones for many service interactions". This is probably prompted by a desire to receive direct and personal feedback from government officials on a particular service required, rather than be delayed through digital responses. According to Teerling and Pieterson (2011:5), research indicates that new innovations in ICT did not deter citizens from keeping on using more traditional communication channels and media as well. These included face-to-face contact with officials. Furthermore, there is an indication that citizens generally do not trust the

introduction of ICT in government since they regard this as shifting the responsibility to electronic resources. In response to these empirical findings, Teerling and Pieterson developed a Citizen Multi-channel Behaviour Model as presented in Figure 3.7 below.

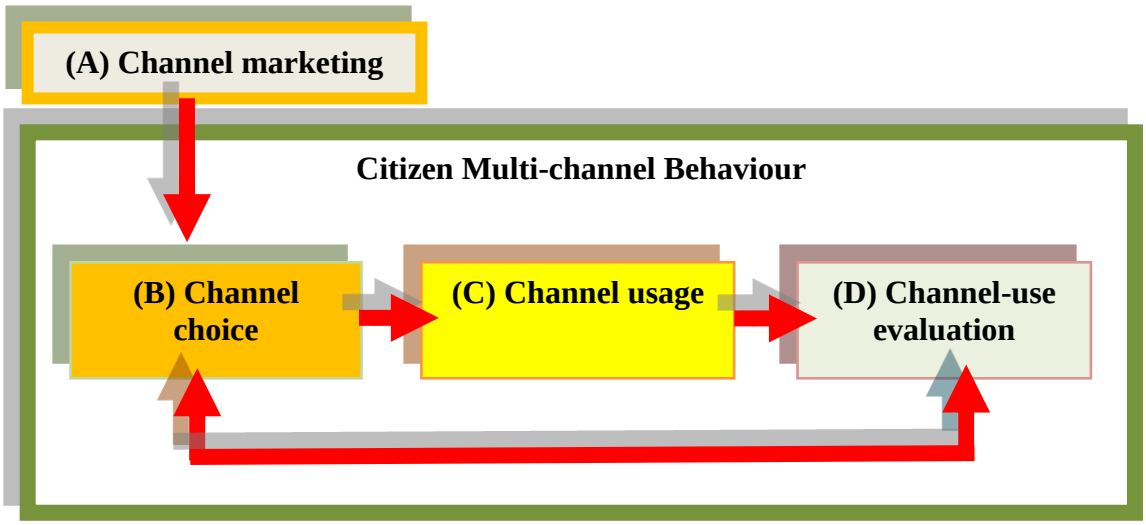



***Figure 3.7:*** **Teerling and Pieterson's Citizen Multi-Channel Behaviour model**
*Source: Teerling and Pieterson (2011:5)*

With reference to Figure 3.7 above, the government expects the community to adopt and utilise ICT resources that were introduced to facilitate interaction. Government agencies (i.e. state departments) should market the use of ICT channels extensively (A). The community has a choice in selecting a preferred channel (B). The selected channel is then used extensively (C). The evaluation of the channel implies an assessment of how extensively citizens use the channel (D).

The main contribution of the model by Teerling and Pieterson is that it maps a logical framework for the use of ICT in Government and that the model is based on empirical evidence. It should be noted, however, that demographics and cultures of countries differ vastly. Thus the situation on ICT utilisation in a country such as South Africa may be different from that of more developed countries.

### 3.4.9 Al-Khouri's table of e-governance models

It is clear that various researchers have developed models to explain the emergence and growth of e-governance. According to Al-Khouri (2013:4), despite the various models to support e-governance processes, applications and maturity, in practice governments have had limited success in the development of a "24-hour authority". In other words, some governments employing e-governance thus far were unsuccessful in implementing e-governance as a 24-hour service. Al-Khouri (2013:18) outlines a table of various e-governance theoretical models as perceived by various proponents.

This table brings to the fore an incremental, phased approach to the introduction and utilisation of ICT in general, and e-governance in particular. Table 3.1 below presents only models that are designed either as phases, or stages, depending on the author's perception. As such these models differ from those presented above (3.4.1 – 3.4.9). The researcher also used this table to identify some commonalities between the respective models. In combination

with the models presented above, these common elements should be integrated in the design of a comprehensive training programme for public managers in the field of e-governance.

**Table 3.1 Al-Khouri's table of models of e-governance**

| Source/proponent(s) | Phases/stages | Description | Common elements |
|---|---|---|---|
| **Chen (2002)** | *Phase 1: Information government* | The information is created, categorised, and indexed and delivered to its citizens through the Internet. | *Availability of information*<br>*Government services delivered online*<br>*One-way communication between government and citizens*<br>*Simple interactions between citizens and government*<br>*Government provides a website equipped with search engines,* |
| | *Phase 2: Communication* | E-governance services support two-way "communication", with citizens communicating requests through web forms, email, or other Internet media. | |
| | *Phase 3: Transaction* | Services between citizens and governments are supported. Government branches also use the Internet for transactions among themselves. | |
| | *Phase 4: Transformation* | An opportunity is exploited for the "transformation" of government practices and services. Applications used such as e-voting and e-politics that may alter the democratic and political processes are instituted. | |
| **Chandler & Emanuel (2002)** | *Stage 1: Information* | Government services are delivered online. One-way communication between government and citizens is put in place. | |
| | *Stage 2: Interaction* | Simple interaction between citizens and governments are supported. | |

| | | | |
|---|---|---|---|
| | *Stage 3: Transaction.* | Services enabling transactions between citizens and government are supported. | *documents; downloading capability and emails.* |
| | *Stage 4: Integration* | Integration occurs of services across the agencies and departments of government. | |
| **West (2004)** | *Phase 1: Billboard* | Government websites (usually static at this stage) are used for information display. | *Information is created, categorised, indexed and delivered to citizens through ICT.* |
| | *Phase 2: Partial service delivery* | Government websites have more capabilities and functionalities to include sorting and searching of information. | |
| | *Phase 3: Full integrated service delivery* | One-stop centre is created with full integrated online services. | *Full transaction benefits with services.* |
| | *Phase 4:Interactive democracy with public outreach and accountability* | Government website develops into a system-wide political transformation, with executable and integrated on-line services. Customised information service is available. | *Services and interaction between citizens and governments are fully supported.* |
| **Gartner's group model in Baum & Maio (2000)** | *Phase 1: Web presence* | Government uses the web to provide basic information. | |
| | *Phase 2: Interaction* | Government provides a website equipped with search engines, documents downloading capability and emails. | *Integration of services across government agencies and departments* |
| | *Phase 3: Transaction* | Citizens can carry out enhanced online transactions. | |
| | *Phase 4: Transformation* | All government services and processes are integrated, unified and personalised. | |
| **Deloitte & Touché** | *Phase 1:* | Government creates | |

| | | | |
|---|---|---|---|
| **(2001)** | *Information Publishing* | websites (static) to provide information to its citizens. | |
| | *Phase 2: Official two-way transactions* | Enables customers to have electronic interaction with government services such as television licenses renewal. | |
| | *Phase 3: Multi-purpose portals* | Enables customers to obtain government services and information from a single point. | |
| | *Phase 4: Portal personalisation* | Government provides customers and its agencies with opportunities to customise portals according to their needs. | |
| | Phase 5: Clustering of common services | All government services and processes are clustered so as to provide unified and seamless services to citizens | |
| | Phase 6: Full integration and enterprise transformation | Government changes its structure to enable the provision of more sophisticated, integrated and personalised services to its citizens. | |
| **UN Public Administration Programme (2010)** | Phase 1: Emerging | Government provides information and basic services on its web site. | |
| | Phase 2: Enhanced | Government websites deliver enhance one-way or simple two-way communication between government and citizens through the use of downloadable forms. | |
| | Phase 3: Transactional | Government websites use advanced two-way communication with its citizens. The websites processes transactions such as e-voting, filling of taxes, and licenses and | |

| | | | |
|---|---|---|---|
| | | certificate applications. | |
| | Phase 4: Connected | Government websites change the way it communicates with citizens; they are proactive in requesting opinions and information from their citizens; they create and "empower" citizens with more voice in decision-making. | |

*Source: Al-Khouri (2013:4)*

As indicated previously, these phase models provide a logical framework for the establishment of an e-governance training model for Free State provincial public managers (Chapter 6).

With the aim to justify and support the use of ICT models in promoting e-governance, the following analysis focuses on the explorations of international e-governance trends, principles and applications. These may serve as best-practice cases to formulate models for the training of public managers. Again it should be noted that e-governance as focus of this study is facilitated by a general technological advancement in society, as well as the quality of ICT systems and applications. Therefore, there is a direct correlation between the quality and application of ICT in Government and the successes of e-governance.

## 3.5 EXPLORATIONS OF INTERNATIONAL E-GOVERNANCE TRENDS, PRINCIPLES AND APPLICATIONS

The experiences of countries employing ICT to promote e-governance may be used as guidelines and a yardstick to measure the successes and challenges of e-governance implementation in a country such as South Africa. In addition, the frameworks and models applied by successful countries in e-governance may also be used to formulate e-governance training models for developing countries. Countries such as Australia, India, Italy, USA and the UK have a relative long history of e-governance as a means to improve service delivery. More recently emerging economies also embarked on more aggressive initiatives to invest in e-governance to help improve service delivery. Krishna and Walsham (2005:1) argue in this regard that "the successful use of information technologies (IT) in the richer more developed countries of the world has raised expectations in many poor countries that ICT can be used to improve efficiency and productivity, and thereby bring about faster development in their environments".

The following section outlines e-governance models and practices as applied by various countries. As stated previously, these models and applications could act as a best-practice framework for other countries. The discussion will include an analysis of countries like Australia, Jordan, USA, Ethiopia, Fiji and South Africa.

### 3.5.1 E-governance in Australia

Dunleavy, Margetts, Bastow and Tinkler (2008:3) mention that Australia became one of the first leaders in the innovation of e-governance. They developed an international reputation that peaked during the 1990s. The authors are, however, quick to point out that, after the initial progress, mixed reactions resulted. This was mainly caused by issues such as privacy, security of information, and the protection of personal rights. Dunleavy *et al.* (2008:3) states that in spite of these reactions, "Australia still fares well in the plethora of consultancy rankings of e-governance and some of the largest departments have remained at the forefront of innovation in this area".

According to Halligan and Moore (2011:8), the Integrated Service Delivery (ISD) Model applied in Australia is implicit in incorporating all the organisational and stakeholder interests. The ISD Model utilise four dimension of e-governance, namely barriers, enablers, current state, and desired state. The *barriers* include political and legal, structural, operational, managerial, and cultural elements. The *enablers* are political intent, financial incentives, customer familiarity and structural trends (Halligan & Moore, 2011:8). The *current state* refers to multiple contacts, mean multiple and services and multiple channels resulting in difficulties and frustrations for clients (Halligan & Moore, 2011:8). The *desired state* includes services that enable multiple contacts to be intergraded. Thereby one-stop services are provided in order to give citizens access to services. The ISD Model is illustrated in Figure 3.8 below.

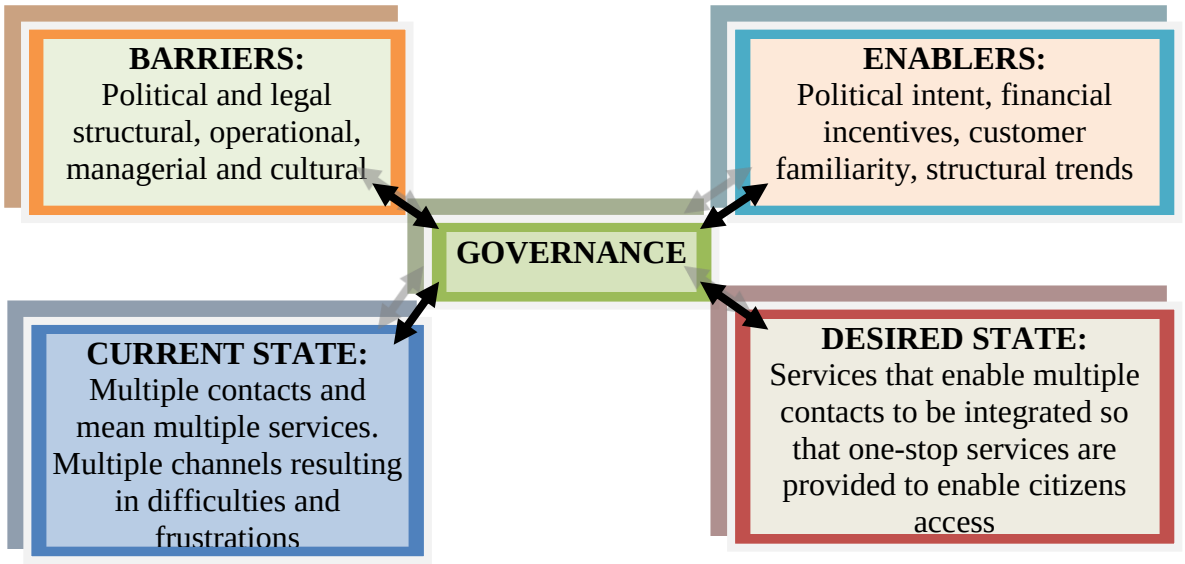



***Figure 3.8:*** **Australian ISD Model**
*Source: Halligan and Moore* (2011:8)

Reinecke (2009:4) further reflects on a "collaboration agreement component in e-governance as applied in Australia". This collaboration agreement is similar to countries such as the UK and USA and includes the proposal by the Office of Public Sector Information (OPSI) that government agencies should use "share alike" licenses to encourage greater accessibility to government information. The collaboration includes the relationship between the Cabinet Office, the OPSI and the taskforce in conducting a competition for ideas through the "show-us-the-way" project to identify best-practice engagements between Government and online communities (Reinecke, 2009:4).

### 3.5.2 E-governance in Sri Lanka

Yapa and Guah (2012:4) point out that Sri Lanka is one of the more advanced countries in e-governance, and ranked 19th out of 41 countries in the Asia-Pacific region. Its rate of improvement in e-governance is one of the ten largest in the 2011 e-governance Index (Yapa and Guah, 2012:4). The expectations are that Sri Lanka would be a well-developed e-governance state, with normative elements such as accountability and responsibility at the core of their e-governance applications. Yapa and Guah (2012:4) concede that such an assessment is certainly remarkable, seeing that Sri Lanka is generally not considered to be one of the most economically advanced countries in that region.

Weerakkody, Dwivedi and Kurunananda (2009:3) explain that e-governance practices in Sri Lanka falls under the common categories of Ojhai, Palviaz and Gupta's E-governance Self-Service Model (*see* Fig. 3.2 above), namely Government-to-citizen (G2C), Government-to-business (G2B), and Government-to-government (G2G) engagements. These engagements, according to Yapa and Guah (2012:3), are clouded by questions about e-transparency and e-equality in achieving societal benefits. This is confirmed by Alshawi and Alalway (2009:6) who point out that one of the major challenges of implementing e-governance successfully in Sri Lanka was to determine whether citizens benefit equally from it. Furthermore, another challenge was to determine whether the government was able to identify and quantify the communal needs which require ICT applications. Weerakkody, Dwivedi and Kurunananda (2009:2) also point to the general lack of ICT technical skills and experience and security issues as some challenges that potentially can affect further e-governance development in the country. Countries in similar circumstances should learn from these challenges and proactively design strategies and programmes to overcome them.

### 3.5.3 E-governance in Italy

Shapira, Azorin and Chiabai (2008:4) identify Italy as a renowned international centre of culture and heritage, which developed a reputation in 2004 after it was nominated the "European Capital of Culture''. The country is renowned for its excessive use of ICT for the tourism industry.

Kudo (2008:5) also attests to e-governance practices in Italy by indicating how it began to be applied in the public service. According to Kudo (2008:5), the Italian e-governance programme was launched after the inception of the central-left coalition government that was led by Romano Prodi, the President of the European Union. President Prodi came into power in 1996 and immediately launched a public administration reform programme for a five year period. As a proponent of e-governance, Kudo (2008:5) applauds the Italian e-governance by maintaining that the "reform of its public administration was generally aimed at restructuring government institutions' organisation, rationalising public corporations, outsourcing public services when needed, improving the managerial capability of the public sector, and reviewing financial and personnel resource allocation" (Kudo, 2008:5). The reform programme also introduced measures to increase the use of ICT in Government.

Similar to countries such as Australia and Sri Lanka highlighted above, normative factors of accountability and transparency became the key words for the administrative reform process in Italy. According to Kudo (2008:5), every measure implemented and introduced was aimed at "cleaning up" political scandals and "dark images" of corruption. As in the case of other countries, the application of ICT systems in governance in Italy was met by scepticism and

questions about security and protection of citizens' privacy. Especially the possibility of "hacking" and theft of classified government and personal information from government's web-sites, were highlighted as major concerns.

### 3.5.4 E-governance in Jordan

Navarra (2010:14) indicates that Jordan has a vast history of commitment to e-governance. The country realises the potential of ICT for its projected aim to "implement and deploy powerful coordination technologies" in its state as well as public administration following the recommendations and agreement of the Monterrey Consensus and the Millennium Development Goals. Navarra conducted e-governance case studies in Jordan between 2002 and 2005 which indicates that its e-governance initiatives are ranked high globally. Navarra (2010:7) concludes by indicating that Jordan should be a "show case" as a best-practice example on the implementation of ICT reforms aimed at good governance and (more recently) also for e-governance and the information society.

### 3.5.5 E-governance in the United States of America (USA)

Curtin (2010:5) paints an inspiring picture of e-governance in the USA, especially since the inauguration of President Barak Obama. Curtin (2010:5) points out that two of the first three official memorandums issued by the US President were about Transparency and Open Government, which included stipulations that executive departments and agencies would have to harness new technologies in informing citizens about government operations and decisions online. Furthermore, the President issued instructions that government agencies should use modern technology for its directives. This development is captured by Holzer, Manoharan, Shick and Stowers (2008:7), who indicate that the states of Maine, Oregon, Michigan, California and New Hampshire are top-ranked states as far as citizen participation by means of e-governance is concerned. According to Holzer *et al.* (2008:7), the successes of these states can be attributed mainly to the state's political commitment and its technical support for online services.

According to Rondinelli (2007:3), the World Public Sector Report has outlined some guiding principles for successful e-governance applications in the USA. A number of the principles outlined include the following:

a. *Priority developmental needs that require the government's involvement.* E-governance applications are best embedded in areas that are perceived as closely related to the developmental needs of the society that have priority. This garners broad support and makes it easier to overcome inherent difficulties and sustain attention, commitment and funding.
b. *Efficiency and effectiveness as key success criteria of government involvement*. It is best if the role that the government plays in such areas is judged partly or predominantly by benefits that ICT can bring. The link between the optimisation of ICT applications of governmental operations and the achievement of important social development goals is a very convincing argument for the continued development of e-governance.
c. *Availability of funding***.** Even initial pilot e-governance operations should start with a clear understanding of the costs involved and lead to assured funding that follows a careful analysis of the opportunity cost. Whenever advisable and feasible, funding should be treated as a business investment and carry the expectation of reforms.

d. *Skills and culture of the civil service.* Civil servants must be able (through ICT, change and project management, and partnership-building skills) and willing to support e-government or, at a minimum, be eager to learn and change. The culture prevailing in the civil service determines the assessment of expected loss that e-government applications can bring to individual civil servants. This is based on the eventual strength and effectiveness of the anti-change lobby.
e. *Coordination.* Needed "back-room" coordination and effort – within and between government agencies – must be ironed out before any e-governance application is presented on-line, to avoid duplication, assure interoperability, and meet the expectations of users.
f. *Legal framework***.** E-governance introduces unique legal requirements and these should be realised and faced early on.
g. *ICT infrastructure*. Infrastructure needs should be assessed against the background of requirements and desired results of the planned e-governance development. Anything short of this, limits both requirements and desired e-governance development plans. Anything that goes beyond this carries the danger that ICT infrastructure will be converted into expensive and idle office equipment.
h. *Political leadership and long-term political commitment.* The Chief Executive Office of the public sector must be committed to e-governance development; they should lead and build broad support for it, and be eager to learn. This generates the all-important signals which the civil service needs to receive from its top leadership.
i. *Public engagement.* The public should have a personal stake in the development of e-governance. This should be reinforced by actively, genuinely and continuously soliciting people to participate in the development of e-governance applications so that these applications are custom-crafted to the way people live and work.
j. *Plans to develop human capital and technical infrastructure*. There should be a vision and plans for closing existing divides in skill and access among citizens. Otherwise, neither the public administration nor the society can hope to become ICT literate and capable – an important ingredient for e-governance success.
k. *Partnerships***.** Early on, the government should accept business firms and Civil Society Organisations (CSOs) as its partners. This will help in securing financial resources, skills improvement, improved access, and adequate capacity to service the ICT network. Partnerships should never be forged at the cost of transparency, accountability or economic sound investments.
l. *Monitoring and evaluation*. Setting clear responsibilities and realistic benchmarks for e-governance development, as well as for its transparent monitoring, is an important ingredient for eventual success. This builds out the overall framework for transparency and accountability in the public sector.
m. *Perception of added value***.** Any design of e-governance development must incorporate a calculation of the added value the particular application intends to bring to individual users. It is best if this calculation proves to be congruent with that of the users.
n. *Access and skills.* It should be made easy in terms of time, cost and effort for the potential users of e-governance actually to employ the application. Imaginative solutions to help increase the level of its "ease of use" must form part of any e-governance development plan. These solutions should include, but also transcend, the matter of individual access and skills.
o. *Privacy and security*. Security and privacy concerns are culturally defined as they should be addressed early on, openly and by demonstrating a professional aptitude. The public is bound to expect a breakdown in this area and any news (even informal)

> of such a failure, is bound to become a huge setback with long-lasting consequences. Against this background, for a state to serve its citizens effectively, it must seek out their participation by making new laws and policies and by the allocation of financial resources. States must provide citizens the means to give some feedback on all issues concerning them, and more importantly, the state should listen and incorporate the citizens' views.

These principles can be utilised as best-practice framework for the general use of ICT in government, as well as e-governance in particular. A further impetus for e-governance in general and e-democracy guidelines in particular, derives from the United Nations (UN). Based on the United Nations Millennium Declaration (UNMD), UN Member States have pledged to work "for more inclusive political processes, allowing genuine participation by all citizens". They are determined to ensure the right of the public to have access to information. Members also expressed their conviction that "democratic and participatory governance based on the will of the people best assures these rights" (Rondinelli, 2007:7). They also indicated that in eliminating poverty and securing the right of development, the success to achieve these objectives depends, among other things, on good governance.

Holzer *et al.* (2009:9) indicate that a recent US e-governance survey assessed the practice of digital governance across the United States by evaluating their websites and ranking them on a national scale. The ranking concentrated on the delivery of services and digital democracy. Five elements were measured namely privacy, usability, content, services, and citizen participation (Holzer *et al.* 2009). These elements, together with the guidelines listed above, could serve as valuable yardsticks for other countries, such as South Africa

### 3.5.6 E-governance in the United Kingdom (UK)

Hudson (2011:8), who studied e-governance applications in the United Kingdom (UK), mentions how the former UK Prime Minister, Tony Blair, in September 2000 launched a "UK On-line" program. This drive was to turn the UK into one of the world's leading knowledge economies and ensuring that all citizens have access to the government's information through the ICT technologies.

In confirming Hudson's studies, Bovaird (2003:9) indicates that the joint work by central and local government produced a model of "e-organisation of e-governance", through which government institutions are able to implement "e-strategies". Such e-organisation is made up of five elements, namely:

a. *Transactions* – from the citizen's perspective, service outcomes are experienced through their day-to-day transactions with the government.
b. *Access channels* – transactions ought to be conducted through a variety of e-enabled access channels (such as Digital TV or one-stop shops).
c. *Enabling technologies* – the channels can be supported by a range of enabling technologies, which facilitate effective, integrated information management (such as customer relationship management and geographic information systems.
d. *E-enabled business systems* – service delivery can be underpinned by an application of core, e-enabled business systems (such as intranets, and e-procurement).
e. *Organisational leadership and capacity* – successful delivery depends on strong leadership and capacity (including the capacity to lead and manage change and to re-engineer major business processes).

These five elements provide valuable insight as possible "ingredients" of effective e-governance models to serve as example for best practice.

### 3.5.7 E-governance in Japan

Japan is generally renowned for its advanced production and technological innovations. Regarding e-governance applications, Kudo (2008:3) indicates that the country has built a Basic Residential Registers Network System (BRRNS). This system links all municipalities and prefectures in order for the central and local government spheres can share resident register information (e.g. name, address, sex, and date of birth) based on residential register codes. Through the application of this system, the government aims to help create infrastructure that is conducive to information essential for efficient e-governance services.

According to Kudo (2008:12), the Japanese government refers to technologies only as "IT", instead of "ICT" applications. They argue that the communication dimension of technology involves other role-players who may jeopardize governmental plans and hence lead to leakages of classified information and possible violation of privacy. Kudo (2008:12) further mentions that when the system was incepted, the public was sceptical about data protection and privacy issues. As late as 2008, there were still some municipalities, with populist mayors, refusing to be connected to the government's network and thus causing serious inefficiency to its integrated e-service operations. Japan's "IT Revolution" is dependent on the "informatisation" of the local sphere of government since most of the essential services are rendered by municipalities (Jho, 2005:11; Kudo, 2008:12).

### 3.5.8 E-governance in New Zealand

In an attempt to improve public service delivery processes, New Zealand first introduced ICT applications in one of its local governments in December 2001 as pilot project. According to Asgarkhani (2005:5), the country aimed to introduce e-services through the implementation of e-governance initiatives in order to facilitate improved two-way exchange of information between the government and its citizens. This would also enhance the government's image as a professional customer service-oriented organisation. Asgarkhani, (2005:5) is of the opinion that this particular pilot project revealed the fact that successful implementation of e-governance did not only result in automating the collecting and distribution of information. It also led to the improved flow of useful information between the government and citizens. The particular local government's Council measured the success of its e-service project on an on-going basis by examining website hits, customers' feedback, and quantifiable efficiency benefits (Asgarkhani, 2005:5).

As is the case with countries that implement e-governance, New Zealand also encountered some problems. Lack of trust, transparency, accountability and privacy were some of hurdles the role-players had to address, before successfully implementing e-governance. The issue of trust as a concern is confirmed by Horsburgh, Goldfinch and Guald (2011:8), who conducted a study on the level of trust in government in New Zealand. They found that citizens' trust in government could not be correlated with their trust in facets of service provision through e-governance, but was related more to support for e-governance investment. More intensive Internet users were more likely to trust e-governance services than non-users. Horsburgh, Goldfinch and Guald (2011:1) point out that "trust in

government" was focused more on the effectiveness against ineffectiveness of the government.

In addition, "policies, directives, moral suasion, tax collection, and attempts at income redistribution have been found to be more effective if the population at large sees the government as more or less working in its interests" (Horsburgh, Goldfinch & Guald, 2011:1). Pina, Torres and Acerete (2007:3) share the same view by pointing out the hope in many countries that ICTs will enhance public administrations' openness, transparency and accountability and, which could lead to increased interest and involvement of citizens in politics, and thus moving them closer to governments in New Zealand.

### 3.5.9 E-governance in India

Sridhar (2007:2) alludes to the fact that nearly 50% of India's Gross Domestic Product (GDP) is generated in its urban areas. This stresses the importance of these areas for national growth targets. Sridhar (2007:2) mentions the estimation that India's urban population would increase from 28% in 2001 to nearly 50% by 2020.

In line with global trends, India has undertaken massive initiatives to introduce e-governance at national state and local levels (Hague, 2002:5). Hague (2002:5) explains how the top echelon of policy-makers in the Indian government justifies the adoption and expansion of e-governance in their departments. This is because the ICTs are less expensive, and also "reduces waste, promotes transparency, eliminates corruption, generates possibilities to resolve rural poverty and inequality, and guarantees a better future for citizens". Furthermore, Hague (2002:5) indicates that the Indian Government has set an attainable target to deliver at least 25% of its dealings and services electronically in all governmental institutions.

Narula and Arora (2010:4) also paint a positive picture of e-governance activities in India in general. They indicate that India has realised the importance of ICTs in rural areas during the 1990's when the government started off policy initiatives delivering ICTs to that area. According to Narula and Arora (2010:4), India has used a range of communication technologies for some time to meet the rural population's need for ITC, which included the Internet. Sharma and Shekhawat (2010:9) also indicate that e-governance in India was extended to rural areas through an integrated project, which provided all possible government information and services to the masses through enabled portals, e-centres and kiosks. The implementation of this project is owned and managed by government front offices in partnership with private service providers. This is also an indication that initiatives of e-governance cannot be managed by the government alone, as they require adequate and extensive use of extra resources and private partnerships.

Given this context, India established various government portals to facilitate interaction between the government and citizens. Behara *et al.* (2009:7) explain the practical use of e-governance portals in India. According to them this form of governance allows citizens easy access to government information and one-stop government services. Furthermore this implies service delivery channels that are customer-focused and allows the government departments to present their information, applications and services in a single and consolidated browser view. E-governance also "provides a secure and individualised view of multiple online resources and interactive services" (Behara *et al.*, 2009:7). Behara *et al.* (2009:7) outline India's experience of e-governance by means of a diagram, which depicts

the contextual view of the Indian e-governance portal. This diagram is presented in Figure 3.9 below.

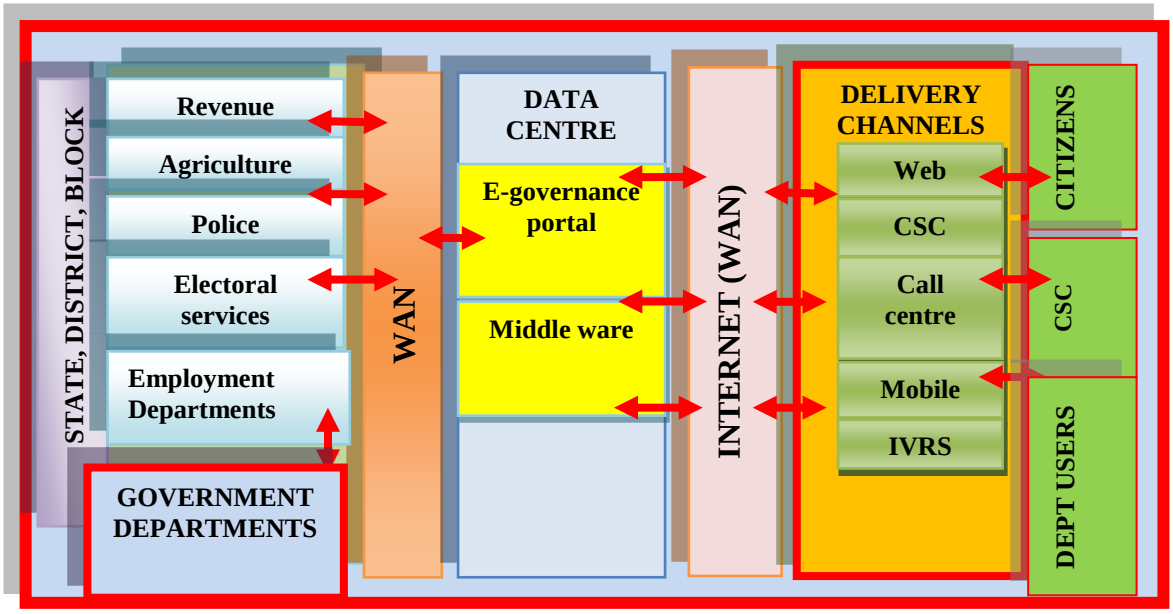



***Figure 3.9:*** **Contextual view of the Indian e-governance portal**
*Source: Behara, Vishnu, Varre and Rao* (2009:7)

With reference to Figure 3.9 above, Behara *et al.* (2009:7) state that the E-governance portal is based on so-called "Service Oriented Architecture" (SOA). This can be defined as a group of services that communicate with each other through data-passing or two or more services that coordinate some activity (Behara *et al.*, 2009:7). SOA builds applications out of web/software services. The SOA typically implements most ICT functions that citizens would recognise as an online service, such as filling out an application for a driver's license, viewing an electronic form, or submitting a grievance or query (Behara *et al.* 2009:7). Ghosh and Ghosh (2009:12) evaluated the growth of open access in India and concluded that key impediments to e-governance initiatives in India are non-compliance and the lack of institutional commitment among public officials.

### 3.5.10 E-governance in China

Guanghua (2009:4) indicates that e-governance in China commenced in the early 1980s through initiatives for office automation. Later on, in 1993, the Government of China launched the so-called "Golden Project", which can be regarded as the first major investment in e-governance. The government expanded this pilot project to create 25 independent subprojects within the public sector. This eventually led to the Government Online Project (GOP). The GOP was officially launched on 22 January 1999 (Guanghua, 2009:4). The primary purposes of GOP were to establish the foundation for China's e-governance development, and to facilitate collaboration across government departments and agencies at different levels, and enhance economy growth in China (Guanghua, 2009:4).

E-governance practices in China were severely hampered by the failure of ICT service providers. Thus Chen, Yan and Mingis (2011:6) explain that the government decided to change the practices of appointing service providers, in order to sustain a viable e-governance. In this regard Pathak, Naz, Rahman, Smith and Agarwal (2009:8) point out the

negative effects caused by the use of private service providers in ICT service delivery. The reason was that generally these providers did not have an adequate experience and knowledge of e-governance.

Another problem experienced in China was that later versions of their e-governance portals were less manageable and were generally unreliable (Chen, Yan & Mingis, 2011:8). To aggravate matters, the services provided by newly appointed service providers were slow and did not address the immediate needs for information communicated by the government. However, after careful planning and by addressing these challenges, China became one of the global leaders in ICT applications in government.

### 3.5.11 E-governance in Singapore

Sriramesh and Rivera-Sanchez (2002:8) give an account of Singapore's e-governance system by indicating that the country has an impressive record of implementing e-governance and e-administration. The city-state of Singapore has been ranked repeatedly among the world leaders regarding effective regulation, network readiness and other measures of ICT development.

Lanvin (2003) in Sriramesh and Rivera-Sanchez (2002:8) outlines the report on Singapore e-governance practices. This report suggests that "in order to assume a (e-governance) leadership position, government should involve civil society as much as possible in the policy decision-making process". In this way the measures taken and systems implemented focus on the citizens' specific needs and requirements Lanvin (2003) in Sriramesh and Rivera-Sanchez, 2002:8). Schwab (2005) in Sriramesh and Rivera-Sanchez (2002:8), reports that after this recommendation was implemented, in March 2005 Singapore did overtake the USA as the global leader among 104 countries worldwide. Holmes (2001) in Sriramesh and Rivera-Sanchez (2002:8), points out that Singapore has been considered having one of the most advanced e-governance systems worldwide. In this system, citizens can log on to the government portal and access information from various government agencies. The citizens can also apply for services and submit their own information on line. Singapore also has an e-governance advisory panel that is made up of representatives from the private and public sectors.

According to Sriramesh and Rivera-Sanchez (2002:8), there is an indication that Singapore's government has recognized the fact that e-governance helps to improve their decision-making and implementation of policies. Therefore, the Singapore government has invited active citizen participation, and also indicated its willingness to consult with all relevant stakeholders on policies regarding e-governance.

### 3.5.12 E-governance in Spain

Hom and Moles (2009:4) indicate that in Spain, "the development trajectory of e-governance correlates with the country's democratic innovations". Borge *et al* (2007) in Hom and Moles (2009:4) point out those successful measures were taken at different levels of government in Spain to establish proper regulations, systems and procedures in support of participatory processes. Through initiatives such as its National Law of Local Government Modernisation (NLLGM), e-governance projects were launched mainly to foster democracy and encourage public participation. These initial projects ultimately led to further ICT applications that made services available, such as access to information on traffic jams, the weather, and bus

schedules. Although there is evidence of successes in the application of the country's ICT resources, there are some impediments related to the e-governance processes. Hampton and Wellman (2000:8) point out that an intense debate ensued about "how digital fracture at the territorial level can impact the digital divide". This problem is about political issues at the territorial level. Politicians often interfere with e-governance service providers which impede the development and successes of the system (Hom & Moles, 2009:4). Over and above political interference, Hampton and Wellman also indicate that failures of ICT digital operations are largely due to infrastructure-related issues, of which one of the causes is unreliable technology for mobile phones.

### 3.5.13 E-governance in Turkey

Yildiz (2003:6) briefly outlines a case study of ICT governance in Turkey by mentioning beforehand that the Internet was first introduced to Turkey's public administration in 1993. Since then, public organisations' experiences with Internet use have accumulated enough to create a fertile ground for research. Ince (2001) in Yildiz (2003:6) points out that since 2001 more than 60 e-government projects are being planned, ready to be implemented or are already in use by ministerial (national) level Turkish government organisations. This applies to diverse areas such as law enforcement, foreign affairs, processing of census and the integration of the local government's information. Yildiz (2003:6) states that "not only the supply of e-government information and services are on the rise; so is the demand for them in Turkey". Yildiz refers to surveys by Taylor Nelson Sofres Consulting Firm (TNS, 2001; 2002). According to these surveys, only 3% of people living in Turkey (approx. two million) used the Internet to access government information and/or services during the year 2001. This number has risen to 12% (approx. eight million) in 2002. All indicators point to this percentage rising sharply over the next few years (Yildiz, 2003:6).

### 3.5.14 E-governance in Namibia

Uutoni, Yule and Nengomasha (2011:3) reports that as with many other governments, the Namibian government is also using computer technology to drive its service activities. Furthermore, the government has realised the benefits of conducting service delivery processes electronically, with a clear shift towards the electronic delivery of programmes and services (Uutoni, Yule and Nengomasha, 2011:3). They point out that the Namibian government's service delivery processes are facilitated by an extensive statutory and regulatory framework for their public service institutions.

An interesting fact about e-governance in Namibia is their use of libraries that provide and train citizens on how to access information in e-governance implementation. Uutoni, Yule and Nengomasha (2011:3) explain that libraries are beginning to play a vital role in the dissemination of information to the public as in Sub-Saharan Africa and the rest of the world. Namibia has identified the role played by libraries as inevitable in ensuring that competitive information-sharing processes are successfully implemented in order to reach the wider areas of communities in all sectors with essential information on government activities. However, Mutula (2004) in Uutoni, Yule and Nengomasha, (2011:9) maintains that "in this endeavour, libraries face various challenges of economic, technological, content and information literacy nature". Libraries are faced with the following challenges: educate and instil basic skills in a large number of citizens in the use of Internet and applying technical skills in information searches. The libraries also have to procure more computers and Internet facilities with a lack of financial resources.

The e-governance experiences of the countries that were discussed above can serve as guidelines for improving e-governance services in developing countries. The portals and web systems applied by more advanced countries such as Singapore and the USA can also be incorporated in designing e-governance models and developing ICT systems in South Africa, especially to help design an appropriate training model for e-governance. Table 3.2 below highlights some of the most significant and specific lessons that could be gleaned from the international experiences with ITCs.

**Table 3.2 International experiences: key lessons**

| Country | Lessons to be learned |
|---|---|
| Australia | • Utilise an integrated service delivery.<br>• Facilitate collaboration between spheres of government and private sector. |
| Sri Lanka | • Address inequality and improve transparency. |
| Italy | • Use ICT to reform and restructure the public service.<br>• Improve the government's image. |
| Jordan | • Use ICT to implement the Millennium Development Goals. |
| USA | • Promote public participation.<br>• Improve government's transparency.<br>• Utilise the principles of the World Public Sector Report.<br>• Use elements for ranking and further improvements. |
| UK | • Use and integrate the elements of e-governance models. |
| Japan | • Focus on local government for e-governance initiatives. |
| New Zealand | • Use pilot projects; establish trust in the system. |
| India | • Use portals on a decentralised basis.<br>• Establish service-oriented e-governance architecture. |
| China | • Collaborate across spheres of government.<br>• Appoint experienced and skilled service providers. |
| Singapore | • Use ICT as decision-making and policy implementation tool. |
| Spain | • Address the digital divide; address political interference.<br>• Establish adequate ICT infrastructure. |
| Turkey | • Increase Internet access to all areas. |
| Namibia | • Use public libraries as access and capacity-building instruments. |

This section explored the international e-governance trends, principles and applications as a benchmark to construct an appropriate e-governance model in other countries. The international e-governance practices and applications outlined above also indicate some challenges encountered by countries in their e-governance endeavours. To follow is a brief analysis of e-governance developments and applications in the public sector in general, and the South African Public Service in particular. The analysis will focus especially on the value-adding dimensions of e-governance within the public sector.

## 3.6 E-GOVERNANCE DEVELOPMENTS AND APPLICATIONS IN THE PUBLIC SECTOR

Khalo and Hu (2010:1) confirm the general view that new ICTs are radically redefining the world's social, economic and political landscape as well as the public sector. Khalo and Hu (2010:1) point out that in the Information age the development of ICT is rapidly changing people's environments and their needs. In the same vein, Andersen, Henriken, Secher and Medaglia (2007:3) argue that "notwithstanding different ideological perspectives by viewing government institutions for example as businesses or as democratic platforms, the core mandate of the public sector is to provide society with goods and services". Through the assistance of its executive arm government should regard the general welfare and common good of society as its priority.

Andersen *et al.* (2007:4) point out that by honouring this mandate, managers in the public sector are challenged by issues such as the following: dwindling resources, balancing political priorities with institutional mandates and strategies, divergent community demands and aspirations, and the need for public participation in government decisions and processes. In a democratic dispensation public sector institutions furthermore have to deal with these issues and at the same time promote the values of transparency, openness, responsiveness and accountability. The use of ICT and e-governance as instruments to render public services in an open, responsible and transparent manner is increasingly becoming a priority for public sectors around the globe.

According to Walsham and Sahay (2005) and Yapa and Guah (2012:4), e-governance initiatives are common in most countries with a view to "facilitate overall national productivity and to improve the global competitiveness of states". Miyata (2010:2) and Yapa and Guah (2012:4) assert that the core objective of e-governance in the public sector are generally to improve efficiency, effectiveness, and to cut service costs. Bannister and Connolly (2011:2) identify the key objectives of e-governance as rendering support to government administrations, guide citizens in democratic processes and also improve the interrelationship between role-players: civil society, the private sector, and the state. These broadly stated objectives accentuate the need for skilled public managers to use ICTs effectively within the public sector.

Calista, Melitski, Holzer and Manoharan (2010:2) focus on the civil engagement dimension of e-governance. They find that it facilitates direct-democracy on a large scale, allowing for greater government transparency and openness, and thus leading to a better informed citizenry. Shane (2002:2) points out that the new focus on e-democracy as a sub-domain of e-governance can be attributed partly to performance that was lacking in the old technologies.

Zwahr, Finger and Mueller (2014:2) believe that due to technology's rapid rise, various tools and techniques are implemented for the digital mapping of transactions regarding the public sector. The above authors further indicate that in a network mode of governance, non-state actors and the private sector increasingly partake in government transactions, which include service provision, regulation and policy-making (political process). The need for effective management and the monitoring of service providers is accentuated in this context. This need provide a strong rationale for the training and development of public managers in the use of ICT. In this regard Kudo (2008:98) and Naz (2009:1) evaluate e-governance as a crucial element for public sector reform. The reason is that e-governance promises "transparency,

accountability, and interface with citizens, access to information, and good governance, which are only attainable through the activities of skilful and qualified public officials".

In line with the Australian Integrated Service Model explained above, Kalvet, Tiits and Hinsberg (2013:4) argue that ICT's full utilisation means major changes in the organisation of government agencies' work. This change is aimed at integration, coordination and synergy between the respective spheres and tiers of Government and thus requires a sound and uniform organisational platform. Kalvet, Tiits and Hinsberg (2013:4) maintain that to maintain such a uniform platform requires the *interoperability* between various information systems (of different agencies). A basic e-governance infrastructure alone is not enough when aiming to utilise ICT to its fullest potential in the public sector. Such utilisation also requires strong organisational structures and support mechanisms.

Shehadi and Khoury (2009:13) propose a guideline framework to facilitate governments in addressing the requirements highlighted above and to implement e-governance programmes successfully. These guidelines include determining basic elements of e-governance such as the environment, readiness, and usage, before e-governance applications can be considered. The guidelines can also be used to compile e-governance training models. According to the guidelines of Shehadi and Khouri (2009:13), the following elements are important in this regard:

a. *Environment*: Political leaders at a national level must support the initiative to ensure that e-governance receives the requisite sponsorship and drive. Other factors to consider include the population's level of computer literacy, awareness, and willingness to participate in e-governance; the affordability of the technology; local politics; budgetary requirements; and ICT infrastructure. It is also crucial that the correct legal and regulatory framework should be in place. This includes the creation of an agency, committee, or department with the responsibility to implement the development agenda.
b. *Readiness*: Careful planning is needed of technology infrastructure, collaboration strategies (between government entities), and adherence to ICT standards and architecture, as well as ICT resources and capabilities. Care should also be taken that the agenda is not too ambitious either for government entities or for communities as customers, seeing that the final aspect of readiness is human resource management focusing on staff abilities and the overall organisational culture.
c. *Usage:* The general usage of the technology is the most crucial aspect as it involves assessing the actual service provision of e-governance. Usage should include prioritisation of services, examination of the most effective channels, and feedback on the experience of direct usage. Subsequently, the government must view the entire portfolio of services, cluster them by common service themes, and then prioritise these for implementation. There are numerous criteria to help determine which services should take priority. Some of these criteria are: the frequency of use and the impact on customers; the effect on national development; and the government entity's ability to offer the service, based on internal systems and staff capabilities. Closely linked to the prioritisation process is the need to determine the most effective delivery channels for each service, whether solely through the e-governance portal platform, or also through kiosks, tele-centres, contact centres, or mobile telephones. The final stage should have a feedback mechanism to gauge customer satisfaction with the provision of government services through the different delivery channels. Such feedback will help foster a process of continuous improvement.

In support of Grande, Araujo and Serna's (2002) framework above, Hallman and Hanna (2006:3) argue that efforts of public sector reforms should harness the strategic role of new technologies as enablers of public-sector transformation. In this role the ITCs are indispensable instruments that open up new options and enable the creative design of reform processes, that are better adjusted to the current challenges governments face. Furthermore, Hallman and Hanna (2006:3) stress that the focus of e-governance goes beyond operational levels of making transactions faster and more efficient. E-government includes the strategic level of designing new institutional relationships and new ways of engaging clients and partnering with stakeholders to deliver improved services. In other words, e-governance is more than transactions designed to satisfy the needs of citizens. Hallman and Hanna (2006:3) believe that the transformative role of ICT in the public sector is indispensable to address some of the most important flaws of governance within public sector institutions. That is why public managers should have the skills to take and rectify flaws in the public sector institutions. The use of ICTs also prepares governments to confront challenges that are no longer an issue of the future. Hallman and Hanna (2006:3) argue that governments face a rapidly changing world in which information flows freely and thus challenges the capability of government to control activities even within its own borders.

### 3.6.1 E-governance in the South African Public Service

International technological trends and events and public sector reforms also did not leave South Africa unchanged. According to Khalo and Hu (2010:1), the Republic of South Africa also experienced the challenges and opportunities brought about by the Information Age. These challenges include the training and development of public managers in ICT application and e-governance initiatives to achieve the objectives of the South African Government.

Nthetha and Mostert (2011:3) point out that, in terms of infrastructure, South Africa can be considered the leader in ICT development on the African continent. Thus, this country is globally one of the largest consumers per capita of information technology (IT) products and services. Nyamnjoh (1999) and Jensen (2001) in Wasserman and De Beer (2004:96), also indicate that South Africa has the second largest multinational Internet Service Provider (ISP) in Africa – M-Web Africa Online. Wasserman and De Beer (2004:96) mention that people still experience inequality regarding access to ICT. The previous system of apartheid caused a gap across the spectrum of citizens in the country, leading to an array of inequalities, which the present government seemingly finds difficult to balance. According to Webchek (2000) in Wasserman and De Beer (2004:3), recent surveys indicate a measure of growth in overall Internet access to citizens. However, the higher rate of Internet users is still earners from an upper-level income scale. This leaves previously disadvantaged people still at a significant disadvantage and women even worse off than their male counterparts.

In light of the above, Wasserman and De Beer (2004:96) mention further that the South African Government has incepted programs to address the problem of inequality by creating organisations such as the Universal Service Agency, which was tasked to broaden connectivity. This agency later became obsolete as a result of mismanagement of funds. Furthermore, other agencies and organisations are involved to help address the issues of communication and ICT applications. Nthetha and Mostert (2011:5) indicate that, since the new dispensation in 1994, the South African Government pledged to deliver quality services. This culminated to the introduction of ICT policies such as the Electronic Communications Act 36 of 2005, the *Batho Pele* ("People first") White Paper on Transforming Public Service

Delivery, 1997 (WPTPSD) and the Promotion of Access to Information Act 2 of 2000. Various other policies were implemented, all aiming at creating a platform for effective service delivery in the country.

A literature survey and document analyses of core policy directives and strategic programmes reveal that the Government perceive ICT as a vehicle through which the public service can improve structures, systems and processes of service delivery. An example in this regard is the Department of Home Affairs (DHA), which embarked on comprehensive e-governance drives in order to improve service delivery to citizens and visitors to South Africa (Khalo & Hu, 2010:1). By focusing on the Department of Communications as case study, Duncan (2014:1) reflects that the public service is designing and reviewing all policies that are impacting on the use of ICT. This review includes broadcasting and telecommunications. According to Duncan (2014:2), the Department of Communications aims to promote the convergence of the two sectors (broadcasting and telecommunications), made possible by digitisation, to achieve a society in which knowledge and information occupy a central place in citizens' lives. This aim also serves as a justification for training, developing and empowering public service managers in the efficient and effective use of ICT.

The following chapter (Chapter 4) will conduct a more detailed analysis of South Africa's e-governance strategy and also provide a historical and chronological overview of the introduction of e-governance in South Africa. Chapter 4 will thus deal with managerial training and e-governance with a view to construct an e-governance model for the training of Free State public managers.

According to Wasserman and De Beer (2004:96), the South African Government has also introduced e-governance in the field of democratic processes such as voting procedures and the dissemination of government information. Contrary to the gains in e-governance highlighted above, Lax (2000) in Wasserman and De Beer (2004:96), points out: the fact that information might be more readily available on the Internet does not necessarily mean that it can be accessed as easily. The South African Government is currently engaged in developing Multipurpose Community Centres and Public Internet Terminals, which are expected to stimulate Internet use among South Africans across the society Hall (2000) in Wasserman and De Beer, 2004:97). The South African government has a challenge of ensuring that all impediments and problems which other countries encountered when implementing e-governance, are addressed adequately to ensure the successful implementation of e-governance projects and systems in this country.

## 3.7 CONCLUSION

This chapter focused on global e-governance trends, models and applications. A comparative study was done and illustrated in a table highlighting contrasts and comparisons to determine common modalities on e-governance applications. This was done to select appropriate elements to be integrated into a training model for public managers. The exposition further focused on exploring international e-governance trends with specific reference to models that are applied in certain countries. This was done to identify international best practice and challenges in the implementation of e-governance. The analysis accentuated the value of e-governance and ICTs in the public sector. It is evident that the value of e-governance mainly centres on civic engagement and public participation in the following aspects: government processes, cost-effectiveness, and utilising resources optimally.

Chapter 2 contextualised and conceptualised key concepts and constructs for purposes of this study, such as “training, management”, and “development”. This chapter explored the various e-governance models. The next chapter will utilise the core elements of the respective models and incorporate the management-training concepts identified in Chapter 2, with a view to construct a model for managerial training in e-governance, with specific reference to Free State provincial public managers.

# CHAPTER 4

# MANAGERIAL TRAINING AND E-GOVERNANCE: TOWARDS A MODEL

## 4.1 INTRODUCTION

Chapter 3 utilised a comparative approach to determine common theoretical aspects for a model on e-governance applications. An analysis was also done of key theoretical debates on the value of e-governance and ICTs in governance. The analysis focused on the utilisation of ICT in government in general, and e-governance practices and applications in particular. An exploration was undertaken of international e-governance trends, principles and applications with a view to identify good and best practices in e-governance implementation. These practices should be incorporated in the design of an e-governance training model for government departments.

The purpose of this chapter is to align and integrate public management training (Chapter 2) with e-governance (Chapter 3). This alignment and integration will focus mainly on the critical interface between training and e-governance in a South African Public Service frame. This interface analysis will include an examination of core elements associated with managerial training, key aspects of e-governance skills, and a comparison drawn between training principles and elements of e-governance skills and competencies. This analysis will focus further on assessing the status of e-governance in the South African Government and the alignment of this form of government with training models and approaches in provincial departments. Tables and figures outlining contrasts and comparisons of various e-governance and ICT innovations and applications will also be incorporated in this chapter. The analysis will culminate into a draft training model for e-governance that is based on the sequential theoretical contents of Chapters 2, 3 and 4. This draft model will then be verified and refined in the following chapter (chapter 5) by means of an empirical investigation. The final, comprehensive training model will be presented in the final chapter (Chapter 6) of the study.

## 4.2 THE CRITICAL INTERFACE BETWEEN TRAINING AND E-GOVERNANCE IN THE SOUTH AFRICAN PUBLIC SERVICE

As mentioned previously, the South African Public Service also was influenced by international government trends brought about by the New Public Management paradigm and technological advancements. There is ample evidence that the South African Public Service have embraced the use of ICTs as applied in public management systems of most countries. As a result, the public service has incrementally introduced e-governance training as a field of specialisation in the competency profiles of public managers. This introduction was mainly a response to align public service practices with international best practices.

E-governance training, as a required public management competency, is supported by De Jager and Reijswoud (2013:1) who point out the considerable international and national pressure driving governments in the developing world to review and improve their systems and processes of public service. De Jager and Reijswoud (2013:1) also indicate that "internationally, donors and governments in the developed world are urging governments of

developing countries to increase transparency, support the decentralisation of decision-making authority, and participate in global digital information sharing".

The following section outlines the critical interface between training and e-governance in the South African Public Service. This outline will include an identification and analysis of core elements associated with managerial training theoretical and international vantage points. The outline will further pinpoint key variables of e-governance skills and include a comparative analysis between management training principles and e-governance skills and competencies.

### 4.2.1 Core skills and competencies of e-governance/ICT management training

Management training is characterised by some core skills that play a vital role in the development of managers as leaders within organisations. The nature of these core skills, however, varies according to the particular theoretical vantage point of scholars. It is therefore necessary to conduct a brief analysis of different perspectives on management skills.

Whetten and Cameron (1991:2) made a significant contribution to the study of management training by providing the following empirical derivation of management skills and competencies:

a. *Verbal communication (including listening).* This implies the ability to communicate with subordinates and listening to employees' ideas, suggestions, complaints and innovative ideas.
b. *Recognising, defining and solving problems.* Managers should be able to identify problems before it escalate. They should also be able to define the problems that are identified and provide solutions to resolve such problems.
c. *Motivating and influencing workers.* Managers should be skilled in motivating workers and exerting positive influence on them to the benefit of the organisation.
d. *Delegating.* Managers should have delegation skills as they are not expected to perform all the functions of the organisation.
e. *Setting goals and articulating vision.* Setting goals and articulating vision is part of management skills, as these contribute to organisational performance.
f. *Managing conflict.* Managers should be able to master skills in problem-solving, including managing conflict within a workplace, as conflict may hamper organisational performance.

Also Schaay, Heywood and Lehmann (1998:2) contributed to the analysis of skills by stressing that training of management should not be seen as an end in itself, but rather as one of several strategies "in an overall process of developing the management capacity for the implementation of public service programmes and the effective management of government institutions". According to Schaay, Heywood and Lehmann (1998:2), the orientation of training programs has to shift from the past blueprint and normative models to a "participative, flexible and process-oriented model, which allows facilitators to support teams to analyse their own problems and develop relevant solutions within the real life context of the workplace". Charih, Bourgault, Maltais and Rouillard (2007:35) concur by stating that public managers have to be capable of increasing employees' contributions whilst, at the same time, offering the latter a workplace where they can feel fulfilled without wearing themselves out. Charih *et al.* (2007:35) outline the following competencies needed to develop public managers:

a. *Adaptability:* This means facing new challenges, offering appropriate responses to new situations, and having useable skills for dynamic public sector settings.
b. *Capacity to negotiate:* It entails the ability to negotiate with stakeholders on issues regarding the organisation attaining its visions and mission, and the reaching the set organisational goals.
c. *Correct assessments:* The correct assessment of managers' performance, such as the ability to retain talented staff, manage change, and obtain good results, is one of the major managerial competencies in this regard.
d. *Leadership:* This includes relations with the community, employees and peers, and the ability to work in teams.
e. *Management of knowledge:* The ability to manage information, use the abilities of those with the expertise and the intelligence with a view to assuring security, is essential for effective management.
f. *Personnel management:* This includes the ability to identify candidates needed by the public service and to supervise and develop them effectively.
g. *Handling complexity:* The ability to handle the complexity of the management environment and adapt to change is considered as one of the major competencies of management.

Fourie (2014:500) outlines some South African ICT management competencies as the following:

*a. Applying and using technology:* Managers should have the ability to apply ICT resources in managing the public organisations.
*b. Technical proficiency:* Public service managers are expected to possess technical skills that enable them to utilise ICT resource effectively.
*c. Communication and knowledge:* Managers should be able to communicate, which implies the ability to communicate through ICT.
*d. Effectiveness-related technology management:* Public management should include the ability to manage public ICT resources.
*e. Planning and organising programmes and projects:* As a managerial competency, planning and organising should also explore the use of ICT resources in an organisation.
*f. Organisation information:* Managers are expected to have a vast knowledge of the organisation's information, by utilising ICT resources.
*g. Networking and building relationships:* Communication within the public organisations through ICT resources should include the ability to communicate with other public institutions and the public organisational role-players.

Within an ICT frame, the United Nations Department of Economic and Social Affairs (UNDESA, 2007:48) outlines a comparative study of managerial skills and competencies in various advanced countries, which may be significant for the South African Public Service. The ICT skills outlined in Table 4.1 below may be valuable to train and empower managers in becoming competitive and productive public managers of e-governance applications.

***Table 4.1*: A comparative analysis of ICT management training competencies/skills in various countries**

| ICT management training competencies/skills | | | |
|---|---|---|---|
| ***Countries*** | ***Intellectual competencies*** | ***Management competencies*** | ***Human relations competencies*** |
| **Australia** | • Be the principal policy adviser<br>• Strategic thinker | • Master public and private management<br>• Adaptive leadership | • Personnel management<br>• Focus on results.<br>• Know how to manage contracts and networks.<br>• Adapted leadership /global vision<br>• Interpersonal relationships<br>• External relations |
| **Canada** | • Cognitive ability<br>• Creativity<br>• Ability to shape the future (vision) | • Taking action<br>• Organisational understanding<br>• Teamwork<br>• Management of partnerships | • Interpersonal relationships and communication skills<br>• Personal qualities: vitality, ethical values, personality (perseverance and self-control),<br>• Flexibility and self-confidence<br>• Personnel management |
| **France** | • Adaptability<br>• Strategic thinking<br>• Management of knowledge<br>• Management of networks<br>• Communication<br>• Innovation and continuous learning | • Evaluation of performance<br>• Leadership skills<br>• Adapted leadership<br>• Ability to manage projects | • Personnel and Human Resource Management |
| **UK** | • Learn and improve<br>• Have a personal impact (example) | • Emphasise the delivery of services | • Personnel management<br>• Get the best out of people |

| | | | |
|---|---|---|---|
| | • Think strategically | | |
| **USA** | • Strategic thinking<br>• Adaptability<br>• Management of knowledge | • Evaluation and performance of managers<br>• Leadership | • Personnel and Human Resource Management<br>• Management of networks and partnerships |

*Source:* United Nations Department of Economic and Social Affairs (UNDESA) (2007:48)

As inferred from Table 4.1 above, the following management training competencies or skills seem to be common in the sampled countries:

a. *Intellectual competencies:* Common aspects related to intellectual competencies almost in all countries listed on the table are: training in strategic thinking, or the ability to develop and implement effective strategies that are consistent with organisations' visions and missions. This includes the ability to consider a broad range of internal and external factors that may impact the organisation; anticipate potential threats or opportunities; and promote change based on a long-range strategic view of the future.
b. *Management competencies:* Almost all countries identified in Table 4.1 above include leadership and evaluation of managers as skills for management training. Another identified management competency is adaptive leadership, which is the ability to adapt in an environment and to negotiate with the relevant stake holders who play a role in the successes of the institution. Intellectual competencies include management of knowledge; therefore public managers are expected to possess a vast knowledge of the public sector environment.
c. *Human relations competencies:* The common competencies across almost all countries listed in the table include personnel management which is aligned with the current system of management performance that prescribes the division of personnel and awarding of jobs or tasks to be fulfilled. It includes encouraging personnel to achieve goals, objectives, visions and missions of the organisations. The human resource relations include interpersonal relationships; thus the public manager needs to develop a special relationship with the personnel.

To these competencies, Robinett (2009:3) adds the following specific competencies of public managers within an ICT frame:

a. *Managers need to be accountable in managing public institutions, including ICT resources:* The ability to accept all responsibilities of the job and assigned tasks imply that managers should be accountable for and responsible in their management processes. Components of this competency include holding self and others accountable for delivering quality service to the citizens and assuring effective control in maintaining organisational integrity.
b. *The managing process requires computer literacy*: This entails the ability to use the provided computer technology to enhance the quality of work and programs. This also means possessing sufficient knowledge and being comfortable with computer applications and telecommunications. It includes the ability to interact effectively with internal and external contacts and to stay informed about technological advances and its potential impact or value to work activities.

c. *Managing public institutions requires creative thinking*: This implies the ability to develop new insights into situations and apply innovative solutions that make improvements. Components of this competency include the ability to encourage innovations and creativity among others.
d. *Public managers should have knowledge of customer care and rendering of effective public services*: The managers should remain focused on understanding, anticipating and responding to internal and external needs of customers. This includes the ability to view customer satisfaction as the number one priority and to maintain sensitivity to the requirements of customers through personal involvement and a continuous drive for feedback.
e. *Managing public institutions requires skills in decisiveness*: Managers must make timely and effective decisions with available information or knowledge and within an environment of authority. The components of this competency include the ability to take calculated risks even in uncertain situations, perceive the impact and implications of decisions and assume responsibility for the results and decisions even if it deems unpopular.
f. *Public management should include flexibility*: They should be able to accept change and to cope with job pressures and stress. This includes the ability to adapt to behaviour and work methods in response to new information, changing conditions or unexpected obstacles. Managers should also be able to solicit information and views from others, and use the inputs to make changes and adjust to multiple demands and shifting priorities with minimal disruptions.
g. *Public managers should be able to influence the workers in achieving the goals of the institution*: This entails the ability to persuade others to buy into a course of action. It includes the ability to network with key individuals or groups to accomplish goals promote the organisation to others and to inspire others in creating enthusiasm and the desire to succeed.
h. *Management skills should include integrity*: Managers should be able to behave in a professional, fair and ethical manner toward others and thereby instil mutual trust and confidence. Components of this competency include the ability to follow through on commitments, act in a manner consistent with values, demonstrate a sense of responsibility and commitments to sound ethics, and encourage standards of behaviour.

Supic, Bjegovic, Marinkovic and Milicevic (2010:81) stress the fact that the education and training of management is one of the most important sources of competitive advantage in any organisation. Supic *et al.* (2010:81) regard formal management education and training as a learning experience that is designed to help employees acquire the knowledge and skills they needed to meet environmental challenges. Supic *et al.* (2010:81) believe that certified, formal management training programmes provide accreditation, but that other means for acquiring knowledge should also be explored. This includes action learning, mentoring, varied job assignments, on-the-job experience, and feedback-intensive programs. In this respect Gilson and Daire (2011:77) state that formal training provides people the space to stand back from their experience and gain formal knowledge that is relevance to aspects of leadership. Nevertheless, practical experience generates "the tacit knowledge that allows managers to make use of knowledge and related skills to develop leadership behaviours". They (Gilson and Daire) furthermore designed a competency framework for senior managers in South Africa. This framework is outlined in Table 4.2 below.

The following competencies are necessary for senior managers.

***Table 4.2:*** **Competency framework used in assessing senior management**

| Competency type | Definition |
|---|---|
| **Strategic capability and leadership** | Must be able to provide a vision, set the direction for the organisation and inspire others in order to deliver on the organisational mandate. |
| **Programme and project management** | Must be able to plan, manage, monitor and evaluate specific activities in order to deliver the desired outputs. |
| **Change management** | Must be able to initiate and support organisational transformation and change, in order to implement new initiatives successfully and deliver on service delivery commitments. |
| **Knowledge management** | Must be able to promote the generation and sharing of knowledge and learning in order to enhance the collective knowledge of the organisation. |
| **Service delivery innovation** | Must be able to explore and implement new ways of delivering services that help improve organisational processes in order to achieve organisational goals. |
| **Problem solving and analysis** | Must be able to identify, analyse and resolve systematically the existing and anticipated problems, in order to reach optimum solutions in a timely manner. |
| **People management and empowerment** | Must be able to manage and encourage people, optimise their outputs and manage relationships effectively with the aim to achieve organisational goals. |
| **Client orientation and customer Focus** | Must be willing and able to deliver services effectively and efficiently in order to put the spirit of customer service (i.e. *Batho Pele*) into practice. |

*Source:* Gilson and Daire (2014:78)

According to Gilson and Daire (2014:78), the competency framework outlined in Table 4.2 above, suggests that the South African Government needs to develop existing management training programmes. The programmes should cover topics such as strategic capability and leadership, change management, knowledge management, problem analysis and people management and empowerment, to name a few. In addition to Gilson and Daire, Fourie (2014:500) also highlights the elements associated with management training in a South African context by the following markets:

*a.* *Creative thinking and continuous improvement:* This refers to the manager's ability of innovative thinking and continuous development of logical thinking and improves ability to deal with matters related to the work situation.
*b.* *Service delivery and its application innovation:* The manager's ability to manage is also determined by an ability to resolve issues of service delivery programs through innovative ideas.

c. *Customer focus and orientation:* Managers are expected to know that the relevant role players working with public institutions should be perceived as the customers of these public institutions. Therefore, all services rendered to the public should be designed on a basis of a customer-client relationship.
d. *Diversity management:* Managers are expected to handle the diversified working environments which they encounter. This means they are expected to deal appropriately with various situations that arise within a work situation.

In building on Gilson and Daire, and Fourie above, the Department of Public Service and Administration (DPSA, 2001:1) proposes another dimension of management skills by highlighting the following competencies for senior managers within the South African Public Service:

a. *Management empowerment:* This entails the ability to manage and encourage people, optimise their outputs and manage relationships effectively in order to achieve organisational goals.
b. *Problem solving and analysis:* Managers should be able to identify, analyse and resolve existing and anticipated problems systematically, in order to reach timely, optimum solutions.
c. *Financial management:* This entails the ability to compile and manage budgets, control cash flow, institute risk management and administer tender-procurement processes in accordance with generally recognised financial practices, to help ensure the that strategic organisational objectives are achieved.
d. *Service delivery innovation:* Managers need the ability to explore new ways of delivering services that help improve organisational processes and thereby achieve organisational goals.
e. *Strategic capability and leadership:* Managers should provide vision, set the direction for the organisation and inspire others in order to deliver on the organisation's mandate.
f. *Honesty and integrity:* This implies the ability to display and build the highest standards of ethical and moral conduct, by which to promote confidence and trust in the public service.
g. *Communication:* the ability to exchange information and ideas in a clear and concise manner appropriate for the audience, as a strategy to convince others to achieve the desired outcomes.
h. *Programme and project management:* Managers should be able to plan, manage, monitor and evaluate specific activities in order to deliver the desired outputs.
i. *Client orientation and customer focus:* This implies the willingness and the ability to deliver services effectively and efficiently by underscoring the spirit of customer service.

According to the DPSA (2001:2), the above-mentioned competencies within the Senior Management System Competency Framework are not psychometric or a psychological test, which means these markers do not measure psychological constructs. Instead the DPSA (2001:2) points out that the "use of the assessment battery minimises the chances of bias because work-related exercises and role plays are used". These competencies are complemented by the competency framework of the former Public Administration Leadership and Management Academy (PALAMA, currently known as the National School of Government) as discussed below.

PALAMA (2014:2) designed the Executive Development Programme (EDP), which is a 10-module programme aligned to the competency framework of the Senior Management Services (SMS). According to PALAMA (2014:2), the EDP aims to equip senior public managers (Directors and Chief Directors) with the knowledge and skills to perform effectively in their day-to-day operations. PALAMA (2014:2) asserts that the target audience comprises:

*a. Public sector Senior Management Service (SMS) members on salary levels 13 and 14;*
*b. Public sector Middle Management Services (MMS) members that participated in the Accelerated Development Programme (ADP).*

According to PALAMA (2014:2), the EDP is presented over a minimum period of 12 months through one module consisting of three days' contact sessions each, during a cycle of five weeks. Furthermore, PALAMA (2014:2) explains that the three-day compulsory orientation session is held before the presentation of the first module. Learners are supported by an e-learning platform for the duration of the programme. The five weeks between modules enable learners to complete and submit formative (pre-course) and summative (post-course) assignments. Schedules are customised according to clients' preferences (PALAMA, 2014:2):

a. *Learner application for admission*. Since the primary purpose of EDP is to improve performance, applicants can structure their learning as follows:
    i. *Professional skills enhancement:* Select certain modules from the programme with the main aim of enhancing their existing professional skills.
    ii. *Postgraduate Certificate in Executive Development:* Complete the six core modules of the EDP to acquire a professional qualification in the form of a postgraduate certificate.
    iii. *Acquire credits towards a Masters:* Provided learners meet the entrance requirements of the University, they can acquire credits towards a Masters qualification by attending all 10 modules of the EDP. In this case learners would be required to submit and pass a mini-dissertation as required by the accrediting institution.

b. Once registered for the EDP, learners will be informed and will have to attend a three-day orientation workshop that provide training on the use of the e-learning platform, as well as an orientation to PALAMA, the Consortium and assessment. The e-learning platform will support learners by providing the following forms of assistance (PALAMA, 2014:2):

    *i. on-line facilitators;*
    *ii. course material and additional reading;*
    *iii. formative and summative assignments and assessment templates;*
    *iv. discussion forums;*
    *v. e-submission of assignments; and*
    *vi. electronic results and feedback on assignment*

The six core modules accredited on NQF Level 7 for public managers are (PALAMA, 2014:2):

*a. Strategic Human Resource Management (20 Credits);*
*b. Financial Management and Budgeting (20 Credits);*

c. *Strategic Planning and Management (20 Credits);*
d. *Policy Formulation and Implementation (20 Credits);*
e. *Leadership for Good Governance (20 Credits);*
f. *Project and Programme Management (19 Credits).*

The National School of Government (NSoG, 2014:1) that replaced PALAMA, was the result from the decision to "professionalise the public service as a means to realise the national development objectives of the country and thereby support sustainable growth, development and service delivery" (NSoG, 2014:1). According to the NSoG (2014:1), the purpose of the School is to build an effective and professional public service by providing relevant, mandatory training programmes such as:

a. *public systems and operations;*
b. *Public administration governance, leadership and management;*
c. *context-based public service training and development;*
d. *building a culture of public service;*
e. *targeting and customising in-service professional training and development – especially for middle and senior management levels;*
f. *research and benchmarking to give training and development a world class outlook; and*
g. *compulsory induction of new recruits at all levels*

The NSoG (2014:1) also indicates that the following strides have been taken to implement the above-listed programmes in the South African School of Government:

a. *visit to the Executive Leadership Academy (CELAP) in China to learn from their training and development model;*
b. *extensive primary and secondary research;*
c. *determining the total capacity of government – infrastructure, staffing, budgets and coverage;*
d. *developing a high-level strategy and implementation plan;*
e. *costing model to facilitate decision making on scope and scale; and*
f. *extensive consultation with stakeholders*

The South African Draft Capacity Development Strategy for Public Financial Management (DCDSPFM) (2012:74) works from the premise that the ICT knowledge and information systems create opportunities to disseminate knowledge and share information across government institutions in South Africa. Furthermore, Wood, Zeffane, Fromholtz, Wiesner and Creed (2010:4) stress that the South African ICT knowledge and information management as described by the DCDSPFM above focuses on improving organisations' abilities to capture, share and diffuse knowledge and information that will enhance performance as public institutions.

The South African Department of Science and Technology also highlights some innovative initiatives in the development of ICTs in South Africa. The Department of Science and Technology (DST) (2009:1) indicates that it seeks to realise the full potential of science and technology (S&T) in social and economic development through the development of human resources (HR), research and innovation. Furthermore, the DST (2009:1) asserts that it is primarily focusing on "implementing the National Research and Development Strategy (NRDS), which provides for an integrated approach to HR development, knowledge

generation, investment in infrastructure and improving the strategic management of the public S&T system". The DST (2009:1) indicates that funds are set aside for ICT developments and there is an expectation that expenditures will continue to increase rapidly, to R4.1 billion in 2009/10, representing an average annual increase of 20%. The DST (2009:1) points out that most of the expenditure consist of transfers to public entities for initiatives of science and technology in South Africa.

The facts above are supported by the South African Year Book (2012/2013), which asserts that currently, there are interventions regarding skills programmes. These programmes entail: functional literacy, basic administrative skills, ICT training to bridge the "digital divide" and training of front-line staff for improved service delivery. The SAYB (2012/2013:1) indicates that the Senior Executive Programme is also presented in South Africa in partnership with the universities of Wits and Harvard.

According to the South African Year Book (SAYB) (2013:1), the South African ICT sector is well-established and sophisticated. The SAYB (2013:1) also asserts that the South African ICT is the largest and most advanced in Africa. Therefore the local ICT industry is characterised by technology leadership, particularly in the field of mobile software and electronic banking services. The SAYB (2013:1) points out that the South African companies are world leaders in pre-payment, revenue management and fraud prevention systems and in the manufacture of set-top boxes. All of these are exported successfully to the rest of the world by using ICTs. Furthermore, the South African Book (2013:1) also announces that the South African ICTs are a buoyant sector, with ICT spending in 2010 reaching $10, 6-billion, according to the South African Electro-technical Export Council (SAEEC). Currently, together with telecommunications, the South African Government generates an estimated $29-billion in revenues, R10.3-billion of which comes from ICT (South African Book, 2013:1).

According to the South African Department of Information and Technology (SADIT) (2014:2) the Tshumisano ("Working together") Technology Station Programme was established to advance the process of technology transfer and skills development to further equitable economic development. The SADIT (2014:2) emphasises that the private sector has a vital role in supporting Small, Medium, and Micro Enterprises (SMMEs) to become "engines of growth". Furthermore, the Tshumisano Trust is collaborating with universities in particular to promote ICT development within the country. The SADIT (2014:2) lists the following partnering universities:

a. *Tshwane University of Technology;*
b. *Central University of Technology;*
c. *Durban University of Technology;*
d. *Vaal University of Technology;*
e. *Mangosuthu University of Technology;*
f. *Nelson Mandela Metropolitan University;*
g. *Nelson Mandela Metropolitan University;*
h. *Cape Peninsula University of Technology;*
i. *University of Johannesburg;*
j. *Cape Peninsula University of Technology; and*
k. *University of Limpopo.*

In relation to the above listed institutions which offer ICT qualifications, the South African Qualification Authority (SAQA) (2012:16) provides some ICT unit standards with National Qualification levels and credits for public managers (table 4.3):

***Table 4.3*** **The South African Qualification ICT Unit Standards**

| Type | US ID | Unit standard title | NQF level | Credits |
|---|---|---|---|---|
| Core | 115431 | Analyse feedback contexts and apply constructive feedback techniques. | Level 5 | **3** |
| Core | 114051 | Conduct a technical practitioners meeting. | Level 5 | **4** |
| Core | 386055 | Conduct software inspections and reviews. | Level 5 | **5** |
| Core | 114049 | Demonstrate an understanding of computer management systems. | Level 5 | **7** |
| Core | 386053 | Evaluate requirements and requirement-based test design. | Level 5 | **7** |
| Core | 386054 | Manage the software testing process. | Level 5 | **7** |
| Core | 386056 | Plan and design software testing activities. | Level 5 | **8** |
| Core | 115384 | Test a computer program against a given specification. | Level 5 | **6** |
| Core | 13099 | Contribute to the implementation, post-implementation review and maintenance of information systems. | Level 6 | **16** |
| Core | 114044 | Demonstrate an understanding of change management for computer systems. | Level 6 | **3** |
| Core | 259277 | Perform analysis of requirements. | Level 6 | **25** |
| Fundamental | 258836 | Analyse and apply different ICT systems development and lifecycle (SDLC) models for a given scenario. | Level 5 | **8** |
| Fundamental | 115392 | Apply principles of creating computer software by developing a | Level 5 | **12** |

| | | | | |
|---|---|---|---|---|
| | | complete programme to meet given business specifications. | | |
| Fundamental | 115790 | Write and present for a wide range of purposes, audiences and contexts. | Level 5 | **5** |
| Elective | 252026 | Apply a systems approach to decision- making. | Level 5 | **6** |
| Elective | 115358 | Apply information-gathering techniques for the development of computer systems, | Level 5 | **7** |
| Elective | 115402 | Assist in researching the problem and the solution within a consulting context. | Level 5 | **6** |
| Elective | 114059 | Demonstrate an understanding of estimating a unit of work and the implications of late delivery. | Level 5 | **5** |
| Elective | 115385 | Demonstrate an understanding of the principles of implementing and managing an e-commerce website. | Level 5 | **12** |
| Elective | 115380 | Demonstrate an understanding of the various types of e-commerce applications. | Level 5 | **8** |
| Elective | 243816 | Develop a project- quality management plan for a simple to moderately complex project. | Level 5 | **6** |
| Elective | 243824 | Develop an integrated project management plan for a simple to moderately complex project. | Level 5 | **8** |
| Elective | 119086 | Develop an understanding of systems-security methods | Level 5 | **8** |
| Elective | 117926 | Identify and explain ICT risks and recommend security solutions. | Level 5 | **5** |
| Elective | 258838 | Investigate implementation options for Information Technology (IT) solutions. | Level 5 | **6** |

| | | | | |
|---|---|---|---|---|
| Elective | 243812 | Monitor and control the execution of the project management plan for a simple to moderately complex project. | Level 5 | **12** |
| Elective | 115397 | Understand and apply the concept of the consulting service as a product. | Level 5 | **5** |
| Elective | 115378 | Demonstrate an understanding of advanced object-oriented programming. | Level 6 | **14** |

*Source:* South African Qualification Authority (2012:16)

Table 4.3 provides the list of core skills, fundamental skills and elective skills. The core skills are necessary skills for managers in ICT management. The fundamental skills are perceived as the basis for ICT management, while the elective skills depend on the managers' choice for personal enrichment. The types of skills are expounded below:

**Core skills:** *Analysing feedback contexts and apply constructive feedback techniques*; *conducting a technical practitioners' meeting*; *demonstrating an understanding of computer database management system*; e*valuating requirements and requirement-based test designs*; *managing the software testing process; and planning and designing software-testing activities.*

**Fundamental skills:** *Analysing and applying different ICT systems models for a given scenario; applying principles of creating computer software by developing a complete programme to meet given business specifications*; *writing and presenting for a wide range of purposes, audiences and contexts.*

**Elective skills:** D*eveloping an understanding of systems-security methods (authorisations) in an enterprise/resource-planning system; identifying and explaining ICT risks and recommend security solutions; identifying and explaining ICT risks and recommend security solutions; and investigating implementation options for Information Technology (IT) solutions.*

According to Aramayo-Careaga (2009:3), the vision for achieving e-governance in South Africa is to render services around "life episodes" of citizens that follow a series of events, from "cradle to grave". For Aramayo-Careaga (2009:3) these services should be accessible to all citizens "anytime, anywhere and through different access devices and media". Furthermore, all stakeholders – governmental and nongovernmental – were invited to participate in defining the vision. Continuous buy-in and participation from critical role-players is recognised as a key priority (Aramayo-Careaga, 2009:3).

The discussion above was based on the core elements of managerial competencies. What follows is a discussion about the core elements of e-governance skills. The elements outlined below, are related to the management competencies examined above.

### 4.2.2 The core elements of e-governance skills

The core elements of e-governance skills are related to management competencies in that managers are expected to be knowledgeable in managing ICT resources, and should be able to achieve the organisational objectives through ICT. The following discussion highlights the core elements associated with e-governance skills as perceived by various authors.

Reffat (2006:6) identifies five required skills for developing a successful e-governance. These include the following skill elements: analytical, information management, technical, communication and presentation and project management:

a. *Analytical:* Analysis and interpretation skills are necessary at every stage of an e-governance project. The skills start off by defining the problem, the process by which an organisation describes current symptoms and uncovers the processes, policies and practices that are contributing factors. At this stage, the following skills are needed: process analysis, system audits, stakeholder analysis, customer satisfaction surveys, performance reviews, statistical trending, and similar activities. In later stages, other skills become more important such as analysis of user needs, business process alternatives, work flow, and information flow.
b. *Information management:* According to this core element the skills should include treating information as a valuable organisational resource. Skilled staff knows that the content, quality, format, storage, transmission, accessibility, usability, security and preservation contribute to the information's value.
c. *Technical:* Depending on the type of e-governance challenge that an organisation faces, higher order technical skills will probably be required to implement the chosen solution. These skills are prerequisites to understanding and using e-governance efficiently and effectively in communication and government applications. *Communication and presentation:* There is a need throughout a project to communicate its goals, progress, issues and results. Presentations about a project are an on-going requirement. Meetings might be required with legislative or executive leaders to obtain initial and continuing funding and support. Meetings with stakeholders can explain how they will be affected and encourage their buy-in and participation. Newsletters, e-mail lists, and formal reports are various ways and methods to communicate information about a project. Presentation skills extend to more than preparing and delivering a talk, with or without visual resources.
d. *Project management:* Skills for this core element include the following: ability to plan, organise, estimate and allocate resources. It also requires skills to negotiate, track progress, measure results, troubleshoot, and most importantly, to communicate. Project management includes handling scope, time, cost, quality and risk. Irrespective of the project size, these skills are required to guide the tasks to a successful outcome of e-governance.

Themistocleous, Serrano-Rico and Kamal (2008:4) complement Reffat (2006:6) above by outlining basic skills required for e-governance management:

a. *ICT (Microsoft applications):* This implies the ability to apply Microsoft skills that incorporate all Microsoft elements.
b. *Customer care:* The knowledge of applying the Microsoft skills in serving citizens and all stakeholders is inevitable for effective management in e-governance.

c. *Communication:* Management skills in e-governance also require managers to display an ability to communicate through ICT resources.
d. *Staff development:* The processes such as appraisals, training and development require knowledge of ICT resources.
e. *Legislative:* Managers require knowledge about legislations that govern ICT resources, in order to manage in e-governance effectively and efficiently.

For Chen and Hsieh (2009:2) e-governance management requires knowledge about the following aspects: institutions and policies, e-governance performance, organisational forces and technology. Chen and Hsieh (2009:2) outline these competencies diagrammatically as depicted in Figure 4.1 below

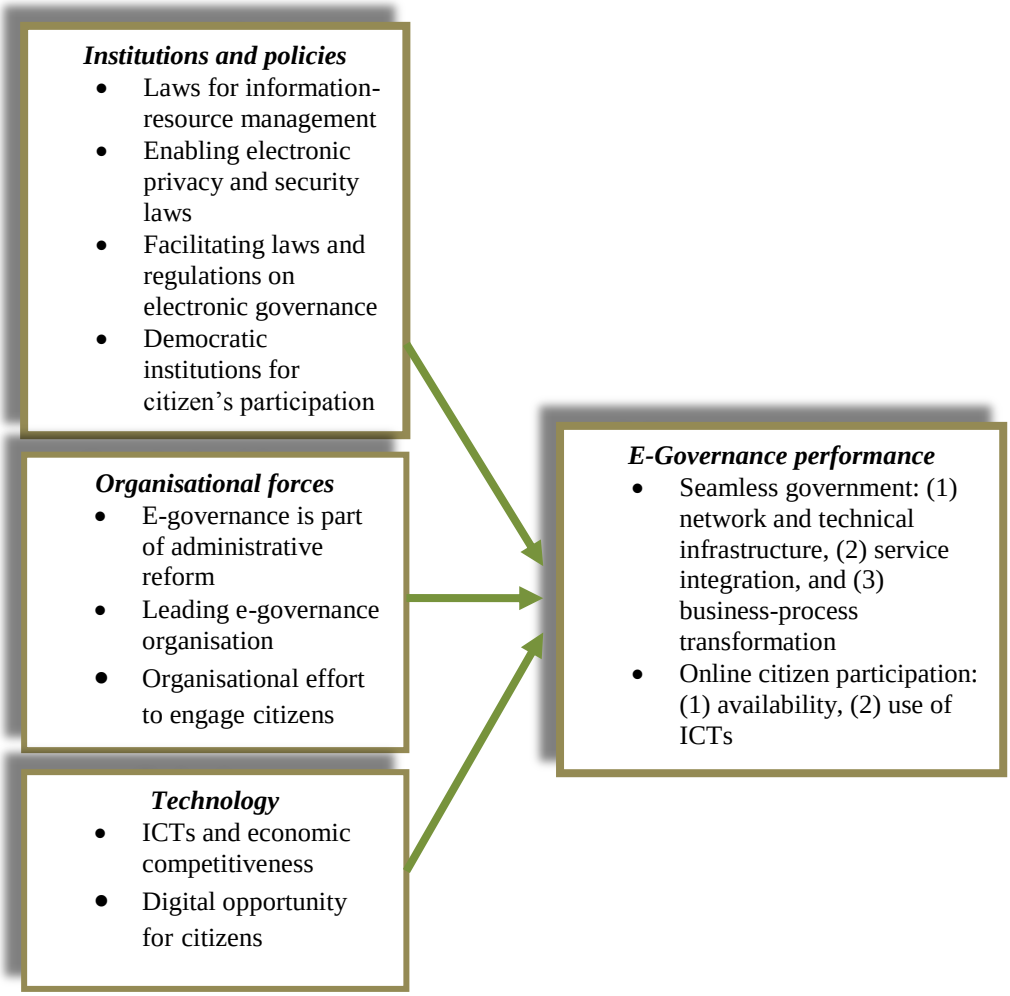



***Figure 4.1:*** **Chen and Hsieh's e-governance "competency-framework" for public managers**
*Source:* Chen and Hsieh (2009:2)

According to Chen and Hsieh (2009:2), *Institutions and policies* include laws that regulate the following competencies: information resources, enabling electronic privacy and security laws, as well as facilitating laws and regulations on electronic governance and democratic institutions for citizen's participation. The *organisational forces* include e-governance as part of administrative reform, leading e-governance organisations and organisational effort to

engage citizens. *Technology* in this case refers to ICTs and economic competitiveness and the digital opportunity created for citizens.

The above-mentioned elements point to an e-governance performance that incorporates the "seamless government". This entity includes the following elements: network and technical infrastructure, integration of services and transformation of business processes, as well as on-line citizen participation through the availability and the use of ICTs. Chen, Yan and Mingis (2011:3) complement Chen and Hsieh (2009:2) by highlighting the following skills necessary for ICT training of public managers:

a. *Software skills:* This entails government officials' ability to use the necessary ICT, such as the use of office software, information systems, and the web and Internet.
b. *ICT conscious:* This refers to managers' awareness of the roles ICT plays in government agencies.
c. *ICT organisational structure:* Managers are expected to be able to stage the appropriate organisational structure for the best use of ICT and related innovations.
d. *ICT administrative processes:* Other than staging an ICT organisational structure, managers must also provide the effective public service and ICT administration processes.
e. *Corresponding e-governance agencies:* Public-service managers should be able to identify the corresponding agencies/units that are facilitating e-governance applications and management through which the objectives of organisations can be fulfilled.
f. *ICT evaluation procedures:* Public managers should be able to identify processes and criteria for evaluating and selecting the technologies and service providers for the public organisations.

Rosenbaum and Gajdošová (2003:9) build on these competencies by proposing three general classes of e-governance skills that are required for management:

a. *Technical skills:* This category includes the following skills: collaborative capabilities, performance measurement, program development and design, ICT, presentation and language skills.
b. *Managerial skills:* This category entails: understanding individual and organisational psychology, assist staff in their personal and professional development, negotiate effectively with external actors, skills in information processing and analytic capabilities.
c. *Leadership skills:* This category includes the following abilities: adapt rapidly to change and cope with complexities, entrepreneurialism, strategic planning, risk-taking, and democratic commitment.

De Jager and Reijswoud (2013:3) identify five types of knowledge and skills necessary for successful ICT implementation and a sustainable e-governance for public managers. For the purpose of this discussion, the following skills will be categorised according to Rosenbaum and Gajdošová' s framework of technical, managerial and leadership skills as discussed above:

a. *Technical skills:* De Jager and Reijswoud (2013:3) identify the professional, technical knowledge aligned with the technical skills. Public managers require such professional, technical knowledge to implement and maintain the technical infrastructure. Computer literacy at governmental level is also classified as technical

skill. The reason is that such a basic knowledge about operating the computers and their applications, and understanding of the role ICT, help to improve work processes.

b. *Managerial skills:* De Jager and Reijswoud (2013:3) identify ICT change-management skills, which fall under the category of managerial skills.
c. *Leadership skills:* De Jager and Reijswoud (2013:3) classify professional government managers' knowledge under leadership skills. This is because professional government managers' skills-knowledge helps them to guide and check the quality of government suppliers that implement and maintain the technical infrastructure (tendering, quality control, service level agreements)

According to the Public Service and Administration Portfolio Committee Report (2000:2), the Information Technology and Information Management course for managers is an essential programme formerly run by the former South African Management Development Institute (SAMDI) in provinces, and currently presented by the National School of Government (NSoG). The Report (2001:2) stresses how the impact of technology in the workplace significantly influences the public service's productivity and efficiency. Furthermore, the Report (2001:2) indicates that the key to understanding this impact lies in managers' understanding of the technological work place. The Information Technology & Information Management courses, therefore, place more emphasis on hands-on training techniques (SAMDI Report, 2001:2). This training in Information Technology & Information Management aims at exposing managers to best methods and practices on information assessment, analysis and the selection of appropriate technologies. The programme's aim is to create awareness of the importance of IT/IM in the public service, and to familiarise managers with the application of IT in the workplace (SAMDI Report, 2001:2).

The discussion above outlined the core elements of e-governance and those associated with management of ICT/e-governance. The perceptions of various authors and theorists were investigated regarding elements associated with management competencies and with e-governance. Table 4.4 below defines the contrast and comparison between training principles and elements of e-governance skills and competencies as outlined by various theorists and proponents.

***Table 4.4:*** **A comparison between training principles and elements of e-governance skills and competencies**

| **Training principles** | | |
|---|---|---|
| ***Author(s)*** | ***Principles*** | ***Commonalities*** |
| **Chapman (2010:2)** | *i. Assess and agree on training needs.*<br>*ii. Create training or develop training specification.*<br>*iii. Consider learning styles and personality.*<br>*iv. Plan training and evaluation.*<br>v. *Design materials, methods and deliver training.* | |

| | | |
|---|---|---|
| | | i. *Assessment of training needs*<br>ii. *Development of training goals*<br>iii. *Development of training objectives* |
| **Mc Namara (2014:3)** | i. *Develop a training goal*<br><br>*Overall results or capabilities to be attained by implementing training plan, e.g. pass supervisor qualification test.*<br><br>ii. *Develop learning objectives*<br><br>*What will be achieved as a result of the learning activities in this plan, e.g.:*<br>*1. Exhibit required skills in problem-solving and decision -making*<br>*2. Exhibit required skills in the delegation of tasks.*<br><br>iii. *Develop training methods / activity*<br><br>*What will be done in order to achieve the learning objectives, e.g.:*<br>*1. Complete a course in basic supervision.*<br>*2. Address a major problem that includes making crucial decisions.*<br>*3. Delegate to a certain employee for one month.*<br>*etc.*<br><br>iv. *Develop documentation / evidence of learning*<br><br>*Evidence produced during learning activities – results that someone can see, hear, feel, read, and smell, e.g.:*<br>*1. Course grades or levels achieved*<br>*2. Written evaluation of* | |

| | | |
|---|---|---|
| | *problem- solving and decision-making approaches, etc.* | |
| **E-governance skills and competencies** | | |
| ***Author(s)*** | ***E-governance/ICT skills/competency*** | ***Commonalities*** |
| **Rosenbaum and Gajdošová (2003:9)** | *i. Technical skills*<br><br>*Include ICT, presentation and language skills.*<br><br>*ii. Managerial skills*<br><br>*Include understanding of individual and organisational psychology.*<br><br>*iii. Leadership skills*<br><br>*Include the ability to adapt rapidly to change and cope with complexities,* | i. Technical skills<br>ii. Leadership skills<br>iii. Managerial skills |
| **De Jager and Reijswoud (2013:3)** | *i. professional technical knowledge*<br>*ii. Professional government business*<br>*iii. Computer literacy at the government level* | |

| | | |
|---|---|---|
| **California ICT Digital Literacy Assessments and Curriculum Framework (2014:3)** | *i. Search, find, and retrieve information in digital environments.*<br>*ii. Conduct a rudimentary and preliminary organisation of accessed information for retrieval and future application.*<br>*iii. Interpret and represent information by using ICT tools to synthesise, summarise, compare, and contrast information from multiple sources.*<br>*iv. Judge the currency, appropriateness, and adequacy of information and information sources for a specific purpose (including determining authority, bias, and timelines of materials).*<br>*v. Adapt, apply, design, or invent information in ICT environments (to describe an event, express an opinion, or support a basic argument, viewpoint or position).*<br>*vi. Communicate, adapt, and present information properly in its context (audience, media) in ICT environments and for a peer audience.* | |
| **Lancaster (2014:3)** | *i. Understand basic computer hardware components and terminology.*<br>*ii. Understand the concepts and basic functions of a common computer operating system.* | |

| | | |
|---|---|---|
| | *iii. Start up, log on, and shut down a computer system properly.*<br>*iv. Use a pointing device (mouse) and keyboard.* | |

The section above outlined the core elements of managerial competencies and management skills for e-governance. The discussions also focused on a contrast and comparison between training principles and elements of e-governance skills and competencies outlined through a table. This included contrasting views and perceptions on training principles and e-governance skills and competencies explicated in tables. The following discussion focuses on the development of the South African policy guidelines on ICTs to promote e-governance.

### 4.2.3 South African policy guidelines on ICTs

Although Chapter 2 conducted some discussions on the statutory and regulatory framework governing public management training in South Africa, it is necessary to examine the rationale behind the formulation of South Africa's ICT policy with a bearing on e-governance. The discussion indicates the commitment of the South African government in e-governance and ICT implementation for service delivery processes.

Naidoo (2012:2) alludes to the fact that in 2001, in line with its Constitutional mandate, the Department of Public Service and Administration (DPSA) developed an e-governance policy as part of its overall programme to help improve service delivery. According to Naidoo (2012:2), pressing demands in the South African public service make the development ICT a lower priority in terms of the budget. There seems to be a huge gap between the scenario of ICT development and the reality in South African public service, and it needs financial priority. However, the South African government finds it difficult to recruit and retain competent ICT professionals. Naidoo (2012:2) asserts that the e-governance endeavours require some in-house champions to undertake planning and to oversee training and developments. The need for change in ICT policies and strategies was initiated by the former Minister of the Department of Communications (DOC) Ms Dinah Pule. According to Pule (2010:1), the DOC "embraced the outcomes approach to state enterprise management and also aligned programmes with those of the State-Owned Enterprises (SOEs) to ensure that they are giving practical effect into the Ministerial Delivery Agreement".

Van Zweel and Gill (2014:1) give an account of the introduction of the new ICT policy in South Africa in 2014, which underscores the fact that, since the new dispensation (1994), the South African telecommunications and postal services sector has been guided and regulated by separate and divergent policies and frameworks. On 24 January 2014, the former Minister of Telecommunications and Postal Services, Minister Carrim, published the National Integrated ICT Green Paper in an attempt to revamp South Africa's current out-dated and misaligned ICT Policies. Van Zweel and Gill (2014:1) point out that the publishing of the National Integrated ICT Green Paper was also aimed at taking into account the rapid changes in the ICT sector. The Green Paper covers among other matters, telecommunications, broadcasting, postal services, e-services and cyber-security. According to Van Zweel and Gill (2014:1) the aim of the Green Paper was to set the process in motion of changing and

developing the ICT sector. National and provincial public hearings on the Green Paper were held in March 2014.

Duncan (2014:1) supports Van Zweel and Gill (2014:1), by indicating that the South African Department of Communications is reviewing all policies impacting on ICT, and Parliament intends to review the laws as well. Duncan (2014:1) also point out that the review includes both broadcasting and telecommunications. Duncan (2014:1) explains that the Green Paper follows on from a Framing Paper, "which canvassed public opinion on the underlying principles that should underpin the ICT sector". According to the former Minister of Communications, Mr Carrim (2014:1), the formulation of the ICT Green Paper was established on the basis of two main convergences:

a. *Technological convergence:* This entails technological systems' tendency to develop in a manner that allows them to perform the same tasks. Previously separate technologies such as telephony, data and video, can thus be saved, transmitted and received using the same devises. Technological convergence is of particular interest to policymakers and regulators as it changes the nature of services. This enables an operator who was licensed under one category, to perform tasks that would have required different category licences in the past.
b. *Platforms:* This refers to i) applications and services, including, firstly, the shift to Internet Protocol (IP)-based technologies, which have affected the cost of networks and offer opportunities for innovation; ii) the deployment of fibre-optic technologies that have increased the speed and size of data that can be transmitted; iii) the use of wireless technologies.

In the process of developing the ICT policy and strategy in South Africa, the 1st-Africa Initiative (2014:1) declares the purpose of the South African ICT Research and Development (R&D) strategy as to create an enabling system by which to advance ICT Research and Development and innovation, within the context of the broader national strategy. The 1st Africa Initiative (2014:1) outlines the following 2015 ICT vision which also forms part of the ICT policy:

> *South Africa is an inclusive information society where ICT-based innovation flourishes. Entrepreneurs from historically disadvantaged population groups, rural communities and the knowledge-intensive industry benefit and contribute to the well-being and quality of life of our citizens. South Africa has a strong national ICT brand that captures the vibrancy of an industry and research community striving for excellence, characterised by innovative approaches to local and global challenges, and recognised for its contribution to the economic growth and well-being of our people and region* (1st-Africa Initiative, 2014:1).

Furthermore, the 1st-Africa Initiative (2014:1) asserts that in line with this vision the key ICT Research and Development strategic objectives are:

*a. Develop focused and strengthened ICT research activities to achieve world-class research competencies in identified key S&T areas.*
*b. Build a strong and robust ICT innovation environment, with an indigenous ICT sector that is competitive and growing.*
*c. Build advanced human capital (ICT skills base) for research and industry, as well as the proliferation of ICT in other sectors of the economy.*

According to Naidoo (2012:2), in preparation for a more convenient, efficient, effective and integrated service-delivery system from government, the DPSA had commissioned a scooping study in the South African Public Service. The objective of the scooping was to describe the optimal process by which government can deliver services to citizens, according to critical life-cycle events, rather than as defined by government structures and systems.

### 4.2.4 Some Southern African e-governance models and initiatives

Although e-governance models were generally discussed in Chapter 3, the following models and e-governance applications have a greater relevance to the South African e-governance practice. The authors of the models discussed below were focusing on models to develop skills and competencies required for e-governance practices and applications within the Sub-Saharan and Southern African region, which includes South Africa. Furthermore, the Southern African adapted e-governance models discussed below may shed some light on the formulation of an e-governance training model for South African provinces, particularly in the Free State Province – the *locus* of this study.

South Africa is not new to the implementations and applications of e-governance. Hence, there are current models either suggested or implemented in some areas of the country as e-governance initiatives. This entails proposed models for implementing e-governance in Southern Africa, which include South Africa as mentioned above. The United Nations Development Program (UNDP, 2014:7) presents the web Presence Measurement Model for Southern African countries, which provides an efficient web-based public service implementation according to six stages such as emerging, enhanced, interactive, transactional, and seamless web presence:

a. *The emerging web presence:* This stage has a dormant website for posting information on different activities.
b. *The enhanced web presence:* This stage creates and links together websites, providing citizens access to information across ministries.
c. *The websites:* This stage provides dynamic, specialised, and regularly updated, information.
d. *The transactional stage:* At this stage buying and selling of products takes place online.
e. *The seamless web-presence stage:* At this stage governments utilise single and universal websites to provide a one-stop portal in which users immediately and conveniently can access all types of available services.

Colesca (2009:8) identifies five different steps to an ideal e-governance model for African states, including South Africa. This model include; developing a vision; conducting an e-readiness assessment; identifying realistic goals; getting the bureaucracy to buy-in and developing a change management strategy; and building public-private partnerships. The five steps are depicted in Figure 4.2 below:

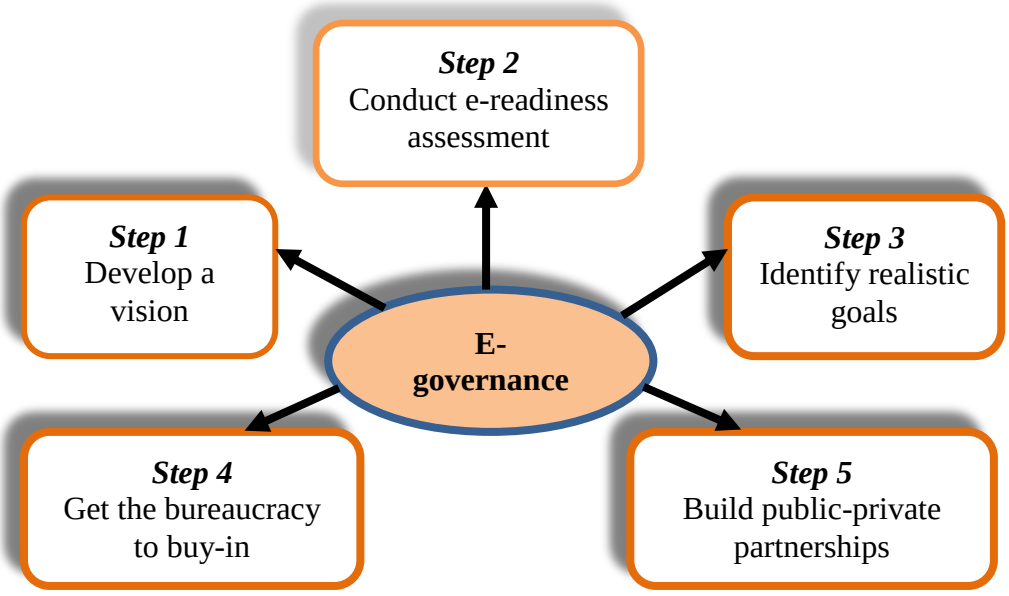



***Figure 4.2:*** **Colesca's Ideal e-Governance model for African countries**
*Source*: Colesca (2009:8)

According to Colesca (2009:8) an ideal e-governance model for African countries as illustrated in Figure 4.2 above is outlined as follows:

*Step 1:* *Developing a vision:* A vision for the use of e-governance and ICTs should be developed before any step can be taken. This places constraints on realising the goal, which is inception of e-governance.
*Step 2:* *Conduct e-readiness:* This means conducting a feasible study on the value of e-governance implementations.
*Step 3:* *Identify realistic goals:* Realistic, attainable goals on the implementation of e-governance should be formulated.
*Step 4:* *Get the bureaucracy to buy in:* The participation and support of political and administrative leadership is inevitable for the successful implementation of e-governance.
*Step 5:* *Build public-private partnerships:* The relationship between the private and public sectors is a prerequisite to successful implementations and applications of e-governance.

Bwalya (2010:8) stresses that drawing up a strategy makes it necessary to erect a conceptual and/or theoretical model as basis on which to plan the constructing of the model. Bwalya (2010:8) outlines a theoretical e-governance model for the Southern African Development Community (SADC). According to Bwalya (2009:8), the simplistic model (depicted below) may be critical for drawing a conceptual model to be used nations in with constrained resources, where the psychological state of individuals in public sectors are geared towards adopting technological resources. Bwalya (2010:8) point out that in the case of SADC, the contextual environment is somewhat similar in most of the countries that belong to this regional grouping which includes South Africa. Bwalya' conceptual model is depicted in Figure 4.3 below.

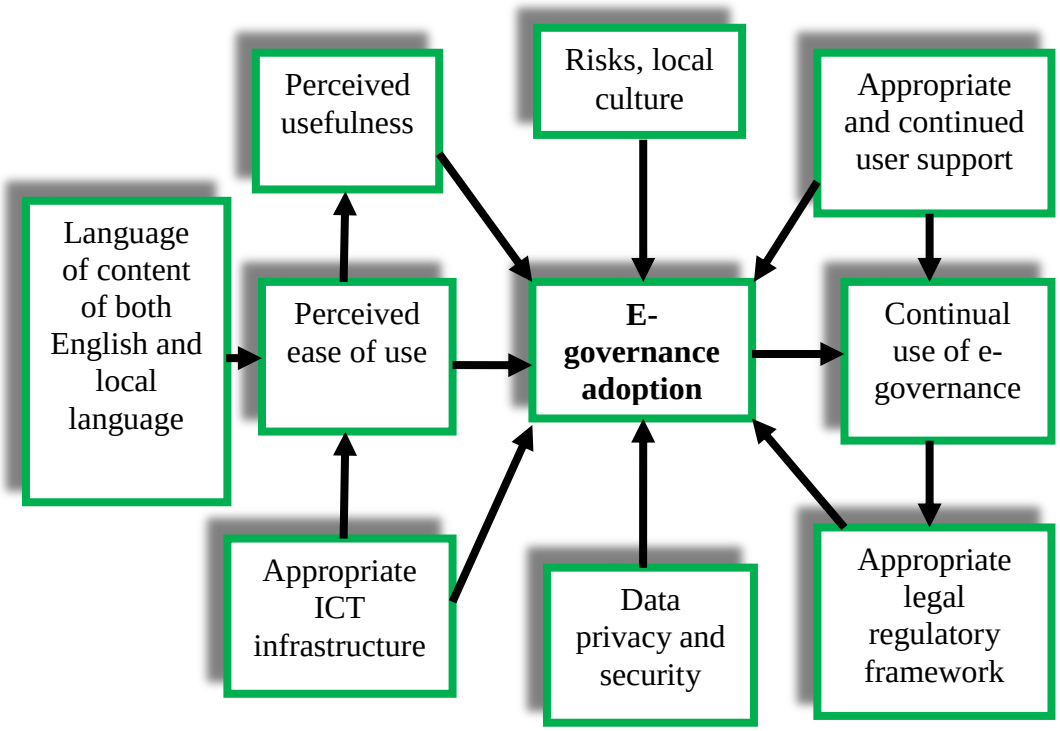
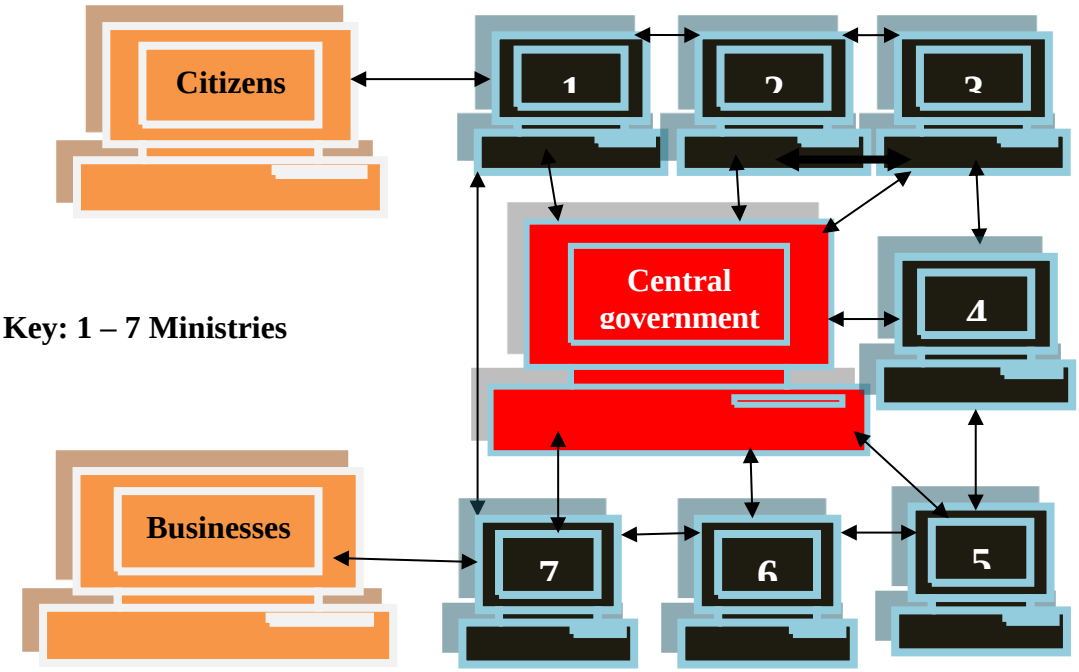



***Figure 4.3:*** **Bwalya's proposed e-Governance conceptual model for the SADC region**
*Source:* Bwalya (2008:30)

Bwalya (2008:30) outlines the operations of the proposed e-governance conceptual model (laid out in Fig. 4.3 above) as follows:

a. *Perceived ease of use:* The ease of utilising e-governance websites will positively influence the perceived usefulness of such websites and applications.
b. *Perceived usefulness of e-governance:* This perceived usefulness will positively influence citizens' adoption of the said websites and applications.
c. *Appropriate ICT infrastructure:* The appropriate infrastructure and lower costs to access the basic technologies will impact positively on usability, and correspondingly on perceived ease of use.
d. *Language of content:* This content (presented both in English and the local language) has a significant positive impact making the use of e-governance websites and other e-applications less complex and, therefore, impacts positively on Perceived ease of use.
e. *Perceived risks:* When perceived risks and local cultures are not controlled, it may impact negatively on the adoption of e-governance websites and applications.
f. *Appropriate legal authority:* ICTs and e-governance implementations require legal constraints to eliminate forms of corruption and problems related to privacy and security risks.

Onyacha (2010:4) provides a model for e-governance aimed at Southern African states, which includes South Africa. The model indicates how various government ministries interact with one another, and how the government may interact with the citizens and businesses through ICT for communication and economic development. This model is depicted in Figure 4.4 below.




**Key: 1 – 7 Ministries**

***Figure 4.4*: Onyacha's model of e-governance interactions between the parties**
*Source:* Onyacha (2010:4)

Onyacha (2010:4) defines the model (shown in Fig. 4.4) as the ICT relationship between government–citizen and/or government–business interaction. According to Onyacha (2010:4), this interaction only occurs when governments on their websites provide electronic or online services such as feedback possibilities or various forms (identity-card applications, birth certificates, and voter registration). Onyacha (2010:4) is of the opinion that the website of the South African government provides perhaps the most detailed information about government services. Furthermore, Onyacha (2010:4) points out that the government, which is at an advanced stage of e-governance, provides three types of services, namely for citizens, for organisations, and for foreign nationals.

a. *Services for citizens:* This includes information relating to the following aspects: birth, parenting, education and training, the youth, relationships, living with a disability, the world of work, social benefits, a place to live, transport, travel outside South Africa, moving to or visiting South Africa, sports and recreation, citizenship, dealing with the law, retirement and old age, and death.
b. *Services for organisations:* Information specific to the business community (or organisations) includes the following: how to start an organisation or business, tax, intellectual property, import and export, permits and licences, transport, labour issues, health and safety at the workplace, and discontinuing a business.
c. *Services for foreign nationals:* The website provides foreign nationals with information about moving to, working in and entering South Africa.

Baud, Scott, Pfeffer, Sydenstricker-Neto, Denis, Consuelo and Minay (2013:45) outline the access to service through ICTs model, applicable in Kwazulu-Natal at eThekwini municipality, as ICT initiatives and innovations by the Kwazulu-Natal provincial government. According to Baud *et al.* (2013:45), the Access to Services Model "outlines the supply and demand for social facilities across the Metropolitan area and is able to predict the

future social services requirements for housing". Baud *et al.* (2013:45) furthermore identify the aim: clustering ICT services in nodes and along e-corridors. This provides quantitative information to help decision-making, and in so doing moves beyond the conceptual planning of the Service Developmental Plans. Baud *et al.* (2013:45) outline the levels of accessibility to essential services through ICTs in the eThekwini municipality during 2012. This is provided in table 4.5 below.

***Table 4.5*** **Levels of accessibility to essential services in the eThekwini Municipality**

| Essential facilities | Current accessibility | Accessibility after new big-impact facilities | Number of proposed new big- impact facilities |
|---|---|---|---|
| **Clinics** | 56% | 93% | 19 |
| **Fire stations** | 72% | 85% | 8 |
| **Primary schools** | 83% | 100% | 20 |
| **Secondary schools** | 77% | 99% | 21 |
| **Libraries** | 70% | 92% | 11 |
| **Sports fields** | 91% | 91% | 0 |
| | | | |

*Source:* Baud *et al.* (2013:45)

According to the study conducted by Baud *et al.* (2013:45) and shown in Table 4.10 above, the following inferences can be made. In 2012 as much as 56% of ICT services in clinics were accessible to the public; 72% of ICT services on fire stations were accessible to the public; 83% of primary schools' ICTs were accessible to the learners; 70% of ICT library services were accessible to the public; whilst 91% of ICT services were accessible to the public at large. Significantly, there was a remarkable increase in the percentage of accessibility of public services after the new big impact ICT facilities were introduced. Subsequently, there are a number of proposed new big impact ICT facilities which are aimed at improving services to the public. Figure 4.5 below displays the sectors (spatial units) to which ICT budgets were allocated in the KwaZulu-Natal province.

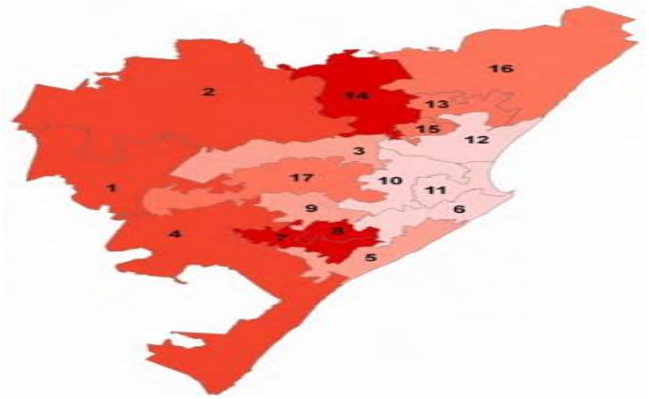



***Figure 4.5:*** **Allocation of ICT budgets per spatial unit in Kwazulu-Natal**
*Source:* Baud *et al. (2013:41)*

According to Baud et al. (2013:41), the map above (shown in Fig. 4.5) illustrates the number of areas yet to be developed with ICT resources. The areas requiring ICT developments in Kwazulu-Natal between 2012 and 2013 were ranging from units 1-17. There is a real

possibility that this situation should show improvements currently (2015). This illustrates the commitment and effectiveness of the provincial government in instituting ICT resources to deliver services to its citizens.

The Western Cape E-Governance Strategy (WCEGS) (2012:8), that incorporates the Cape Gateway portal, was developed and viewed through the lens of government. According to the WCEGS (2012:8), the primary function of the portal is to provide governance-related information to citizens. As a result, the ICT landscape has changed significantly and information alone is no longer the primary need. Many services within the Western Cape Government (WCG) have been digitised and various websites were developed since 2009. More importantly, citizens have become skilled in interacting with government through online portals. This is mainly due to the fact that the general population is increasingly exposed to the benefits of ICT in their work, business and educational environments (WCEGS, 2012:8). The WCEGS (2012:8) asserts that the WCG has used the United Nations Development Program (UNDP)'s e-governance maturity model as benchmark to design an appropriate e-governance model for the province. The model is based on four levels of maturity. Level 1: emerging information services; level 2: enhanced services; level 3: transactional processes, and level 4: connected services. These levels are depicted in Figure 4.6 below.

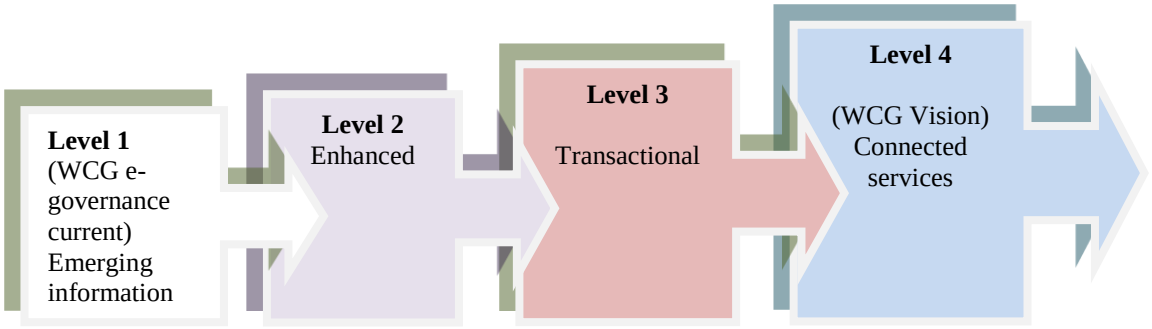



***Figure 4.6:*** **the Western Cape E-governance Maturity Model**
*Source:* WCEGS (2012:8)

An analysis of the WCEGS reflects that various challenges that may impact on or impede the successful evolution of the province's current level of e-governance maturity to being recognised globally as one of the leaders in e-governance. Furthermore, the WCEGS as a case study indicates some the key internal challenges: obtaining buy-in from officials in all spheres of government, preventing duplication of websites, high prevalence of legacy technologies, integrating systems, out-dated and/or conflicting content and the re-engineering of business processes. The major external challenges are: telecommunication and broadband infrastructure, the levels of general literacy and digital literacy of citizens, and people's access to ICT in the rural areas.

## 4.3 SOUTH AFRICA'S E-READINESS IN COMPARISON TO SOME AFRICAN EXPERIMENTS

Hafkin (2009:6) illustrates the relative readiness for e-governance of Africa's regions, based on the United Nations' e-governance survey of 2008. This survey illustrated the situation of Africa's five main regions compared to the world average. Hafkin (2009:6) points out that five African countries did initiate e-readiness strategies since 2005, leaving only two that are not yet online, namely the Central African Republic and Somalia. Hafkin (2009:6) mentions

that the region with the highest e-readiness is southern Africa, with West Africa appearing as the least ready region. South Africa and Mauritius were seen to be the only African countries to exceed the world average, followed by the Seychelles, Egypt, and Cape Verde (Hafkin, 2009:6). Table 4.6 below presents Hafkin's analysis.

***Table 4.6:*** **Hafkin's comparative analysis of e-readiness in Africa**

| Region | Rating | Best region (%) | Newly on-line since 2005 |
|---|---|---|---|
| **Southern Africa** | 0.39 | South Africa 0.51<br>Lesotho 0.38 | |
| **Northern Africa** | 0.31 | Egypt 0.48<br>Libya 0.36 | |
| **Eastern Africa** | 0.28 | Mauritius 0.51<br>Seychelles 0.49<br>Kenya 0.35 | Zambia |
| **Central Africa** | 0.24 | Angola 0.33<br>Gabon 0.32 | Equatorial Guinea |
| **West Africa** | 0.19 | Cape Verde 0.41<br>Nigeria 0.31<br>Ghana 0.30 | Liberia<br>Guinea-Bissau |
| **World average** | 0.45 | N American average 0.84 | |

*Source:* Hafkin (2009:6)

Table 4.6 above indicates that South Africa is the country with the highest levels of ICT readiness with a rating of 0.51%, followed by Lesotho with 0.38%. South Africa's rating for ICT implementations is 0.39%, compared to the world average rating of 0.45%. South Africa seems to enjoy the larger slice of the benefits in the Southern region, which is indicative of the ICT initiatives outlined in the preceding paragraphs. This is also an indication of the relative high levels of commitment of the South African Government to the applications of ICT for e-governance, although there is still more to be done when compared to the North American region with an average of 0.84%.

Coleman (2014:2), points to many examples of successful e-governance projects in Africa, which often are implemented in isolation from wider strategies focusing on sustainable e-governance. Coleman (2014:2) mentions that such strategic programs for e-governance have been established in African countries such as Egypt, Kenya, Senegal Mozambique and South Africa. Furthermore, Coleman (2014:2) argues that these strategic initiatives are clear indications that African e-governance is moving beyond the stage of novel experimentation. According to Coleman (2014:2), similar to Europe and North America, African governments are proceeding pragmatically and incrementally towards e-governance. In addition, they are increasingly doing so within a framework of established good practices and strategically-articulated objectives. Coleman (2014:3) outlines the comparison of ICT initiatives in African countries, which include South Africa. This outline is expounded in Table 4.7 below.

*Table 4.7:* **Successful e-governance projects in Africa**

| Country | Project | Rationale |
|---|---|---|
| ***Ethiopia*** | Distance learning for civil servants | There are approximately 350,000 civil servants in the Ethiopian government, of whom 14% have PCs and less than 1% has email access. The World Bank's Global Development Learning Network has established a peer-to-peer video-conferencing and distance learning centre in Addis Abeba to train civil servants in the use of ICT. |
| ***Zambia*** | Zamlii: the online Zambian legal information portal | A comprehensive online collection of documents and research relating to Zambian legal and constitutional issues is intended as a legal network for lawyers, judges, academics, students and citizens. |
| ***Uganda*** | Parliamentary Technical Assistance Project | This was introduced in 1998, to assist the Parliament of Uganda with its own modernisation process in order for elected Members to represent the interests of their constituents better, make better laws and provide more effective oversight of the Executive. Features include e-mail addresses for all MPs; an electronic bill-tracking system; a parliamentary information database; parliament's own V-sat satellite; and provided training to the IT staff, researchers and MPs. |
| ***Mozambique*** | e-SISTAFE | Entails a standardised and computerised system for the administration of public finances, including electronic payments of salaries. |
| ***Tanzania*** | Government Payroll and Human Resources System | The system, covering 280,000 public servants, is intended to create more efficient management of government employees. |
| ***South Africa*** | The Cape Gateway portal<br><br>Independent Electoral Commission voter-registration system | Provides web-based information about government services and departments, structured according to users' life events.<br>A satellite-enabled network helps the Commission to register voters, relay, collect and verify ballots, and relay election results across the country. In 2004 the Election Results Tabulation Database system was linked via a Wide Area Network to all district collation centres. |

*Source:* Coleman (2014:2)

South Africa compares favourably with other African countries. Table 4.7 above illustrates that distance learning is presented to civil servants in Ethiopia. The project is explained as formed by approximately 350,000 civil servants in the Ethiopian government, of whom 14% have PCs and less than 1% enjoys email access. The World Bank's Global Development Learning Network has established a peer-to-peer video-conferencing and distance learning centre in Addis Abeba to train civil servants in the use of ICT. The above mentioned Ethiopian project may be a guideline to help construct a theoretical model to train public managers, as it depicts a project that is specifically designed to train civil servants.

Akinsola, Herselamn and Jacobs (2005:3) drew a comparison between Nigeria and South Africa on service provisioning of ICT. The comparison illustrates the degree to which ICT services have been implemented between the two countries. For purposes of comparison certain factors are used. These include the model of ICT provision, the aim of provision, policies, technological infrastructure, the risks of provision, ICT management, contents, funding and sustainability. This comparative analysis is provided in Table 4.8 below.

***Table 4.8:*** **Summary of ICT provision in South Africa compared to Nigeria**

| Factors of comparison | South Africa | Nigeria |
|---|---|---|
| ***Model of ICT provision*** | Educational community projects | Private entrepreneur, community cyber cafes |
| ***Aim of provision*** | Facilitate development, empowerment and economic growth. | Business purposes (to generate profit) |
| ***Government policy*** | Adequate support, funding coordination through universal service agencies. | Deregulation of telecommunication industry, yet to implement community projects programs |
| ***Infrastructure/technology*** | Wireless, telephone, satellite | Satellite telephone |
| ***Risk of provision*** | Security, funding, skills | Social infrastructure (electricity, roads, etc.) |
| ***Management*** | Community based | Private ownership |
| ***contents*** | Information, communication, government services provision, job creation, community development, general awareness | Information communication, employment opportunities |
| ***Funding*** | Government, telecommunication operators, NGOs, international organisations, ICT industries | Personal savings, bank loan |
| ***Sustainability*** | Difficult to sustain | Sustainable |

*Source:* Akinsola, Herselamn, and Jacobs (2005:3)

The comparative analysis of the two countries reveals that the South African model of ICT provision is based primarily on educational community projects, whereas the Nigerian model

focuses on private entrepreneurship and cyber cafes within the community. The common factor between the two countries is the degree to which both governments attach value to the use of ICTs to promote e-governance and the fact that both countries invested heavily to provide ICT access to the communities. Another distinguishing factor is that South African funding of ICTs is based on government, telecommunication operators, the Non-Governmental Organisations (NGOs), international organisations, and ICT industries, whereas in Nigeria ICT projects are funded mostly through private sources such as personal savings or bank loans.

These initiatives highlight the profile of South African ICT and development through tables of comparison, which illustrated various trends in ICT applications in other African states and regions. The comparison also meant to illustrate the South African Government's commitment to improving e-governance and the use of ICTs to promote service delivery. In addition, the comparisons provided an in-depth pool of knowledge and ideas which may be incorporated in the formation of an e-governance training model for public managers.

## 4.4 TRAINING MODELS AND E-GOVERNANCE STATUS IN SOUTH AFRICA

The preceding sections dealt with principles for management training, management competencies and managerial e-governance competencies. Contrasting views on managerial principles and e-governance competencies were also examined. This section outlines the assessment of the status of e-governance in the South African government. This is done by analysing participation in e-governance, Internet infrastructure, information technology initiatives in South Africa, and the provisioning of on-line public services in South Africa.

### 4.4.1 Participation in e-governance and Internet infrastructure

As is the case with other countries applying e-governance initiatives, South Africa has adopted the use of ICTs to improve e-governance. ICT utilisation is perceived as inevitable in improving services that a government render.

According to Mc Connachie (2011:2), the South African National Development Plan: Vision 2030 proposes the phasing of priorities for the development of the sector into short-, medium- and long-term investment strategies:

a. *Short-term ICT investment strategies:* Mc Connachie (2011:2) stresses that in the short-term (2012 to 2015) there is an urgent need for a policy review of the ICT sector, and South Africa needs to develop a more comprehensive and integrated e-strategy in this regard. Furthermore, some of the key areas identified for the ICT-policy review include: the adjustment of market structures and removal of legal constraints to enable full competition in services; and fast-tracking of local loop unbundling. Other crucial areas are: urgent availability of a spectrum for next-generation services; and low-cost, high-speed international bandwidth with open access policies. It also requires a review of the role of State-Owned Enterprises (SOEs) and structural separation of the national backbone from the services the historical incumbent offer. The aim is to create a common carrier with open access policies to ensure access to service competitors. Due to the structural conflict of interest between the state's role as a competitive player in the market (through its majority share in Telkom), and as policy-maker for itself and its competitors, a clearer distinction is needed of the state's roles and functions, also "more coherent

approaches and better defined strategies will be required to avoid unintended policy outcomes."

b. *Medium-term ICT investment strategies:* For the medium-term (2015-2020), the National Development Plant supports the target of 100% broadband penetration by 2020. The definition of broadband will also be changed from the current 256 Kbps measure to at least 2 Mbps by 2020.
c. *Long-term ICT investment strategies:* In the long term (2020 to 2030), the collaboration between the state, industry and academia should create innovation systems, including software and application incubators, local content and multimedia hubs, as well as networks for research and development.

The National Planning Commission (NPC) (2011:84) asserts that the proposed action for the improvement of economic infrastructure also involves the improvement of ICT infrastructure. This is intended by changing the regulatory framework to ensure that Internet broadband capacity improves, prices drop significantly and access improves. According to the NPC (2011:84), the overall targets of the plan include reducing the level of inequality measured by the Gini-co-efficient from 0.7 to 0.6 by 2030. The NPC (2011:84) plan also commits itself that the number of households living below R418 per month should fall from 39% to 0% to afford ICT resources. The above-mentioned innovative ideas are complemented by the IT initiatives in South Africa. Subsequently, a brief discussion will be done on the evaluation of ICT initiatives within the South African Government.

### 4.4.2 An evaluation of ICT initiatives in South Africa

Backus (2001:17) identifies some initiatives the South African Government took in introducing e-governance. The main premise of the South African Government's ICT strategy was to have the Government portal http://www.gov.za/ incepted as a means to ensure citizen's participation, interaction and thus good governance. Furthermore, Backus (2001:17) points out that the South African Government has formulated an ICT policy with government-to-citizen communications as its main objective. The goal is to provide communications to citizens in remote villages, as well as to those residing in larger towns and cities. This is a technological opportunity despite the low levels of Internet access in rural areas of Africa (Backus, 2001:17). Backus (2001:17) further indicates that Gartner, an Internet Research Consultancy, conducted workshops for representatives from all South African Cabinet-level departments to share knowledge and best practices. According to Gartner, the South African Government is expected to be a model citizen on the Internet by demonstrating strong citizen focus within government systems (Backus, 2001:17). As a form of ICT advancement in South Africa, the South African Government National Infrastructure Plan (SAGNIP) (2012:7) on ICTs and development aimed at transforming the country's economic landscape whilst simultaneously creating significant numbers of new jobs, and strengthen the delivery of basic services. The SAGNIP's flagship project is the Square Kilometre Array (SKA), which is a global mega-science project. The project is aimed at building an advanced radio-telescope facility linked to research infrastructure and high-speed ICT capacity, which will provide an opportunity for Africa and South Africa to contribute towards globally advanced science projects. A photograph of the site features as Figure 4.7 below.

***Figure 4.7:*** **The South African ICT Square Kilometre Array**
*Source:* South African Government National Infrastructure Plan (2012:7)

The SAGNIP (2012:7) confirms that the location of the Square kilometre Array in Africa is aimed at going beyond socio-economic development as it is expected to strengthen South Africa's self-belief and identity in ICTs. The SAGNIP (2012:7) also asserts that if successful, the SKA will strategically position Africa as a continent of choice in relation to science and technological investments.

The Gauteng ICT Development Draft Strategy (2014:1) explains that South Africa is aspiring to be a developmental state. To achieve this aim the country needs to increase its capacity to innovate and, thereby, participate fully in the knowledge economy. According to the Gauteng ICT Development Draft Strategy (2014:1), for this to happen, the Gauteng Province has to be a more significant driver of the important pillar of the Gauteng Employment, Growth and Development Strategy. The Gauteng ICT Development Draft Strategy (2014:1) mentions that one major driver of the knowledge economy is ICT. Therefore, ICT should increasingly become a major factor in a provincial developmental agenda with a view to improving service delivery and creating employment. The Gauteng ICT Development Draft Strategy (2014:1) point out that in that regard, the ICT strategy for the Province has been developed. This strategy is informed by the objective that seeks to create ubiquitous connectivity to every household, Small, Micro and Medium Enterprises (SMMEs), communities, government institutions (schools, clinics, etc.) and citizens across Gauteng. The stated objectives used to measure the success of this strategy are as follows (Gauteng ICT Development Draft Strategy, 2014:1):

a. *Provide universal access to broadband (as defined by the national broadband policy) for citizens, business as well as government institutions.*
b. *Build the Network Infrastructure and Information Super-highway to encourage the development of advanced workforce with better ICT skills.*
c. *Enhance economic productivity through ICT infrastructure development in order to lower the cost of doing business and increase connectivity for companies especially SMMEs.*
d. *Increase the ICT skills capacity within the public and the private sectors to create a pool of ICT practitioners and entrepreneurs*
e. *Improve service delivery by providing high-quality ICT services through e-government;*
f. *Build an economic and industrial sector with a focus on ICT, and in particular, software industry.*

g. *Ensure that innovation becomes part of the economic network in Gauteng Province in relation to ICT.*
h. *Reduce the carbon footprint of the province through Green ICT.*
i. *Create employment in the ICT sector.*

The Democratic Alliance (DA) (2013:2) asserts that ICT advances have the potential to break down traditional boundaries between people, businesses and nations by making it easier to engage, exchange information, transact and deliver services in South Africa. Furthermore, the DA (2013:2) warns that those nations that fall behind on a technological front will be increasingly "left out of the loop" as they become, by comparison, too cumbersome and time consuming to interact with. DA (2013:2) describes South Africa as a healthy, effective, enterprising nation that utilises ICTs to:

a. *Educate every child and adult to fulfil their potential as engaged citizens.*
b. *Ensure that the ICT infrastructure, the devices that access it and the services conveyed on it are affordable, competitive, reliable, efficient and readily available.*
c. *Incentivise and regulate the ICT market to ensure affordable and competitive provision and access to these communications networks, tools and services throughout South Africa.;*
d. *Incentivise and encourage development of ideas into internationally competitive, marketable products and services, job-creating entrepreneurship and business opportunities throughout the country.*
e. *Deliver citizen-centric services that address everyday needs including health care, education, government transactions and interactions.*
f. *Provide platforms for communication between all who live in South Africa.*
g. *Facilitate and protect efficient and profitable commercial activity both locally and abroad; and*
h. *Engage with citizens in the formulation of policy and developing systems that continually improve government responsiveness to their needs.*

Maumbe and Owei (2014:7) explain that, as part of its Information Society Strategy, the South African Government established a number of gateway projects to support e-governance across the country. Prominent among these projects are the Cape and Gauteng Gateway Projects in the Western Cape and Gauteng province respectively. Maumbe and Owei (2014:7) mention that, at the national level a *Batho Pele* Gateway, a one-stop shop for e-governance information and services was also established. Maumbe and Owei (2014:7) also confirm that a wide range of services meant for citizens and businesses are currently (2015) available via the Internet portal. In the case of Cape Gateway, a Walk-in Centre (WIC) and Call Centre (CC) complement the web-based portal in providing information services (Maumbe & Owei, 2014:7).

The initiatives above are not the only innovative steps taken by the South African Government to introduce ICTs to promote e-governance but provide a perspective of the current level and status of e-government (i.e. in 2015). This is indicative of the necessity of adequate training and development in the field of ICT and e-government for public officials.

### 4.4.3 On-line service provisioning in South Africa

According to South Africa On-Line (2011:2), South Africa boasts outstanding telecommunications infrastructure and a diversity of print and broadcast media. South Africa

On-Line (2011:2) further indicates that South Africa has the most developed telecommunications network in Africa with networks that include the latest fixed-line, wireless and satellite communication technology. Statistics South Africa, in its recent Consumer Survey, reported increases in the ownership of radios, televisions, computers and cell phones. Such increases demonstrate that more South Africans are being exposed to ICT.

Mwenesi (2011:2) concurs with the statement of South Africa On-Line above by pointing out that, despite the huge size of the market, the Investment Destination Centre (IDC) expects overall ICT spending in Africa to expand at a healthy Compound Annual Growth Rate (CAGR) of 6.3% over the next five years to a total of US$33.4 billion in 2018, a 36% increase from the figure captured in 2011. On that note, Mwenesi (2011:2) estimates that South Africa is set to grow at a rate of 5.7%, whereas Kenya and Nigeria will both show a growth of more than 7%. Furthermore, Mwenesi (2011:2) predicts that the South African banking and finance, telecommunications, energy, healthcare, and transportation sectors will be responsible for the lion share of this growth of ICT investment in the country. Therefore, high demand for mobility solutions and a strong drive to improve network and data connectivity in key markets are going to contribute to investments in ICT in South Africa (Mwenesi, 2011:2).

The South African Year Book (2013:1) reports that the information and communication technologies (ICT) sector in South Africa is well established and sophisticated. Furthermore, the South African ICT sector is the largest and most advanced in Africa and the local ICT industry is characterised by technology leadership, particularly in the field of mobile software. According to the South African Year Book (2013:1), the South African ICT sector is a buoyant sector, with ICT spending in 2010 reaching $10, 6-billion. Together with telecommunications, this sector generates an estimated $29-billion in revenues, R10.3-billion of which comes from ICT. The Universal Services and Access Agency of South Africa (USAASA) furthermore supports the establishment of a number of multi-media centres, cyber-labs and telecentres in various parts of the country (South Africa On-Line, 2011:2).

Mcilhone (2014:2) is of the opinion that ICT growth in South Africa is characterised by the following underlying themes:

a. Organisational links across sectors which scale investments in basic ICT infrastructure.
b. Strong demand seen for technologies that help organisations to automate processes, manage complexities, and drive down costs.
c. Strong demand emerging for ICT infrastructure and application management.
d. High demand existing for mobility solutions.

These themes act as drivers or “push” factors to improve network and data connectivity in key markets in South Africa. Mcilhone (2014:2) sketches the broad picture:

*South Africa has played host to massive growth in mobile phone usage in recent years and ICT expects mobile technologies to catalyse investment, with mobile enterprise applications becoming a leading priority. Like many governments, South Africa is also expected to invest in fibre-optic cables, public services, content, and governance and compliance oversight to ensure the security of transactions on-line.*

### 4.4.4 Profile of South Africa's ICT initiatives and general e-readiness

Gilbert, Balestrini and Littleboy (2004:286) caution that governments will find it harder to meet citizens' adoption targets if these governments do not understand why citizens adopt e-governance services over the traditional delivery channels. Nandi and Gurstein (2007) in Kaisara and Pather (2009:8) support this statement by stressing that access alone will not realise the transformative power of ICTs. Hence, it is crucial that e-governance take into account other factors that may influence the success of e-governance, seeing that "availability of technology alone does not guarantee successes".

Akinsola, Herselman, and Jacobs (2005:3) indicate that ICT centres were established in some parts of South Africa as a way of addressing the problem of the so-called "digital divide". Benjamin (2002:12) argues that the rationale behind the institutionalisation of ICT centres in South Africa stemmed from the ANC-aligned structures in the early 1990s, especially the Non-Governmental Organisation (NGO), Centre for Developing and Information and Telecommunication Policy (CDITP). Akinsola, Herselamn, and Jacobs (2005:3) concur that this thought process led to the drawing up of the Green and White Papers on telecommunications, which led to the Telecommunication Act, 1996. During that process, an agency was proposed that could facilitate access to telecommunications for all South Africans.

Akinsola, Herselamn, and Jacobs (2005:3) indicates that the Telecommunication Act, 1996 led to the establishing of the Universal Service Agency in 1997. At the same time the South African Telecommunications Regulatory Authority (SATRA) came into being. The Intelecon Research (2000:46) explains that the Universal Service Agency (USA) is a unique statutory body to promote affordable universal access and universal services in ICTs for disadvantaged communities in South Africa. The aim is to facilitate development, empowerment and economic growth. The general successes of this Agency are yet to be determined.

Akinsola, Herselamn, and Jacobs (2005:3) indicate that on the research conducted on the accessibility of ICTs in South African cities. This research illustrates the current status of Government initiatives by considering ICT services provided in areas such as Mamelodi and Atteridgeville in the Gauteng province. Some of these findings are reported in Table 4.9 below.

***Table 4.9:*** **ICT participation in South African townships**

| Centres | Location | Community population | Services | Type of ownership |
|---|---|---|---|---|
| **Mamelodi Community Information Services** | Mini-Munitoria municipal offices near Denneboom in Pretoria. | The official government statistics indicate that the population was 154 466 during 1991's national survey. Independent | Directory of services in and around Mamelodi Internet and e-mail training Internet and e-mail usage Public access | MACIS a registered company under section 21 of the South African Company Act (Act No. |

| | | | | |
|---|---|---|---|---|
| | | consultants estimated the population to be approximately 750 000 during 1996. | touch-screen information kiosk<br>Information awareness provision, counselling and referrals<br>Database of questions asked<br>Need analysis survey<br>Desktop publishing<br>Computer and information literacy training<br>Workshops | 61 of 1973), as a non-governmental organisation. |
| **Bokgoni Technology Centre** | Bokgoni Technical High School, Atteridgeville | | OBE training<br>Faxes<br>Computer-literacy training<br>Lamination<br>Scanning<br>Word processing<br>Internet and e-mail usage | Community-based ICT centre managed by Bokgoni Technical High School Management |

*Source:* Akinsola, Herselamn and Jacobs (2005:3)

Table 4.9 above lists the centres, locations, community population, ICT services and the types of ownership of ICT resources by institutions in the Gauteng province selected townships. The table further indicates typical ICT services such as the directory of services, Internet and e-mail training, Internet and e-mail usage, public access, touch-screen information kiosks, and information awareness initiatives. From the information in the table it is evident that significant progress has been made in South African townships and rural areas to facilitate ICT access.

Abrahams and Reid (2008:3) maintain that a prominent feature of the ICT landscape in South Africa is the rapid growth of the mobile telephone market. During the period 2000-2008, mobile telephones grew significantly, with the market offering affordable contact through Short Message Services (SMS), availability of second-hand handsets, as well as pre-paid call packages at lower costs than land lines (Abrahams & Reid, 2008:3). Abraham and Reid (2008:3) extracted data collected from Statistics South Africa's Community Survey in 2007.

This data confirms the view that the evolution of e-governance in South Africa hinges to a large extent on households having access to a cell (mobile)-phone. The reason is that households are three times more likely to have a cell-phone than a landline. Approximately one tenth of households have Internet facilities. This data is presented in Table 4.10 below.

***Table 4.10:*** **Survey data on access to ICT in South African households**

| ICT access | Yes | No |
|---|---|---|
| **Cell-phone** | 81% | 19% |
| **Landline** | 25% | 75% |
| **Internet facilities at home** | 12% | 88% |
| **Radio** | 80% | 20% |
| **Television** | 75% | 25% |

*Source:* Abraham and Reid (2008:3)

The ICT data presented in Table 4.10 above is somewhat dated and provides a relative limited insight into the community-level of ICT penetration in South Africa. Nevertheless, it does suggest that the successful application of e-governance for services would need to be based on realities of relative low levels of Internet access and high levels of mobile-data access (SMS, MMS, WhatsApp, etc.). Short Message Services (SMS), for example, are extensively used in commercial market environments in South Africa and could also be utilised in a governance context (Abrahams & Reid, 2008).

Mitrovic, Sharif, Taylor and Wesso (2012:3) report that the South African Government, through the Department of Communications (DoC), established the e-Skills Institute (e-SI) to create an e-governance skills agenda and run it in a systemic and systematic manner. Mitrovic *et al.* (2012:3) indicate that the e-SI was established after recommendations by the Presidential International Advisory Council (PIAC) in the Information Society and Development (ISAD) cluster. This occurred during August 2007 when the shortage of e-skills in South Africa was identified as a major issue that needed to be resolved. The seriousness of the problem was emphasised by the e-Skills Council suggesting that a strategic bridge must be established between the key stakeholders, such as business, government, education, civil society, and organised labour. Mitrovic et al. (2012:3) stress that it "is important to notice that all these stakeholders were (and still are) actively involved in the process of establishing the e-skills agenda in South Africa".

Isaacs (2007:1) also provides an example of ICT and e-governance interventions in South Africa by pointing out South Africa's wealth of experience in this field. This consists of accumulated experience since the beginning of the 21st century from its wide range of ICT projects and programmes pioneered by a wide range of stakeholders. These include the private sector, civil society, donor and development agencies, as well as the government. According to Isaacs (2007:1), there is a variety of ICT models for access, digital content development, training and professional development, optimal usage, partnerships, and resource mobilisation. These models have encouraged significant learning among ICT innovators, practitioners, and policymakers. Isaacs (2007:1) also report that the scale of all these interventions to date (2007) has led to a situation where at least 22% of all public schools were provided with computers in 2007. However, limited progress has been made in Adult Basic Education and Training (ABET). Figure 4.8 below indicates the cities and towns that have embraced ICT in education.


***Figure 4.8:*** **Towns and cities utilising ICT in the South African educational system**
*Source:* Isaacs (2007:1)

According to Isaacs (2007:1), cities and towns such as Pretoria, Johannesburg, Bloemfontein, De Aar, East London, Port Elizabeth, Cape Town, and Upington have introduced ICTs in their educational systems in various ways. Some of these avenues portray innovative initiatives that generally promote the status of e-governance in South Africa. Appel (2007:1) points out that collectively these innovative practices confirm that Government is rapidly moving towards citizen-centred service provision through ICT resources. This point is accentuated by a recent (2013) Government Research Report that focused on ICT development, management skills and convergence in cyberspace, cyberspace security, and e-governance. The Departments of Trade and Industry and Communication furthermore established an IT Strategy Project (SAITIS). The aim is to promote a robust ICT sector, increase citizens' access and usage of ICTs for economic and social growth, foster a knowledgeable ICT workforce and create a culture of ICT innovation.

According to Appel (2007:1), the establishing of SAITIS has resulted in increasing Internet services to schools, creating an academy for software development. It also provided access points to Internet within communities and installed public-information terminals allowing access to government services. A further initiative, as reported by Kaisara and Pather (2009:8), is the South African Universal Services Agency (SAUSA), which was established in terms of the Telecommunications Act of 1996. The main aim of SAUSA is to promote ICT access to citizens, especially those who were marginalised by the previous system of apartheid. Kaisara and Pather (2009:8) point out that the Telecommunications Act of 1996 also led to the establishing of the first telecentres (i.e. Gaseleka Telecentres) in South Africa. These telecentres focused on providing citizens from rural villages' access to telephones and computers. The Electronic Communications Act of 2005 replaced the Telecommunications Act of 1996, and the Universal Services Agency was renamed as Universal Service and Access Agency of South Africa. The mandate of the Agency, however, remained the same, namely to promote universal access to "all areas and communities in the Republic to electronic communications network services" (Kaisara and Pather, 2009:8).

### 4.4.5 Profile of ICT and e-governance initiatives in the Free State Province

The Free State Province, as geographical *locus* for this research, has also introduced various ICT initiatives to promote e-governance. The following brief exposition focuses on some prominent ICT initiatives taken by the Free State Government in this regard.

The Free State Premier, Mr Ace Magashule (2012:2), committed the Provincial Government to align themselves with the Declaration of Access to the Internet as a basic human right by the United Nations in 2011. Hence the Free State Government announced planned advancement of ICT as an instrument for socio-economic development. Launching various ICT projects in 2012, Magashule (2012:2) vowed that the Free State Provincial Government would strive to ensure that broadband Internet is accessible, even to people in rural areas. Furthermore, Magashule (2012:2) stated that it was critical for the Free State to achieve the following goal: "… digital inclusion, enabling universal, sustainable and affordable access to ICTs by all, and to provide sustainable connectivity and access to remote and marginalised areas at both provincial and municipal levels."

The Universal Service and Access Agency of South Africa (USAASA) (2011:2) also launched the Free State Broadband Inter City Network ICT which includes the following benefits and successes:

a. Connect schools and build additional computer centres in Free State.
b. Extend training to all educators on ICT's.
c. Provide rural/under-serviced areas opportunities to interact with ICTs.
d. Reduce the telecoms' cost to the economy and encourage innovative services to communities.
e. Enable Municipal Services and Integration.

The USAASA (2011:2) initiative includes the establishing of *Ubuntu iCafe.* This is an Internet and multi-media access platform based on the municipal ward structure of the Free State Province. Its aim is to introduce ICTs in municipalities and provincial departments. According to the USAASA (2011:2), they planned a presence of the *Ubuntu iCafe* at every district and local municipality and reaching to outer rural areas. USAASA (2011:2) asserts that Free State has an estimated 300 wards. Therefore, in order to reach the 60% of the potential consumer base (2.7 mil., of which 87% are black) with a great deal of flexibility, at least three *Ubuntu iCafe's* were deployed according to viable areas. This was meant to extend the presence of ICTs within the proximity of schools (1200) in order to reach learners. In Figure 4.9 below, the towns marked with red dots represent all the areas which have the presence of a *Ubuntu iCafe*.


***Figure 4.9:*** **USAASA's Free State areas with Ubuntu ICT Cafés**
*Source:* USAASA (2011:2)

Furthermore, the USAASA (2011:3) helped establish the Virginia Techno Park. The Techno Park is a strategic-investment project, which aims to stimulate the development of ICT in local industries. It involves a wide range of local and international stakeholders with the Free State Provincial Government as the champion. The elements of the Techno Park are:

- bulk telecommunications infrastructure (i.e. high-speed broadband cable systems);
- world-class training facilities for graduates;
- world-class research and development and incubation facilities; and
- world-class systems development and integration of software applications

According to Weidermann (2012:1), the Free State Provincial Government is becoming more proactive in its approach to embracing the Information Age and in becoming a key player in the global ICT market. He asserts that the ICT Strategic Framework that has been developed by the Free State Provincial Government is intended to achieve its economic, social cohesion, and developmental targets. This Strategic Framework also provides for the development of a Provincial Regional Innovation Strategy.

Weidermann (2012:1) reports that other ICT plans for the Free State include the development of an SMME Incubation Hub with an investment value of approximately R100 million. This Hub is mainly aimed at providing a number of services to new businesses in the Free State. Plans include a Medical Biotechnology Park with an investment value of around R400 million (Weidermann, 2012:1). The aim of the Park is to provide practical networks for research collaboration between academic researchers, pharmaceutical companies and clinical research companies in developing innovative products and technologies.

Mvambi (2014:2) asserts that the Free State Provincial Government remains committed to its Provincial Communication Strategy which aims, among other things, to focus on promoting media diversification and the support of community media in all sectors. On that note, Mvambi (2014:2) indicates that the Provincial Government initiated a project in 2011 to create an integrated on-line presence for the broader provincial and local government sector – by introducing a government portal (website). Mvambi (2014:2) believes that prior to this project, the on-line presence of the Free State Government and municipalities were "fragmented, out dated and cluttered with irrelevant information".

The section above outlined the assessment of the status of e-governance in general, and e-readiness in particular. The section also highlighted the nature of e-governance infrastructure in South Africa and examined IT initiatives and the provision of on-line public services in South Africa. The following section sets the parameters and framework elements of a draft training model for e-governance based on the contents of Chapter 2, 3 and 4. These elements including a preliminary, draft model will be tested empirically and verified by means of interviews with selected participants in the Free State Provincial Government.

## 4.5 TOWARDS A DRAFTED TRAINING MODEL FOR E-GOVERNANCE

The following discussions are an excerpt of training elements and principles as discussed in Chapter 2, an extraction of models (strategic and operational frameworks) discussed in Chapter 3 and the managerial competencies and skills outlined in Chapter 4, with a view towards drafting a training model for e-governance. The section will be set off by a discussion on the theories that inform model building or construction and the principles of the systems theory as overarching macro-theory.

### 4.5.1 Theory of model-building

Frigg and Hartman (2012:1) view models as constructs of central importance in many scientific contexts. Jensen (2014:1) adds that models are "always an abstraction that is of necessity simpler than the real situation". Frigg and Hartman (2012:1) stress the time scientists invest in building, testing, comparing and revising models. Much space in scientific journals is "dedicated to introducing, applying and interpreting these valuable tools'. In short, models are deemed one of the principal instruments of modern science.

According to Jensen (2014:1), the elements that are irrelevant or unimportant to the building of models are often ignored. This leaves sufficient detail so that solutions models provide have value to the original problem. This is confirmed by the Experts Minds (2014:1), which further defines scientific models as an "idealised representation or abstraction of some real-life system whether such systems refer to problem processes, operation systems objects or events". They assert that the objective of models in research is to analyse the behaviour of the systems for the purpose of improving the performance of those systems. Van der Waldt (2013:1) points out that the models in Public Administration and Management (PAM) are often the envisioned outcome of research. He further asserts that post-graduate studies have the intention to construct models as "ideal type" interventions. This is to improve basic elements in government settings such as policy, structures, systems, functions and behaviour. According to Martin (2014:1), model-building is "a way to quantitatively represent the relationships between parts of a system, process, or topical area in a research process". Martin (2014:1) identifies two main types of processes for model-building design, namely a descriptive and a predictive type. According to Martin (2014:1), a descriptive model design is

used to help understand processes and behaviours, whereas a predictive model design is an attempt to foresee unknown values based on known information. As far as the design process is concerned, Cripe (2012:1) suggests that the process of model-building should entail logical steps. He outlines the model-building steps as presented in Figure 4.10 below:

| |
|---|
| ***Step 1*: Conceptualising the research project** |
| ***Step 2*: Project planning** |
| ***Step 3*: Data collection** |
| ***Step 4*: Data analysis and coding** |
| ***Step 5*: Building the model** |
| ***Step 6*: Developing model applications** |

***Figure 4.10:* Cripe's six steps of model-building**
*Source:* Cripe (2012:1)

According to Cripe (2012:1), the first step towards building a theoretical model is conceptualising, which refers to the formulation of a concept from the research problem. This is followed immediately by project planning, which refers to the process of planning for the ensuing steps. Data collection follows thereafter, which should be linked to the theoretical concept of the model that will be developed ultimately. Cripe (2012:1) suggests that the data-analysis and coding should succeed the data collection, which should directly be informing the process of building the model and ultimately developing possibilities to apply the model. Routio (2007:2) mentions that the building of a theoretical model, sometimes even a preliminary one, guides the research and helps establish a framework for action. It further sets the parameters for analysis and affects the logical process of analysis. According to Routio (2007:2), many of the typical problems of exploratory research can be avoided if researchers begin with preliminary models developed in earlier studies, used as working hypotheses. Routio (2007:3) believes models can either consist of cases (holistic models), or of concepts (analytic models). Routio (2007:3) complements Martin (2014:1) above by asserting that during analysis, the researcher determines whether the collected material conforms to the model or whether the model should be corrected or refined. Routio (2007:3) outlines the process of model-building as depicted in Figure 4.11 below.

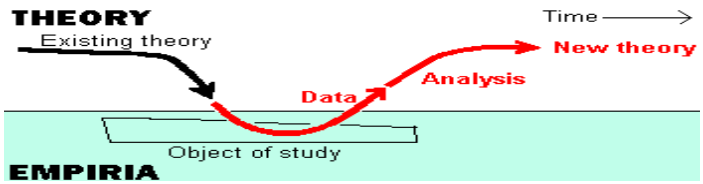



***Figure 4.11:* Routio's theoretical model-building process**
*Source:* Routio (2007:3)

An existing theory is refined and changed after research data has been obtained. The data is then analysed and a new theory formulated. Such a theory may be affected by time factors, during the process of refinement of an earlier model in another research process.

Seeing that model-building theory is significant for the purposes of this study, Table 4.11 below defines the typical processes as perceived by various authors.

***Table 4.11:*** **The model-building process**

| Model-building theory | Author | Implications for model design |
|---|---|---|
| • Conceptualising is the basic step towards formulating a model.<br>• Project planning immediately should follow conceptualising.<br>• Data collection is inevitable to determine changes in the existing model if there is one.<br>• Data analysis and coding should immediately follow as this process may cause some changes on the existing theory.<br>• A competency model is built after data analysis and interpretations. | ***Cripe (2012:1)*** | The process of model-building should be preceded by conceptualising or theorising, which should immediately have an impact on planning. The new theory cannot be developed without data collection, analysis, and interpretations as these have a profound impact on the development of a new model. |
| • A conceptual framework is perceived as an attempt to give structure to theory and models.<br>• A conceptual framework also refers to the framework according to which a study in a particular field will be structured.<br>• There are three identifiable types of conceptual frameworks – typologies, models and theories. | ***Van der Waldt (2013:10)*** | Conceptualisation or theorising is the basic step towards formulating a model. A conceptual framework entails a "broad system according to which theories and models are structured in scientific inquiry". |
| • Preliminary model building.<br>• Collection of data for | ***Routio (2007:3)*** | After data collection and analysis, the model should be refinable and |

| | | |
|---|---|---|
| refinement and drawing conclusions.<br>• Analysis of data to develop a new model.<br>• Presenting a future, refinable model. | | remodelled in future research. |
| • A descriptive model design is used to help understand processes and behaviours.<br>• A predictive model design is an attempt to foresee unknown values based upon known information. | ***Martin (2014:1)*** | Model-building in qualitative research is either descriptive or predictive. The descriptive and predictive nature of the model is determined by the outcome of the analysis and interpretations of the data collected. |

Based on the commonalities abstracted from this table, the following steps toward model building become evident as set out in Figure 4.12 below.

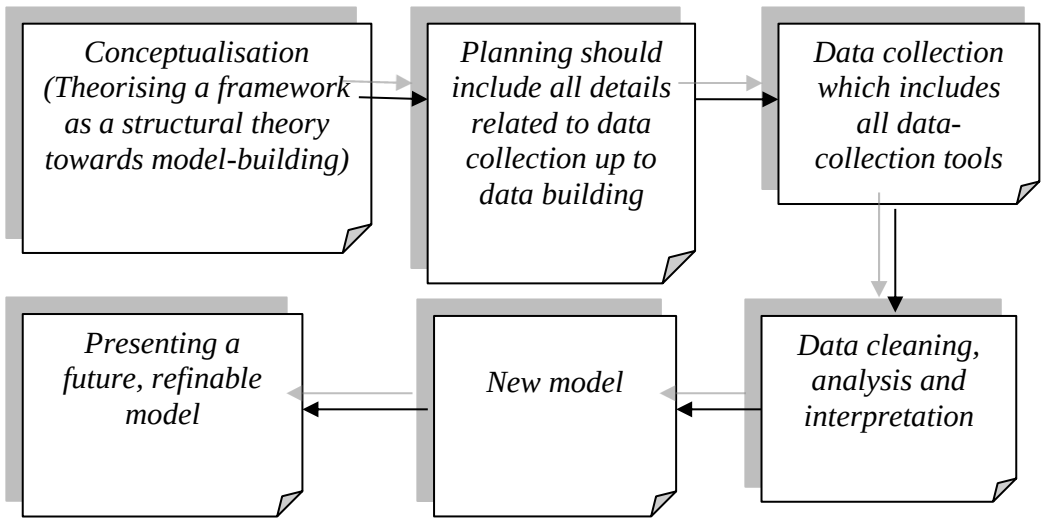



***Figure 4.12:*** **Steps towards model-building**

The table above outlined the various suggested stages or steps in model-building. Figure 4.12 pinpoints the common phases, which are useful to design a training-model draft as the main focus of this research.

The following paragraphs outline the building of an e-governance training model aligned with the above theoretical discussions on model-building. The exploration start off by focusing on excerpts from the preceding Chapters 2 and 3, especially the models on e-governance as it are practiced worldwide.

In Chapter 2 (Fig. 2.1), Montemurro (2014:6) outlined Taylor's four principles of scientific management which have an implication and a bearing on training of management as follows:

a. *Gathering of the traditional knowledge of the manager, record and codify it:* In management training there is a need to gather information on training needs of managers. In other words, there is a need to train needs assessment, which should be recorded and codified to determine the content for training.
b. *Scientific selection of the manager and his/her progressive development:* The implication for management training is that content for managerial development should be selected carefully. In other words, there is a need to select the content relevant to management development.
c. *Bringing together the trained manager and the scientific approach:* In management training this principle implies that content should impact positively on the organisational operation, enabling the trained managers to apply the learnt content scientifically in their workplace.
d. *Teamwork between management and employees:* This principle implies the division of labour and collective action (teamwork) to operationalise organisational objectives.

Table 2.2 in Chapter 2 highlighted common elements in a comparative analysis of management theories and its implications for management training:

a. *Administrative theory of management:* Most theorists agree that administrative theory is a scientific method of defining the best way for a job to be done, which requires training and development. Therefore, managers should be trained in theories that guide their decisions and general judgement.
b. *Bureaucratic theory of management:* Most researchers concur with Henry Fayol that managers require training in skills of planning, organising, commanding and controlling. Appointment to positions is based on technical expertise (Islam, 2009:2).
c. *Scientific theory of management:* Scholars agree with Frederick Taylor that managers require training in scientific methods of defining and executing their tasks.
d. *Systems theory of management:* According to Henry Fayol, the systems theory advocates that managers should be trained to select appropriate techniques that are effective to particular situations, and focus on appropriate management functions.
e. *Behavioural theory of management:* The majority of researchers follow theorists such as Stanley Jevons, Leon Walras, Francis Ysidro Edgeworth, Vilfredo Pareto, Niklas Luhmann Henry Fayol and Marx Weber, who advocate that managers should be trained in interaction between levels and units of skills analysis in a work place.
f. *The contingency theory of management:* Henry Fayol is a proponent of the contingency theory of management which states a need to expose public managers to formal education and training.
g. *The dynamic engagement theory:* Most researchers concur with Henry Adams' view that the dynamic engagement theory is a prerequisite for training. The reason is that managers must learn how to persist in their tasks and thereby attribute value to their work. Learning and involvement are key determinants of this theory.

Chapter 3 of this study discussed models for strategic and operational frameworks from which some training models can be derived. The Four-stage Model for e-governance of Nabafu and Maiga (2013:5) was highlighted. This model consists of the four stages: web presence, interactive, transaction and transformation. These stages were identified as follows:

a. *Web presence:* the phase in the incremental development and adoption of e-governance applications in a country.

b. *Interactive:* as evolutionary process through which search functionality is added to the existing website.
c. *Transaction:* a phase that enables direct exchange of services such as making payments and receiving services online.
d. *Transformation:* as final phase, a complete on-line execution of public services through electronic means.

The implication of this model is that managers can be trained in the functionality and operability of e-governance resources.

Chapter 3 also highlighted the model of Islam and Ahmed (2007:3) on the agency-level and the back-end-computerisation database of customer services. The model was defined as providing a one-stop service centre in rural and urban settings. The agency-level (i.e. government departments) websites and portals were said to be linked directly to the customer database, which promoted information availability. Thus, government services are delivered online, using one-way communication between government and citizens, and the creation and categorisation of information indexed and delivered to citizens through ICT. Subsequently, Chapter 3 also discussed the model of Westholm (2005:100) depicting a triangular relationship between the private sector, the state and civil society. The discussion highlighted the link between the states in the USA in facilitating a relationship among all entities through the "back-offices" on different government levels.

The analysis in Chapter 3 included Rondinelli' S World Public Sector Report (2007:3), which outlined the guiding principles for successful e-governance applications:

*a. Priority development needs that require government involvement:* E-governance applications are best embedded in areas that are perceived as closely related to the development needs of the society, which are a priority. This provides support on a broad scale, and makes it easier to overcome inherent difficulties and to sustain attention, commitment and funding. Such a state of affairs has a direct bearing on the training of managers, as priority needs determine the type of training required to satisfy the customers' needs.
*b. Efficiency and effectiveness as key success criteria of government involvement:* This principle was discussed as the link between ICT applications, optimisation of government operations and achieving important social-development goals to ensure the continued development of e-governance. The implications for management training cannot be over emphasised in this regard, as the government's role and involvement in a form of political leadership and administrative support ensures the development of management.
*c. Availability of funding:* Funding was perceived as an initial pilot for e-governance operations, which should start with a clear understanding of the costs and assured funding that follows a careful analysis of opportunity costs.
*d. Skills and culture of the civil service:* This emphasised that civil servants should be able (through ICT, change and project management, as well as partnership-building skills) and willing to support e-government, or at a minimum, must be eager to learn and change with the times.
*e. Political leadership and long-term political commitment:* The principle recognises the need for political intervention and support in the development of management. The political leadership is expected to be committed to development of e-governance, to

lead and build a broad support base, and be eager to learn. This generates the all-important signals that the civil-service officials need to receive from top leadership.

*f.* *Partnerships:* The government should view business firms and Civil Society Organisations (CSOs) as its partners in securing financial resources, skills improvement, better access, and adequate capacity to service the ICT network. Partnerships should not be forged at the cost of transparency, accountability or economic sound investment.

*g.* *Monitoring and evaluation:* It is necessary to set clear responsibilities and realistic benchmarks for the development of e-governance, as well as for their transparent monitoring. This in an important ingredient for the eventual success of ICT projects and builds up the overall transparency and accountability framework in the public sector.

The exposition in section 4.2.1 above highlighted fundamental managerial competencies such as applying and using technology, technical proficiency, communication and knowledge, effectiveness-related technology management, planning and organising programmes and projects, organisation information and networking, and building bonds. De Jager and Reijswoud (2013:3) sorted these competencies in terms of three categories: managerial, leadership, and technical competencies. To fulfil the obligations required by these competencies managers need to be skilled and thus appropriately trained. Most authors perceived the following content as inevitable for managerial training:

a. personnel management;
a. management centred on results;
b. know how to manage contracts and networks;
c. adapted leadership and global vision;
d. interpersonal relationships; and
e. external relations

Section 4.2.1 also outlined the competency profile of the Senior Management Service (SMS) in the South African Public Service, as well as the role that the Executive Development Programme (EDP) plays in training managers in these competencies. Public-private partnerships were highlighted as inevitable to help establish training models for public managers, especially in e-governance. This is because the private sector is generally more advanced in technical know-how and ICT resources. On the basis of the fundamental aspects outlined above, a draft training model may be constructed, which incorporates the theory of model-building as well as the elements and principles identified.

### 4.5.2 A drafted training model for e-governance

The above sections examined some core elements and principles outlined in Chapters 2, 3 and 4 with a view to design an e-governance training model for Free State provincial public managers. The analysis also focused on the critical interface between training and e-governance in the South African Public Service. This included an examination of core-elements associated with managerial training, and with e-governance skills, as well as a comparison between training principles and elements of e-governance skills and competencies.

This section proposes a drafted training model for e-governance which will be verified in the following chapter (Chapter 5) and be finalised in Chapter 6. Some of the elements of

Chapters 2, 3 and 4 will be utilised to design this model. The draft model is thus the synthesis of the following aspects:

a. principles and elements of management training and development;
b. principles and elements of ICT in governance;
c. principles and elements of e-governance;
d. principles and elements abstracted from an analyses of international models for e-governance;
e. theory of model-building;
f. case-study analysis (i.e. selected Free State Provincial Departments); and
g. input obtained from participants (i.e. verification and validation process)

The model will be layered or structured on *three levels* namely a macro (strategic-) level model for e-governance in the South African Government as synopsis of international models, a meso (tactical-) level model for provincial departments outlining the core elements and dimensions for training, and lastly a micro (operational-) level model for internal departmental training. These three levels or layers of the drafted model are briefly explained below.

#### *4.5.2.1 Macro (strategic-) level model*

The systems theory is regarded as a collection of sub-theories that are combined to provide a general framework of open and closed systems as overarching macro-theories (*see* Chapter 2; 2.3.2.3). A macro-strategic model for e-governance in South Africa will be formulated on the basis of the systems-theory perspective. International models as reflected in Chapter 3 will be used as the underlying strata to construct the e-governance training model. The perspective of open systems views a complex organisation as a set of interdependent parts that together constitute a whole. This view is captured in Table 4.12 below, in which various models outlined by various authors are utilised as a guideline to construct an e-governance mode. In the same vein some authors define the system as a collection of parts unified to accomplish an overall goal (*see* Chapter 2; 2.3.2.3). This type of collection is displayed in Table 4.13 and Figure 4.14 in the build-up to the eventual model for e-governance training.

According to the systems theory, if one component of the system is removed, the nature of the system is changed as well. Therefore, in designing the training model for e-governance, the elements relevant to the working model should be determined by the criterion whether they help the model to work in a practical situation. This principle will be considered in the design of the final e-governance training model in Chapter 6. Some authors regard the system approach to management of organisations as a unified, purposeful model composed of integral parts (*see* section 2.3.2.3). These integral parts of the model as a system, will be presented by the sampled participants (i.e. Free State provincial public managers), who have practical experience on the systems and applications of ICT in e-governance. The interaction between various levels and units of analysis built into designing the model is essential for a comprehensive and in-depth analyses of which systems theory provides the overall framework (*see Table 2.2)* The researcher will modify the draft e-governance training model after the input obtained from the participants (i.e. data collection phase of model-building).

To follow is an in-depth analysis of various models on training applications of e-governance, which will have a bearing on the design of the strategic or macro layer of the e-governance training model. The elements for the proposed model are presented in Table 4.12 below.

***Table 4.12:*** **Elements of the proposed e-governance model**

| Author and model type | Model stages/levels/phases | Description | Elements of e-governance training model |
|---|---|---|---|
| **Nabafu and Maiga (2013:5)**<br><br>**Four-stage Model** | *a. Web presence*<br>*b. Interactive*<br>*c. Transaction*<br>*d. Transformation* | The main contribution of the Four-Stage Model is that it provides a holistic perspective on the evolutionary and incremental nature of the adoption of ICT applications in facilitating e-governance. The model further accentuates the interactive nature of government-citizen engagement. | *Determine the citizens' perceptions about the use of ICTs to promote services rendered by the government effectively. Formulate the vision, mission and objectives of training public servants and public managers in ICT that are aligned with citizens' engagement.* |
| **Layne and Lee (2001:3)**<br><br>**E-governance Four-stage Model** | a. *Transaction*<br>b. *Vertical integration*<br>c. *Horisontal integration* | The main contribution of this model is the emphasis on integration of government agencies in all spheres and tiers of government. It further accentuates horisontal integration between departments of different ministries to enable easy exchange and dissemination of information. The intended outcome of horisontal integration is an automated process to enable interaction between different institutions and to share resources. | *Design a strategy to incorporate the various agencies in e-governance training such as private sectors and training agencies.* |
| **Westholm (2005:100)**<br><br>**Triangular** | *a. Governance between entities in the state and the private sector* | The main contribution of the Triangular ICT Model is the interrelationship | *Determine the interrelationship between the state, private sector and the* |

| | | | |
|---|---|---|---|
| **ICT Model between the actors of governance** | *b. Governance within the state's sector between back-offices on different governmental levels*<br>*c. Governance within the state sector within a single agency* | between the private sector, the civil society and the state. | *society in relation to training of public service personnel in e-governance, to improve on service-delivery processes.* |
| **Gohel and Upandhyay (2014:2)**<br><br>**Two-stage Model** | *Two independent components:*<br><br>*a. Administration*<br>*b. Citizens and Government.* | The main contribution of the model is that it provides a comprehensive framework for e-governance applications (i.e. administration), as well as the intended benefits and outcomes of these applications (i.e. citizens and government). | *Establish relationships with the administrators in training of public servants and public managers in e-governance for the improvement of services.* |
| **Islam and Ahmed (2007:3)**<br><br>**E-Service Delivery Model** | *a. Online delivery of Multiple services in a single agency*<br>*b. Data centre and Communications.*<br>*c. Computerized Front-end, with manual Back-end.*<br>*d. Assisted one-stop service centres Rural/Urban Kiosk* | As in the case of similar models highlighted above, the main contribution of this model is that it accentuates the necessary interface between government and citizens. Governments are able to disseminate information to citizens, business and service providers, while they are able to give feedback and interact with government. | *Establish and identify the service providers capable of training public service personnel and public managers in accredited ICT content.*<br>*Determine the content for ICT training which has a direct impact on servicing the citizens through ICT.* |
| **Teerling and Pieterson (2011:5)**<br><br>**Citizen's Multi-** | *a. Channel Marketing.*<br>*b. Channel choice.*<br>*c. Channel usage*<br>*d. Channel-use evaluation.* | The main contribution of the model by Teerling and Pieterson is that it maps out a logical framework for the use of ICT in | *Diversity should be considered when determining ICT training for public servants and public managers. This should* |

| | | | |
|---|---|---|---|
| **Channel Behaviour Model** | | government and that the model is based on empirical evidence. One should note, however, that demographics and cultures of countries differ vastly and that the context should be considered in a country such as South Africa, regarding the use of ICT. | *consider the diversified South African demographics and cultures of the country.* |

On the basis of the above listed elements, the following strategic e-governance training model can be designed (Fig. 4.1).

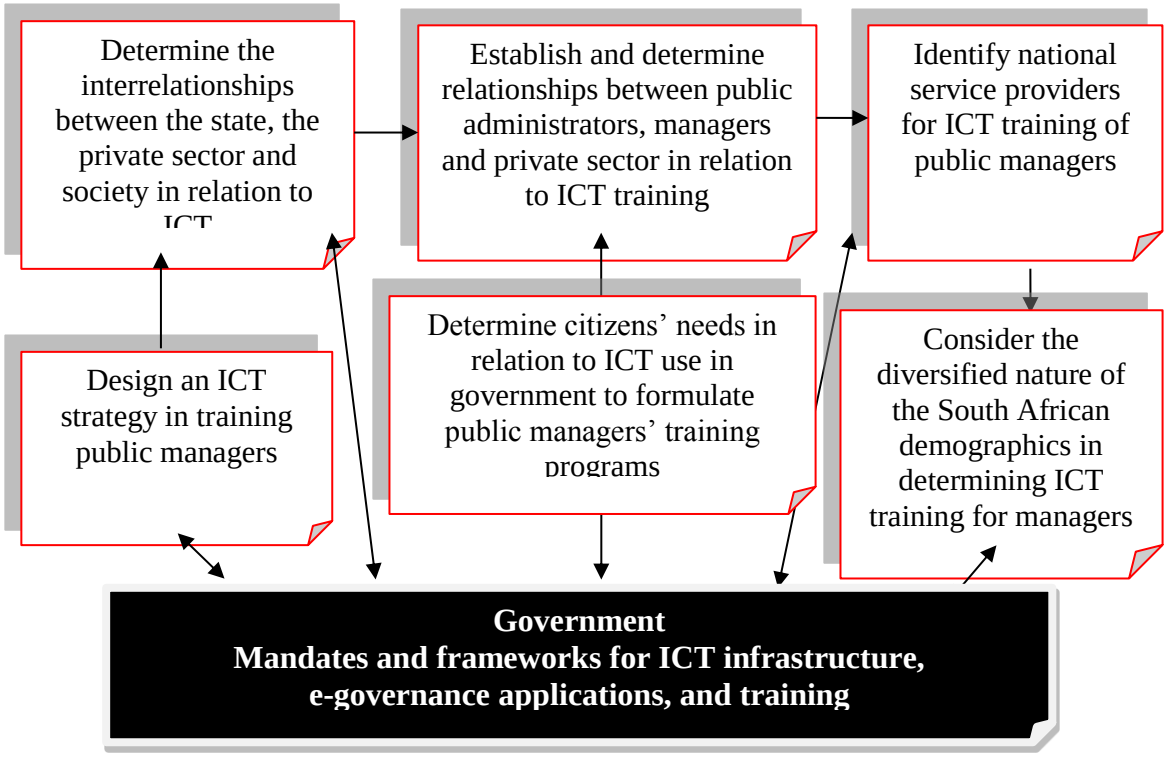



***Figure 4.13:*** **Draft e-governance macro (strategic-) training model for the South African Government**

The Government establishes the parameters and broad strategic framework for ICT infrastructure, e-governance policies and applications, as well as the statutory and regulatory framework for managerial training. All the elements of the model are directly linked to Government in a two-way direction (i.e. arrows) monitoring and control.

### *4.5.2.2 Meso (tactical-) level model*

Once Government has established the broad strategic parameters for ICT and e-governance, the next meso-layer entails the tactical orientation of provincial departments to implement their respective mandates provided by national Government. This tactical orientation includes the design of appropriate programs to train public managers in establishing and utilising ICT to foster e-governance.

The Public Service of South Africa should be governed by the democratic values and principles enshrined in the Constitution (*see* Chapter 2, section 2.6.1) It is expected that every public training model should consider these principles enshrined in the Constitution. Furthermore, the Public Service Act 104 of 1994 (*see* Chapter 2) also outlines the principles associated with the training of public employees. The legislative and regulatory framework on training and development of public managers thus forms one of the cornerstones and an underlying basis for the design of training models. Table 4.13 below outlines the elements for e-governance training derived from Southern Africa Development Community (SADC) models as discussed in section 4.2.4 above.

***Table 4.13:*** **Elements of the meso-level e-governance training model**

| Author and model type | Model stages/levels/phases | Description | Elements of e-governance training model |
|---|---|---|---|
| **United Nations (2007:7)**<br><br>**Web-presence Measurement Model for Southern African countries** | • *The emerging web presence*<br>• *The enhanced web presence*<br>• *The web sites*<br>• *Transactional stage*<br>• *Seamless web-presence* | Emphasis on integration of government agencies in all spheres and tiers of government. It further accentuates horisontal integration between departments of different ministries to enable easy exchange and dissemination of information. The intended outcome is an automated process to enable interaction between different institutions and to share resources. | The elements of the e-governance training-model design include:<br>• *Developing the relationship with government agents of all spheres for ICT training which should integrate the three spheres of government.*<br>• *Developing and training in the shared website among all three spheres of government within the provinces, to ensure intergovernmental relations.* |
| **Onyacha** | • *Services for* | Maps out a logical | *The implication* |

| | | | |
|---|---|---|---|
| **(2010:4)**<br><br>**E-governance Interaction Model** | *citizens*<br>• *Services for organisations*<br>• *Services for foreign nationals* | framework for the use of ICT in government and is based on empirical evidence. The model also incorporates servicing the foreign nationals as South Africa relates to other countries internationally. | *and contribution of this model is that it yields the elements such as developing an ICT training content, which seeks to service directly the citizens, organisations and foreign nationals within the provinces, local governments and national governments.* |
| **Colesca (2009:8)**<br><br>**E-Governance Model for African countries** | • *Developing a vision*<br>• *Conduct E-readiness*<br>• *Identify realistic goals*<br>• *Get the bureaucracy to buy in*<br>• *Build public-private partnerships* | The main contribution is that it determines the role of the participants in ICT training, especially the administrators and service providers. It sets the pace how the e-governance training should be conducted to benefit the public managers in relation to servicing the public. | The elements applicable to the development of an e-governance training model from Colesca's model are:<br>• *Developing an e-governance training vision.*<br>• *Conducting an assessment of readiness for e-governance training within the government institutions.*<br>• *Developing partnerships with private companies for qualitative training and funding.*<br>• *Developing attainable goals in ICT training.* |

| | | | |
|---|---|---|---|
| **Bwalya (2008:30)**<br><br>**E-Governance Conceptual Model for the SADC region** | • Language of content of both English and local language.<br>• Appropriate and continued user support.<br>• Appropriate legal regulatory framework<br>• Risks, local culture.<br>• Continual use of e-governance. | The contribution in designing e-governance training models is that it considers the diversity in cultures that includes language and the continual use of e-governance within the region. | The following elements can be used in the development of an e-governance training model from Bwalya's proposed model:<br>•*The language sensitivity in ICT training, as the provincial demography may be diversified.*<br>•*The legal framework for enforcing ICT training within the public sector.*<br>•*The risks which include culture, language and religion in ICT training.*<br>•*Establishing sustenance systems for ICT training.* |

A meso (tactical-) level model for provincial departments can be developed by incorporating the above elements as displayed in Figure 4.14:

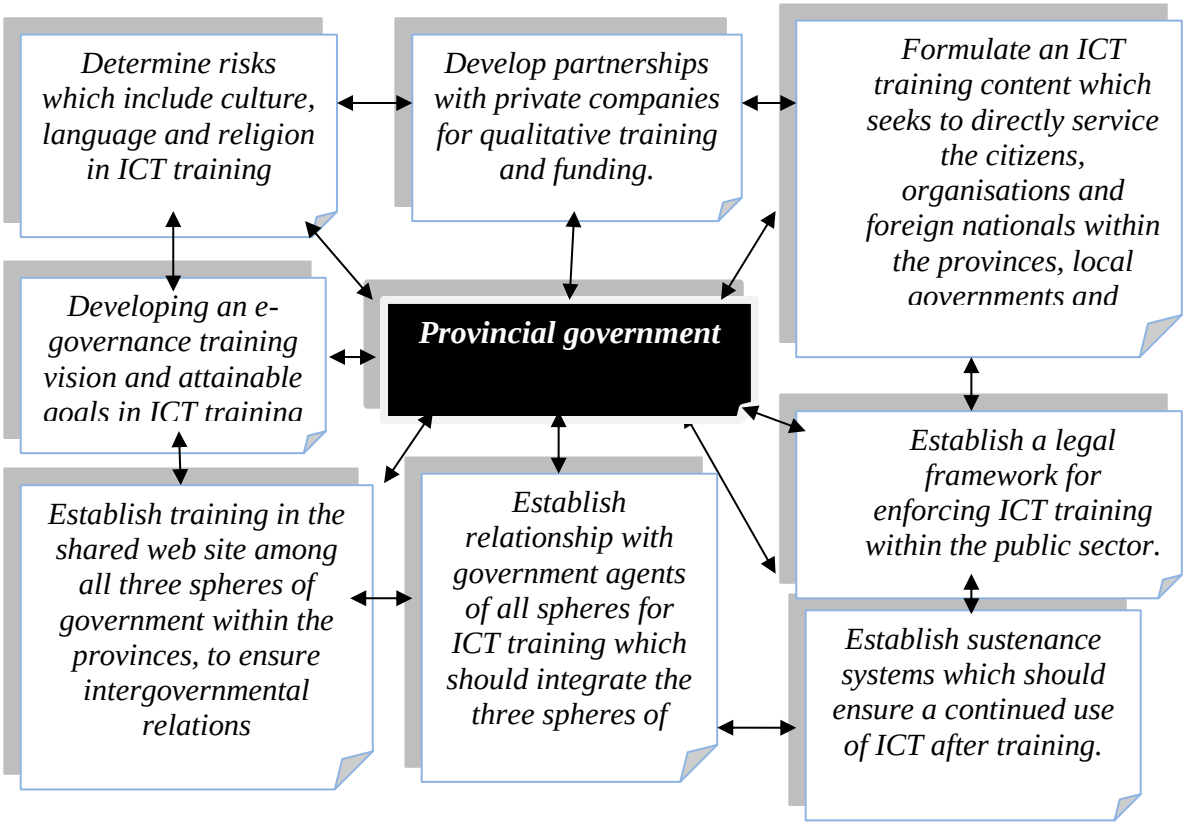



***Figure 4.14:*** **A draft meso (tactical-) level E-governance Training Model for Provincial Departments**

The elements in this model are all interconnected, as indicated, with two-way arrows. This demonstrates interrelatedness of the elements, especially by establishing sustenance systems to ensure continuity in ICT use after training. Such systems are linked directly to the legal framework for training within provincial departments of the South African Public Service. The provincial government is at the centre of these elements, as it oversees the implementation of all elements of e-governance training in each department.

### *4.5.2.3 Micro (operational-) level model*

The meso-level model for e-governance training outlines the elements which provincial departments should incorporate in their departmental plans and programs. These departmental plans and programs, however, should be implemented by the respective training units (usually situated in the Human Resource sections of provincial departments). These units should develop operational guidelines, procedures and steps to implement training programs in the department.

The following discussion unfolds the development of an e-governance micro-level model for provincial departments. Tables will be utilised to outline shared views on the respective operational steps to apply the e-governance model. These elements will be incorporated in the development of the drafted e-governance training model for the Free State provincial departments. The shared views are derived from the international and national e-governance

models provided by various authors examined in Chapter 3 and the models for the SADC region, as laid out in Table 4.13.

***Table 4.14:*** **Shared views on Step 1 of e-governance application and training**

| Author | Step 1 | Description | Ideal-type model elements |
|---|---|---|---|
| **Colesca (2009:** | *Developing a vision* | A vision for the use of e-governance and ICTs should be developed before any step can be taken. This places constraints on realising the goal of e-governance inception. | *Developing a vision based on the available information.* |
| **Bwalya (2008:30)** | *Perceived ease of use* | The perceived ease of use of e-governance websites will positively influence perceived usefulness of e-governance websites and applications. | |

***Table 4.15:*** **Shared views on Step 2 of e-governance application and training**

| Author(s) | Step 2 | Description | Ideal-type model element |
|---|---|---|---|
| **Colesca (2009:8)** | *Conduct e-readiness* | This step refers to conducting a feasibility study on the value of e-governance implementations. | *Determining the need for e-governance applications.* |
| **Bwalya (2008:30)** | *Perceived ease of use* | The perceived ease of use of e-governance websites will positively influence perceived usefulness of e-governance these websites and applications. | |

***Table 4.16:*** **Shared views on Step 3 of e-governance application and training**

| Author(s) | Step 3 | Description | Ideal-type model elements |
|---|---|---|---|
| **Colesca (2009:8)** | *Identify realistic goals* | Realistic, attainable goals on the implementation of e-governance should be formulated. | *Realistic goals are set with an appropriate infrastructure.* |
| **Chen (2002)** | *Transaction* | Services between citizens and governments are supported. Government branches also use the Internet for transactions among themselves. | |
| **Bwalya (2008:30)** | *Appropriate ICT infrastructure* | The appropriate ICT infrastructure and lower costs to access the basic technologies, impacts positively on usability and correspondingly on perceived ease of use. | |

***Table 4.17:*** **Shared views on Step 4 of e-governance application and training**

| Author(s) | Step 4 | Description | Ideal-type model elements |
|---|---|---|---|
| **Colesca (2009:8)** | *Get the bureaucracy to buy in* | The participation and support of political and administrative leadership is inevitable in the successful implementation of e-governance. | *Bureaucratic or administrative participation is essential in training* |

***Table 4.18:*** **Shared views on Step 5 of e-governance application and training**

| Author(s) | Step 5 | Description | Ideal-type model elements |
|---|---|---|---|
| Colesca (2009:8) | *Build public-private partnerships* | The relationship between the private and public sectors is a prerequisite to successful e-governance implementations and applications. | *Public private partnerships are essential for successful personnel training and development in the public sector.* |
| Halligan and Moore (2011:8) | *Establishing the intent* | focuses on political intent, financial incentives, customer familiarity, | |

| | | | |
|---|---|---|---|
| | | structural trends | |
| | *Partnerships* | This principle implies that governments should view firms and civil society organisations as partners in securing resources, skills improvement, better access and adequate capacity to service the ICT networks. | |

***Table 4.19:*** **Shared views on Step 6 of e-governance application and training**

| Author(s) | Step 6 | Description | Ideal-type model elements |
|---|---|---|---|
| **Rondinelli (2007:3)** | *Skills and culture of the civil service* | The civil servants require skills in order to fulfil the culture of working and productivity. | Specific skills should be developed by determining the training content for public servants. |
| | | | |

***Table 4.20:*** **Shared views on Step 7 of e-governance application and training**

| Author(s) | Step 7 | Description | Ideal-type model elements |
|---|---|---|---|
| **Colesca (2009:8) Rondinelli** | *Monitoring and evaluation* | Establish procedures for monitoring and evaluation. | *Monitoring and evaluation are an essential step towards ensuring e-governance applications, especially in implementing skills learned from training.* |
| | | Setting clear responsibilities and realistic benchmarks for e-governance development, as well as for their transparent monitoring, is an important ingredient for eventual success. | |

***Table 4.21:*** **Shared views on Step 8 of e-governance training legislation**

| Legislation | Stipulations on training of public personnel | Description | Ideal-type model elements |
|---|---|---|---|
| **Constitution of the Republic of South Africa, 1996** | *Good human-resource management and career-development* | Public personnel and public managers must be trained and developed to maximise human potential. | *Human-resource management and career* |

| | | | |
|---|---|---|---|
| | *practices must be cultivated to maximise human potential.* | | *development* |
| | • *SAMDI under the stipulations of the Public Service Act shall provide such training or cause such training to be provided.*<br>• *May issue diplomas or certificates or cause diplomas or certificates to be issued to persons who have passed such examinations.* | The training of public managers is not only enshrined in the Constitution, but also in the Public Service Act. | • *Training, tests and examinations to be provided for public personnel, including public managers.*<br>• *Diplomas or certificates to be issued to persons who have passed examinations.*<br>• *IC T use in government should be enforced through legislation.*<br>• *Enforced training and development of public personnel will also ensure access to career paths.*<br>• *Public managers should be exposed to formal education and training.*<br>• *The process of training, educating and developing South African public managers is* |
| | The above-mentioned Act has a direct implication on training and developing public personnel and public managers. The reason is that it stresses the full personal development and redressing of past discrimination in education, training and employment opportunities. The Act also has a direct impact on the training of managers as it highlights the importance of access to mobility and progression within education, | There is a need to train public servants and especially the public managers, as this will improve the quality of services rendered by the public personnel. Public servants may also benefit in terms of career paths from education, training and development. | |

| | | | |
|---|---|---|---|
| | training and career path (*see* Chapter 2, section 2.6) | | *enforceable by among others, the Skills Development Act.*<br>• *There is a need to enforce ICT use in the public sector.* |
| | *The aim of the Act is to promote good-standard education beyond formal schooling. It regulates higher education in South Africa and governs the legislation related to the establishing and operation of a Council on Higher Education (CHE); also the funding and operation of public higher education institutions. It also provides for the appointment and functions of an independent assessor as well as the registration of private institutions.* | The Act promotes good standards on education beyond formal schooling, which gives public managers an opportunity for self-development and empowerment (*see* Chapter 2, section 2.6) | |
| | *The Skills Development Act 97 of 1998, Chapter 3, section 10, deals with the Sectoral Education and Training Authorities (SETA) and the functions of the SETA. The Act indicates that a SETA in accordance with any requirement that may be prescribed should perform specific* | It is noteworthy that the Skills Development Act seeks to address the scarcity of skills in the workplace, especially the public sector. | |

| | | | |
|---|---|---|---|
| | *task assigned to it (see Chapter 2, section 2.6)* | | |

On the basis of the discussions outlined in the tables above, the following draft training model for e-governance is structured as indicated by Figure 4.15 below.

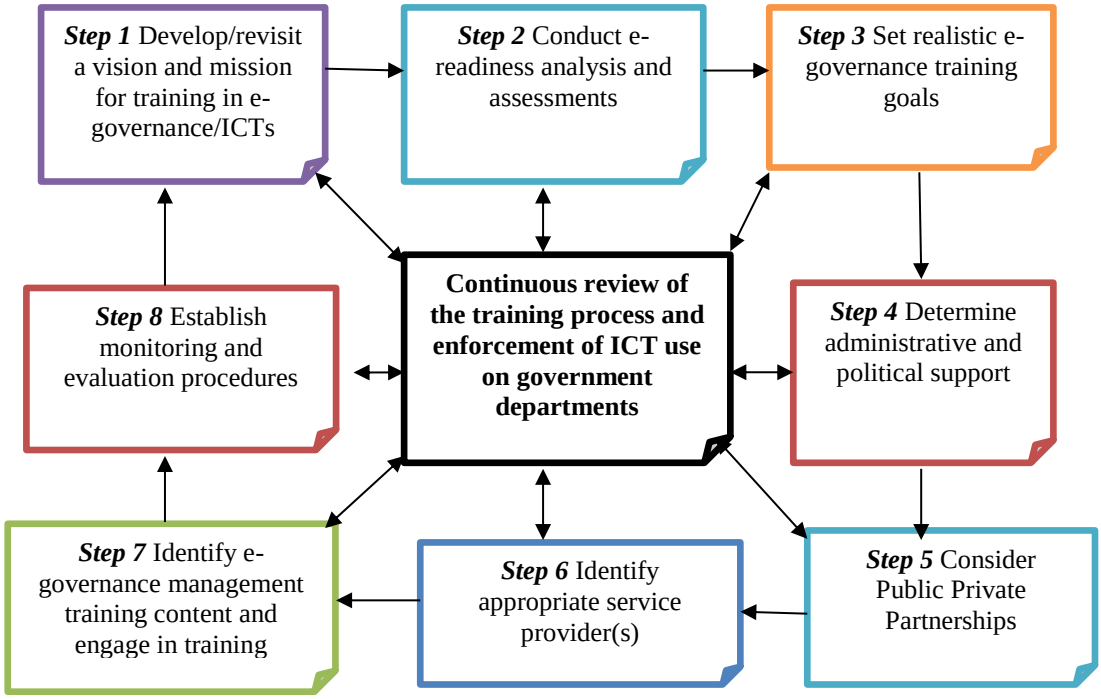



***Figure 4.15:*** **Draft Model for e-governance Training**

The drafted e-governance training model above outlines the development or revisiting of the departmental training vision and mission in e-governance. The second step is to assess the e-readiness. In other words, before training can be done, there is a need to determine whether the department/unit/component is ready for e-governance training. This is immediately followed by setting realistic goals for such training step (step 3). Thus, there should be goals set for training in relation to the assessed needs. The next step (Step 4) is to determine the political and administrative support available. The training process should be informed by the political and administrative mandates.

Partnerships should be sought (Step 5) with the private sector (typically through formal public-private relationships), to ensure financial and qualitative support during training procedures. The next step (Step 6) is to identify the service provider that should render training services. The training content should be developed together with the service provider (Step 7), and should be adjusted for the specific needs and requirements of the department. This should include the training content such as i) Interpersonal skills, b) Communication skills, ii) Decision-making skills, iii) Leadership skills iv) Technical skills, f) Time management skills, g) Conceptual skills, and h) Technical skills (e.g. program development and design, ICT, presentation).

This should be followed immediately by the monitoring and evaluation procedures (Step 8), which should determine the managers' level of compliance and their practicing of learned ICT skills. The final step (Step 9) is actually an on-going process to review the training process and the monitoring of ICT applications in Government by responsible senior public managers in provincial departments. The cycle continues by reviewing the vision and mission of ICT/e-governance training, if the set goals are not achieved.

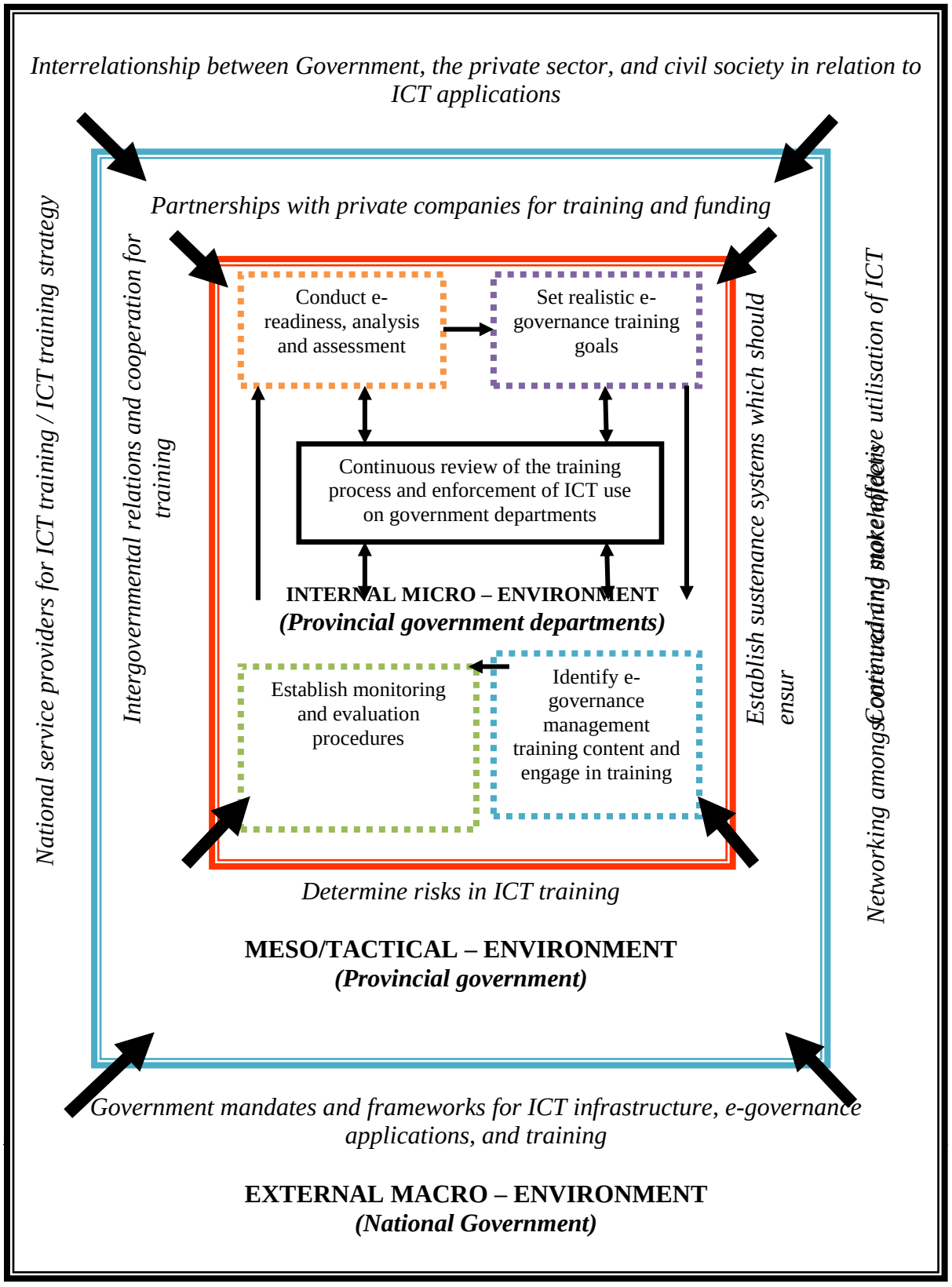
#### *4.5.2.4 A draft comprehensive operational-level model*

The discussions above focused on developing the draft macro-, meso- and the micro-models of e-governance training. The discussions also identified the elements which may be essential for developing the draft comprehensive e-governance training model for Free State provincial public managers. The following discussion focuses on the draft comprehensive e-governance training model as informed by the above models (macro-, meso- and micro-).

The proposed draft training model entails an intertwined three-stage model integrating the external macro-and-meso/tactical and the internal e-governance training environments. All these environments impact on one another from the external to the internal:

a. *External macro-environment:* represents the national government's influence on the training of public managers in e-governance.
b. *Meso/tactical-environment:* represents the impact of the provincial governments on the training of public managers in e-governance.
c. *Internal, micro-environment:* illustrates the impact of individual provincial government departments' initiatives in training of public managers in e-governance

The proposed model and its integration of the above-mentioned environments are depicted in Figure 4.16 below.




In Figure 4.16 above, the black arrows represent the influence of various environments on the training of public managers. The external environment (macro-environment) has a significant influence on the empowerment of public managers in ICTs. This includes the following elements: ensuring interrelationships between Government, the private sector and civil

society in ICT training; determining national service providers for ICT training; designing ICT strategies; establishing training systems; and building relationships between the public sector and the private sector regarding ICT training.

The meso (tactical–environment) refers to the provincial government's responsibility in directing and facilitating ICT training. This environment is characterised by the development of partnerships with private companies for funding and other training capacities. It also entails determining risks and establishing frameworks for ICT infrastructure and e-governance applications.

The innermost part of the model (micro–environment) represents the impact of the provincial government's initiatives on public managers' e-governance training. This includes conducting e-readiness assessments, setting realistic e-governance training goals, analysing and assessing training, continuous review of the training process, as well as identifying training content for e-governance. This model would be modified and refined based on inputs through personal interviews with respondents in the field. The input would determine the final model, which would be presented in Chapter 6 of the present study.

## 4.6 CONCLUSION

This chapter in broad terms synthesised the content of the theoretical chapters. This was done by integrating the respective principles and elements of training and development, ICT applications, e-governance, and international and national models. Such a synthesis was necessary to identify common elements that might be included in a management-training model for e-governance on macro (strategic-), meso (tactical-), and micro (operational-) levels.

The chapter established the critical interfaces between training and e-governance in the South African Public Service, by defining and examining the core-elements of managerial training, those of e-governance skills, drawing a comparison between training principles and elements of e-governance skills, and competencies. This chapter also assessed the status of e-governance in the South African Government and its alignment with training models and approaches in provincial departments. Tables and figures were incorporated that outlined contrasts and comparisons of various e-governance/ICT innovations and applications.

The discussions led to a drafted training model for e-governance based on the sequential theoretical contents of Chapters 2, 3 and 4. This can be considered groundwork for the empirical investigation in the next chapter (Chapter 5) to refine, verify and potentially validate the content of the draft model.

# CHAPTER 5

# TRAINING FOR E-GOVERNANCE IN THE FREE STATE PROVINCE: EMPIRICAL FINDINGS

## 5.1 INTRODUCTION

From the beginning of the present study, the research domain was carefully demarcated by focusing on the development of an e-governance training model for selected Free State provincial departments. Chapter 1 provided the broad orientation to this study by highlighting the problem statement, objectives of the study, research questions and the methodology for data collection. Chapter 2 outlined a theoretical and contextual perspective of public-management training. Chapter 3 continued by gleaning insights from global e-governance trends, models and applications. This information was used for a comparative analysis: the South African experience measured against the international designs. This comparative perspective identified core elements which should be incorporated into the design of an e-governance training model for Free State provincial departments. These insights led to the design of a drafted an e-governance training model, as discussed in Chapter 4.

The purpose of this chapter is to verify and refine the drafted model by means of an empirical investigation of the selected cases. The chapter will report on findings obtained from participants in selected Free State provincial departments in this regard. The exposition will start off by giving an outline of the research objectives and methodology. The profile of the participants will then be presented, followed by the participants' views. These views will be analysed with the aid of tables and charts as a means to visualise the different perspectives of the participants.

## 5.2 RESEARCH OBJECTIVES

Mc Namara (2014:1) explains that when analysing data *(whether from questionnaires, interviews, focus groups, or any other method)* the researcher always has to begin with a review of research goals, i.e., the reasons for undertaking the research. Therefore, as this chapter seeks to analyse the empirical findings of the data collected, a brief review of the research objectives will be put forward.

The primary objective of this study was: *Develop an e-governance training model for the Free State Departments' ICT units in order for these departments to participate effectively in applications and implementations of e-governance and to also fulfil the mandate of the legislation governing the use of ICT in government*. (*See* Chapter 1, section 1.5.1. Some of the secondary objectives of this research were highlighted as follows (see chapter 1, section 1.5.2):

a. *Formulate the e-governance training models available in selected Free State Provincial Departments to effectively promote e-governance.*
b. *Suggest solutions to the challenges faced by the Free State Departments ICT managers in designing e-governance training models.*
c. *Determine standards and specifications that the Free State Departments ICTs units may ascribe to, to be able to fully implement e-governance.*

*d. Suggest the dimensions and elements that should be incorporated in a comprehensive e-governance training model for public managers.*

To operationalise these objectives the researcher designed a comprehensive interview schedule. All the respective elements contained in the objectives were integrated into the structures for the respective interview questions. Interviews were employed to collect data as the selected research method.

The following discussion highlights the methodology the researcher used in gathering the data, and emphasises the rationale for the choice of the methodology and selection of the participants as captured in Chapter 1 (section 1.6.2 and 1.6.2.1)

## 5.3 RESEARCH METHOD

On the first week of December 2014, the researcher began to i) send emails to sampled departments asking them to provide participants for the study; ii) explain the research in detail; and iii) obtain consent beforehand to gather data from willing participants. Most participants indicated their willingness to participate, especially after the research details were explained. Some managers helped the researcher to identify participants who would take part in interviews during data gathering. Participants were selected according to the following criteria: their knowledge of ICTs and e-governance, their involvement in ICT training, ICT management or whether they are managing some areas of IT in their respective units/components/departments. This selection was followed by a *pilot study* involving two Assistant Directors and two Deputy Directors from the Department of Police Roads and Transport, who participated individually in the interviews. This helped the researcher to test the clarity and validity of the questions in the interview schedule. The interview schedule was refined based on the input gained during the pilot study

### 5.3.1 Sampling

The method of research was purposive sampling, which entails selecting units from the population of interest to enable generalisation of the results obtained (Web Centre for Social Research Methods, 2015:1). The sampling strategy had a dual focus: departments and participants.

*Sampling of departments*: Four Free State provincial departments were sampled for this study, namely the Department of Police, Roads and Transport; Department of Health; Department of Public Works and the Department of Social Development. Purposive sampling was used to identify these departments as preliminary investigations indicated that they have relatively high maturity levels of e-governance applications and utilise ICT extensively in their service-delivery operations in the province.

*Sampling of participants*: The total population of participants was 30 across all sampled provincial departments. Purposive sampling was also applied to select participants who have direct responsibilities in the field of ICT management, applications and training. Although the interview schedule was designed for Directors, Deputy Directors and Assistant Directors of sampled departments, an executive manager was also interested in participating in the study. He was included in the survey to enrich the nature of opinions and expand the scope of participants.

### 5.3.2 Data collection method

An interview schedule was compiled to facilitate semi-structured interviews with participants *(See* Chapter 1, section 1.6.2.1). Mc Laughlin (2003:4) defines the semi-structured interviews as a flexible, but usually method of varying levels of standardization in asking questions. Furthermore open-ended questions dominate the interview process with participants given ample opportunities to respond to the questions broadly. The interview questions were categorised into three main sections:

a. current ICT and e-governance practices and applications;
b. managerial considerations; and
c. the inputs to the drafted training model

The interviews were conducted during the period 20 January to 20 February 2015. Consent forms were signed and the purpose of the interview explained to each participant for clarity and understanding. This largely facilitated full participation and the quality of contributions. Table 5.1 below indicates the biographical details of the participants as captured in the consent forms and the interview schedules.

***Table 5.1*: Biographical profile of participants**

| Participants (PS) | Biographical details |
|---|---|
| Participant 1 (PS1) | Executive Manager (Research unit), Department of Social Development. Fourteen years in position; MBA. |
| Participant 2 (PS2) | Senior Manager/ Director (Transport Management), Department of Police Roads, and Transport. Five years in position; Post-Graduate Diploma in Labour Law. |
| Participant 3 (PS3) | Director, (Asset manager, including ICT) Department of Police, Roads and Transport. Two years in position. BBA. |
| Participant 4 (PS4) | Director (Human and ICT Resources), Free State Department of Health. Five years in current position; B degree. |
| Participant 5 (PS5) | Director (Human Resource Management and ICT), Department of Social Development. Five years in the position; B degree. |
| Participant 6 (PS6) | Director (Information and Communication Technology), Department of Public Works and Infrastructure. Six years in the position; MBA. |
| Participant 7 (PS7) | Director, Department of Police, Roads and Transport, Road Safety Unit. Two years in the position; BML. |
| Participant 8 (PS8) | Deputy Director (Human Resource Development and ICT Resource Management), Department of Social Development; Diploma in Human Resource Management. |
| Participant 9 (PS9) | Deputy Director (Traffic Training College and ICT Training), Department of Police, Roads and Transport (Traffic Management). Twenty-two years in the position; National |

| | |
|---|---|
| | Traffic Police Diploma. |
| Participant 10 (PS10) | Deputy Director (Road Traffic Safety), Department of Police, Roads and Transport. Nine years in position; Post-graduate Diploma in Labour Law. |
| Participant 11 (PS11) | Deputy Director (Traffic Management and ICT resources), Department of Police, Roads and Transport. Twenty-four years in the position; National Traffic Police Diploma. |
| Participant 12 (PS12) | Deputy Director (Asset Management), Department of Police, Roads and Transport. Six years in the position; BA. |
| Participant 13 (RS13) | Deputy Director (Human Resource Management and ICTs), Department of Social Development. Eight years in the position; BA. |
| Participant 14 (RS14) | Deputy Director (Human and ICT Resources), Free State Department of Health. Four years in the position; BA in Communication. |
| Participant 15 (RS15) | Deputy Director (Police, Roads and Transport) ICT management and programs coordination. Three years in position; Diploma in Human Resource Management. |
| Participant 16 (PS16) | Deputy Director (Premier's Office for Police, Roads and Transport) monitoring and evaluation of programs, including ICT programs. Seven years in current position; MPA. |
| Participant 17 (PS17) | Assistant Director (Human Resources and ICT), Department of Police, Roads and Transport. Four years in the position; BA in Communication. |
| Participant 18 (PS18) | Assistant Director, Department of Police, Roads and Transport (Human Resources and ICT). Three years in the position; Diploma in Public Administration. |
| Participant 19 (PS19) | Assistant Director, Department of Police, Roads and Transport, (Traffic Management and ICT). Eight years in the position; Post-graduate Diploma in Labour Law. |
| Participant 20 (PS20) | Assistant Director, Department of Public Works (Human Resource Management and ICT) coordinator of the Department 'skilling programmes. Ten years in position; BA Information. |
| Participant 21 (PS21) | Assistant Director, Department of Police, Roads and Transport, (Traffic Management and ICT). Three years in the position; Post-graduate Diploma in Labour Law, Post-graduate Diploma in Project Management, Diploma in Road Traffic Safety and a B Tech degree. |
| Participant 22 (PS22) | Assistant Director (Financial Administration and Revenue Admin ICTs), Department of Police, Roads and Transport. Seventeen years in the position; Nat. Diploma. |

| | |
|---|---|
| Participant 23 (P23) | Assistant Director (Human Resource Management and ICT), Department of Police, Roads and Transport. Two years in the position; BA. |
| Participant 24 (PS24) | Assistant Director (Asset Management including ICT resources), Department of Police, Roads and Transport. Four years in the position; Diploma in Public Administration. |
| Participant 25 (PS25) | Assistant Director (ICT Unit), Department of Social Development. Eight years in the position; Nat. Diploma. |
| Participant 26 (PS26) | Assistant Director, Department of Social Development. Five years in the position; B degree. |
| Participant 27 (PS27) | Assistant Director (Human and ICT Resources), Free State Department of Health. Three years in the position; MPA. |
| Participant 28 (PS28) | Department of Public Works (Human Resource Development and ICT programs coordinator). Five years in position; BA. |
| Participant 29 (PS29) | Assistant Director (Police, Roads and Transport) Revenue administration's ICT Manager. Eighteen years in position; B Admin. |
| Participant 30 (PS30) | Assistant Director (Police, Roads and Transport) Human Resource Development and Skills Empowerment). Six years in the position; BA in Communication. |

The sample's profile indicates the number of participants and their managerial positions regarding their departments, experiences and highest qualifications. All of the participants are either ICT managers or managers responsible for ICT resources in their respective units, components and directorates. The profile also highlights the academic background of the participants as a rationale towards determining managerial competencies and their general e-readiness.

## 5.4 FINDINGS: CURRENT ICT AND E-GOVERNANCE PRACTICES AND APPLICATIONS

Table 5.2 below and its related discussions highlight the responses of participants on the first set of questions, which were designed to establish current e-governance practices and applications of sampled departments. The questions were formulated based on the theoretical orientation on management training presented in Chapter 2 of this study.

The responses were outlined in the form of values and percentages. Participants' views were recorded in comparative ratios against the total number of those who partook in the research. According to Tukey and Tufte (2015:1), the part-to-whole analysis is the categorical subdivisions in research analysis, which measures the ratio to the whole (i.e. a percentage out of 100%). The percentages were calculated on the basis of the following formula:

$$\frac{\text{The participants' views (PV)}}{\text{The total number of participants (30)}} \times \frac{100}{1}$$

This formula indicates the values of participants' views (PV) out of the total number (30) who participated in the research, multiplied by hundred (100) over 1, to determine the percentage in terms of the part-to-whole analysis. The same formula was applied to the analyses of all finding categories.

***Table 5.2:*** **Current ICT and e-governance practices and applications**

| **YES/NO questions on current ICTs and e-governance practices and applications: Questions 1 – 7, (Q)** | **Participants views (PV)** | | | |
|---|---|---|---|---|
| | **Yes** | **%** | **No** | **%** |
| **2.1. (Q1)** Do you have any ICT management training schedules in your department? (Yes/No) If 'yes' please briefly elaborate. | **8/30** | **27%** | **22/30** | **73%** |
| **2.2. (Q2)** Do you have any ICT management training programs in your department? (Yes/No) If 'Yes' please briefly explain the nature of these programs**.** | **8/30** | **27%** | **22/30** | **73%** |
| **2.3. (Q3)** Were you trained in the use of the contemporary departmental IT software or any ICT resources for your departmental services as a manager? (Yes/No). Please elaborate/explain. | **8/30** | **27%** | **22/30** | **73%** |
| **2.4. (Q4)** Are you aware of any rules, regulations or policies about ICT operations in your department/unit/component as a manager? (Yes/No). Can you please provide some examples of such rules, regulations and policies? | **7/30** | **23%** | **23/30** | **77%** |
| **2.5. (Q5)** Were you ever involved in the design of an electronic governance (e-governance) training model? (Yes/No). If "Yes", please elaborate. | **5/30** | **17%** | **25/30** | **83%** |
| **2.6. (Q6)** Is there a specialized ICT management training unit in your department? (Yes/No) | **11/30** | **37%** | **19/30** | **63%** |
| **2.7. (Q7)** Is there a need for specialized ICT management skills training to improve services rendered by your department? (Yes/No). Please elaborate. | **3/30** | **10%** | **27/30** | **90%** |

### 5.4.1 Discussion of the findings

According to Table 5.2 above, the responses of the interviewed participants were as follows:

a. Out of the 30 participants interviewed, 73% indicated that there are no ICT management training schedules in their departments, which means that only 27% have ICT management training schedules in place.
b. A many as 27% percent of the interviewed participants indicated that they have ICT management-training programs, and thus 73% indicated that they did not have such programs. This high percentage highlights the severity of the issue that helped to pose the research problem.
c. Less than a third, 27%, of the participants indicated that they have been trained in contemporary departmental ICT software applications, which means a worrying 73% gave a negative response. This situation may have far-reaching consequences for the respective departments.
d. Only 23% of participants indicated that they are aware of rules, regulations and policies about ICT operations in their departments, which leaves a significant 77% who were not aware of such guidelines. Some participants were prepared to elaborate on this question by providing some examples of contemporary available ICT rules, regulations and policies on a national level in South Africa. Among these examples were:
    - ICT governance charter;
    - ICT strategic plan;
    - ICT security policy;
    - ICT operations and implementation plan;
    - ICT patch management policy;
    - ICT change management policy;
    - ICT disaster recovery policy; and
    - ICT user account management policy.

    However, the participants were unable to provide examples of how their departments interpret and operationalise these documents in their practical activities and functions.

a. A scanty 17% of the participants were involved in the design of their e-governance training model, and 83% thus were not involved. The issue of management buy-in and commitment may be severely hampered if senior levels of management are not involved in the design of the models they are supposed to implement.
b. It is significant that 37% indicated that there is a specialised ICT management training unit in their departments, and 63% thus gave a negative response. Organisational structures and the effective resourcing of ICT training are critical for the successful implementing of ICT and e-governance imperatives.
c. A meagre 10% agreed that there is a need for specialist ICT management training to improve services rendered by departments. This means that nearly all participants (90%) did not agree about a need for specialist ICT management training. Some of the participants who selected “YES” as confirmation provided the following reasons for their choice when asked to elaborate:
    - To educate the public managers and staff.
    - The world is becoming more technical. Therefore, the government needs to keep up with standards.
    - Training managers in ICT skills will improve service delivery.

- Beyond change management, there is a growing need, in light of the heightened use of the efficiencies that could be gained through the improved use of ICTs.

The higher rating (73%) on question 1 of Table 5.2 above ("Do you have any ICT management training schedules in your department?") is in line with the first objective of the study: *developing theoretical models, approaches and paradigms associated with managerial training and development, with specific reference to the public sector*. It is quite significant that 63% of the participants indicated (Q6) that they do not have any ICT management-training schedules in their departments. This shows that the theoretical underpinnings of and approaches to ICT usage in Government, and the typical managerial applications of e-governance departments in the Free State, are extremely low and require serious intervention. Furthermore, this rating is a rationale for the need to develop public managers in various skills as discussed in Chapter 2 (section 2.5).

Furthermore, the high percentage of negative responses to questions 2-6, confirms the urgent need for provincial departments to remedy and improve ICT and e-governance training processes for public managers. The 77% of "NO" responses to question 4 further illustrates the lack of knowledge about rules, regulations and policies governing the use of ICTs in South Africa. Provincial departments should address this matter through appropriate campaigns for training and awareness.

Represented on a column chart, the values presented in Table 5.2 can be outlined as follows in Figure 5.1 below.

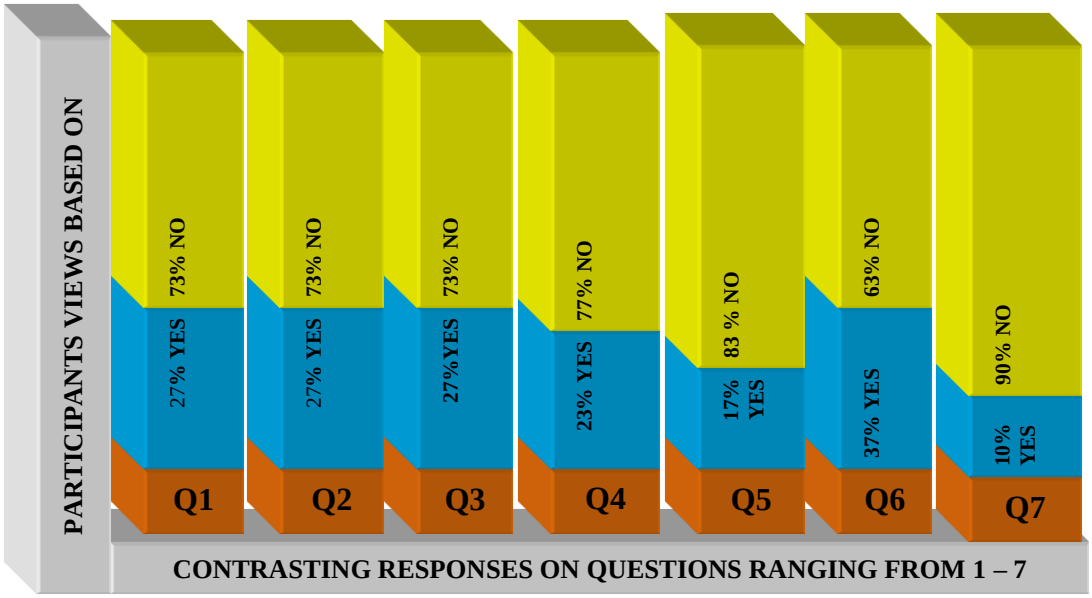



***Fig. 5.1:*** **Column chart representing the participants' views on the current ICT and e-governance practices and applications in their departments**

### 5.4.1.1 Skills rating

To follow, Table 5.3 and its discussions below outline the skills-rating responses from participants on the first set of questions about ICT skills required by public managers. These skills were identified in Chapter 2 of the study.

***Table 5.3:*** **Skills rating**

| Skills | Participants' views (PV) | | | |
|---|---|---|---|---|
| | **Ratings (equal to 10)** | **%** | **Ratings (less than 10)** | **%** |
| **Interpersonal skills** | **30/30** | **100%** | **0** | **0%** |
| **Communication skills** | **30/30** | **100%** | **0** | **0%** |
| **Decision-making skills** | **28/30** | **93%** | **2/30** | **7%** |
| **Leadership skills** | **28/30** | **93%** | **2/30** | **7%** |
| **Technical skills** | **25/30** | **83%** | **5/30** | **17%** |
| **Time management** | **26/30** | **87%** | **4/30** | **13%** |
| **Conceptual skills** | **28/30** | **93%** | **2/30** | **7%** |
| **Technical skills (e.g. programme development and design, ICT, presentation)** | **27/30** | **90%** | **3/30** | **10%** |

### 5.4.2 Discussion of the findings

The high rating of skills (1 = insignificant; 10 = very high) in Table 5.3 above, ranging from 90% to 100%, addressed the research objective: *Determine the theoretical underpinnings and approaches to the use of ICT in government and establish the typical managerial applications of e-Govt departments.* Most participants agreed that the skills listed on Table 5.3 are significant as responsibilities of managers. The argument was: Should managers possess these skills they would be in a more advantageous position to address their ICT responsibilities and to implement e-governance initiatives fully.

The following column chart in Figure 5.2 below represents the skills rating in percentages and ranging from 1 – 8 (see 5.4.1.2.1 above) regarding ICT skills which public managers require based on the current and e-governance practices and applications of sampled departments.

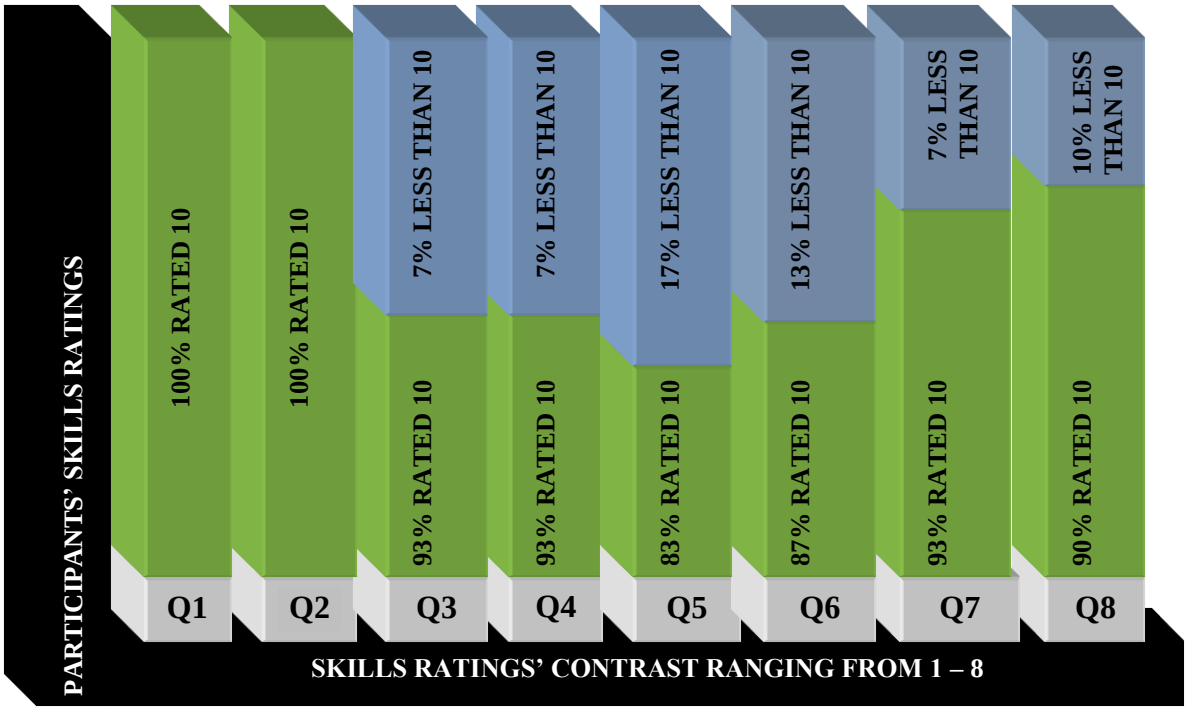



***Fig. 5.2*** **Column Chart representing Participants' Skills Rating**

From the analysis on Table 5.3 above and the culmination of a graphical representation in Figure 5.2 above, it is evident that most participants agreed that interpersonal skills, communication skills, decision-making skills, leadership skills, technical skills, time management, and technical skills in varying degrees are highly significant and relevant for managers. The need for skills empowerment was dealt with in Chapter 2 of this study. Therefore, the high ratings on the required skills for public managers are in line with the theoretical orientation in Chapter 2 (section 2.4). The following sub-section outlines the operational issues as rated by the participants.

### 5.4.2.1 Operational issues

This section seeks to highlight the operational issues relating to the first set of questions on the current e-governance practices and applications of sampled departments.

***Table 5.4:*** **Questions on operational issues**

| Questions on operational issues (Q) | Participants' views (PV) | | | |
|---|---|---|---|---|
| | Ratings equal to 5 | % | Ratings less than 5 | % |
| **(Q1)** There is a need to develop and revisit a vision and mission for training in e-governance/ICTs. | **28/30** | **93%** | **2/30** | **7%** |
| **(Q2)** An effective e-governance training plan requires regular e-readiness assessments. | **27/30** | **90%** | **3/30** | **10%** |
| **(Q3)** An e-governance training plan | **28/30** | **93%** | **2/30** | **7%** |

| | | | | |
|---|---|---|---|---|
| should be determined by training goals. | | | | |
| **(Q4)** An e-governance training schedule should include a determination for administrative and political support. | **28/30** | **93%** | **2/30** | **7%** |
| **(Q5)** Identifying appropriate service provider(s) should form part of an e-governance training plan. | **29/30** | **97%** | **1/30** | **3%** |
| **(Q6)** There is a need to identify e-governance management training content before engaging in operational training. | **29/30** | **97%** | **1/30** | **3%** |
| **(Q7)** Establishing monitoring and evaluation procedures are compulsory to oversee e-governance training. | **28/30** | **93%** | **2/30** | **7%** |
| **(Q8)** There is a need for continuous reviews of e-governance training processes and compliance with statutory | **28/30** | **93%** | **2/30** | **7%** |

### 5.4.3 Discussion of the findings

From the outline of ratings in Table 5.4 above, it is evident that most participants' ratings are equal to 5, whilst a few ratings are less than 5. The high rating (level 5) in line with the statement based on question 1 (Q1) 93% which satisfies the first objective of the study: to *develop theoretical models, approaches and paradigms associated with managerial training and development, with specific reference to the public sector.* This is in line with the statement question (Q1) about *a need to develop and revisit a vision and mission for training in e-governance/ICTs*. The highest rating (90%) applied to the second question (Q2) that *an effective e-governance training plan requires regular e-readiness assessments.* This is in line with the research objective: *Determine standards and specifications that the Free State Departments ICTs units may ascribe to, to be able to fully implement e-governance.* Therefore, the participants' rating helped substantiate the need for e-readiness. This is done by determining the theoretical underpinnings and approaches to the use of ICT in Government, seeing that the public managers need to be e-ready before any ICT managerial applications can be initiated.

The highest rating based on the third question (Q3) (93%) concern *an e-governance training plan* [that] *should be determined by training goals.* This is in line with the third objective of the study: *Determine standards and specifications that the Free State Departments ICTs units may ascribe to, to be able to fully implement e-governance.* This sets the tone for setting realistic goals aligned with ICT standards and specifications to which the Free State Departments may ascribe when implementing e-governance fully. The input on question 8 (Q8) is about the need for continuous reviews of training processes for e-governance and compliance with statutory and regulatory guidelines. This further confirms the theoretical orientation in Chapter 2, which highlighted the need to adhere to the statutory and regulatory framework governing public management training in South Africa. The contrasting ratings of participants on the questions in Table 5.4 can be expressed in a column chart as in Figure 5.3 below.

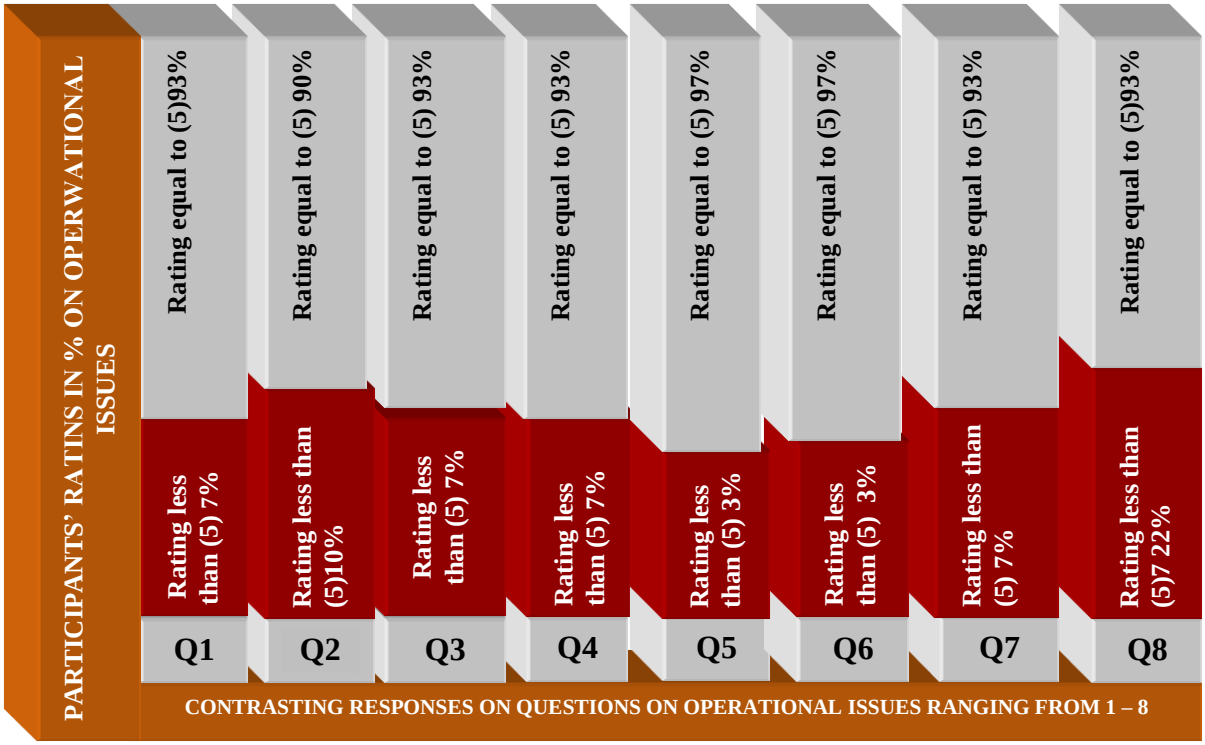



***Fig. 5.3*** **Column chart representing contrasting ratings on operational issues**

The contrasting responses on operational issues as illustrated in Table 5.4 and Figure 5.3 above indicate the matters on which most participants agree:

a. There is a need to develop and revisit a vision and mission for training in e-governance/ICTs.
b. An effective training plan for e-governance requires regular e-readiness assessments.
c. Any e-governance training plan should be determined by training goals.
d. Such a training schedule should include a determination for administrative and political support.
e. Identifying appropriate service provider(s) should form part of an e-governance training plan.
f. There is a need to identify training content for e-governance management before engaging in operational training.
g. It is compulsory to establish monitoring and evaluation procedures in order to oversee e-governance training.
h. There is a need for continuous reviews of e-governance training processes and compliance with statutory and regulatory guidelines on the use of ICT in Government.

To follow is an analytical discussion on managerial considerations as the second set of interview questions. The discussion outlines the participants' views and its implications.

## 5.5 MANAGERIAL CONSIDERATIONS

The interview schedule was provided for the collecting of data about the managerial considerations in designing and implementing a training model as outlined previously. The following table outlines the analysis of the participants' views, highlighted in percentages. The percentages were calculated by means of the following formula:

$$\frac{\text{The total number of participants' views (PV)}}{\text{The total number of participants (30)}} \quad X \quad \frac{100}{1}$$

The total number of participants' views (PV) out of the total number who participated (30) is multiplied by (100) to determine the percentage (%). These views are expounded in Table 5.5 below.

***Table 5.5:*** **Managerial considerations**

| Questions on managerial considerations | Participants' views (PV) |
|---|---|
| Which levels of management do you think should be exposed to ICT training for e-governance applications? Why do you say so? | **PV. 100% (30/30)** of participants agreed that all levels of management should be trained in ICTs. These include supervisors, Assistant Directors, Deputy Directors, Directors, Chief Directors and HODs. The aims are: Promote communication, empowerment, continuous capacity building, continuous education, skills empowerment and knowledge sharing. |
| In your opinion, what are the main obstacles and hindrances to further implement and enhance e-governance endeavours in your department/unit/component? | **PV. 80% (24/30)** of participants cited the lack of funds and political support as the obstacles hindering the implementation of ICT in their departments. The main obstacles highlighted by the other 20**% (6/30)** participants are:<br>• lack of political and administrative support within departments;<br>• lack of ICT resources, and ignorance;<br>• placement, recruitment and selection;<br>• inadequate ICT knowledge and cognisance of its importance |
| What in your view may be the benefits of Public-Private Partnership in public management ICT training in the Free State Government? | **PV. 90% (27/30)** of participants agreed that funding can be benefited from public-private partnerships**.** Furthermore, the other **10% (3/30)** highlighted the following benefits of public-private partnerships:<br>• funding from private institutions;<br>• improved and advanced ICT programmes provided by the private institutions;<br>• public institutions can offer accredited programmes for public |

| | |
|---|---|
| | managers;<br>• transfer of skills;<br>• mutual benefits |
| What do you think are the main benefits of training public managers in ICT/e-governance? (e.g. benefits for the department, for government as a whole, for the community/customers) | **PV. 93% (28/30)** of participants indicated that improved service delivery by the government may result from training public managers in ICTs. The other 7**% (2/30)** highlighted the following benefits for training public managers in ICTs:<br>• improved communication among senior managers and subordinates;<br>• improved services by government departments;<br>• more effective two-way-communication between the government departments and the community;<br>• less paper wastage (going "green");<br>• keeping abreast with latest technology |
| What is your opinion about the state of e-governance in the South African Government in general and in Free State provincial departments in particular? | **PV. 100% (30/30)** of participants agreed that the state of e-government readiness in the South African Government is still extremely low, as most departments are still utilising "old" communication technology such as faxes instead of emails and social networks. The other reason was that<br>e-governance does not receive the attention it deserves in South Africa. |
| What is your opinion about the e-readiness of public managers in general and their ICT competencies in particular? | **PV. 100% (30/30)** participants agreed that most public managers are not academically ready to be trained in ICTs. Therefore, the need is firstly to empower the managers academically and then to introduce ICT training programs. The other input was that e-readiness in South Africa requires "brooding" or "reawakening". It also became evident that the e-readiness of public managers in South Africa is generally at an extremely low level. |

| | |
|---|---|
| What is your opinion on the development of ICT monitoring and evaluation procedures to monitor whether public managers utilise the ICT skills they have learned after training? | **PV. 97% (29/30)** participants agreed that there is a need to develop regulations, policies, and guidelines to train, monitor and evaluate public managers' ICT programs; also to monitor the application and implementation of knowledge learnt from training to avoid wasting government funds.<br><br>Only **3% (1/30)** did not answer the question. |
| In your opinion, which elements should be considered to be relevant for the development of an ICT training model for your department? | **PV. 97% (29/30)** of participants supported and encouraged the development of policies and regulations to monitor and evaluate public managers' ICT practices. They indicated that all ICT elements and programmes are necessary to develop an ICT training model for their departments. Some participants highlighted the following elements to be considered when developing public managers:<br><br>• Include the process programs in ICT training.<br>• Consider citizens' involvement in Government when developing the ICT content for public managers.<br>• Include web-site (html) training for public managers.<br><br>Only **3% (1/30)** did not answer the question. |

### 5.5.1 Discussion of the findings

The following discussion analyses the participants' views on managerial considerations as outlined in Table 5.5 above. The discussions are highlighted with the use of pie charts as a graphic means to express the participants' views.

**a.** **(Q1)** *Which levels of management do you think should be exposed to ICT training for e-governance applications? Why do you say so?* In answer to this question, 100% (30) of participants agreed that all levels of management should be trained in ICTs. They include: supervisors, Assistant Directors, Deputy Directors, Directors, Chief Directors and HODs, with the aim to promote communication, empowerment and sharing of knowledge. When asked to elaborate why all levels of managers should be trained in ICTs, some participants highlighted the following reasons:

a. From middle management upwards, managers are expected to champion the implementing of ICTs within the department. A top-down management approach will go a long way in inculcating a culture of ICT adoption.
b. All levels of management should be trained in ICTs to improve communication and expand managers' knowledge.
c. All levels of management should be trained as that will improve the services rendered by the government.
d. All levels of management, including strategic managers, should be trained, in order to improve on planning and decision making.

**b. Q2.** *In your opinion, what are the main obstacles and hindrances to further implement and enhance e-governance endeavours in your department/unit/component?* Up to 80% (24/30) of participants cited the lack of funds and political support as the obstacles hindering the implementing of ICT in their departments. The main obstacles highlighted by the remaining 20% (6/30) are:

a. limited funding for ICT training in departments;
b. lack of political and administrative support within departments;
c. vague understanding of e-governance;
d. lack of executive support and political to champion ICT initiatives; and
e. in sufficient human capacity

The two main obstacles to e-governance endeavours are presented in Figure 5.5 below.

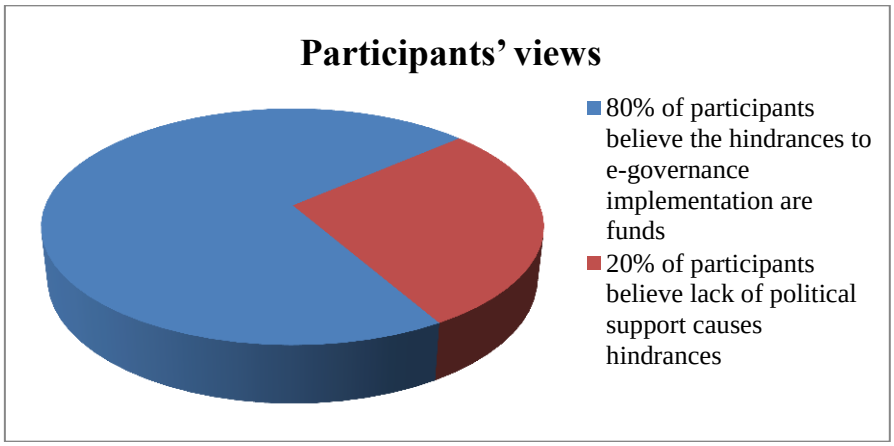



***Figure 5.4:*** **Participants' views on core hindrances to e-governance endeavours**

**c. Q3.** *What in your view may be the benefits of Public-Private Partnership in public management ICT training in the Free State Government?* As many as 90% (27/30) of participants agreed that funding can be the main benefit from public-private partnerships**.** Furthermore, the remaining 10% (3/30) highlighted the following benefits of public-private partnerships:

a. Private Service providers can provide improved and more advanced ICT programs.
b. Private service-providers can offer accredited programs for public managers.

c. The private sector is widely known for its "bigger appetite" for ICT initiatives and risks. Partnerships would expose the more conservative public sector to the efficiencies and innovations that are inherent to the private sector;
d. Transfer of skills will take place.
e. Mutual benefits can be reaped.

**d.** **<u>Q4</u>**. *What do you think are the main benefits of training public managers in ICT/e-governance? (E.g. benefits for the department, for government as a whole, for the community/customers).* A huge number of 93% (28/30) indicated that the training of public managers in ICT would lead to improved service delivery. The remaining 7% (2/30) highlighted the following additional benefits:

a. improved communication amongst senior managers and subordinates;
b. improved two-way-communication between government departments and the community;
c. improved adoption of ICTs within departments;
d. introduction of ICT at every level of operation, including the support functions in the value chain;
e. cost savings and improved quality generally derived from using ICT (i.e. automation of certain functions); and
f. time savings

**e.** **<u>Q5.</u>** *What is your opinion about the state of e-governance in the South African Government in general and in Free State provincial departments in particular?* All of the participants agreed that the state of readiness for e-governance in the government departments is still poor or very low as most departments are still using the more conventional communication systems and technologies. The responses are aligned with the theoretical findings of managerial competencies and e-government models as explored in Chapters 2 and 3.

**f.** **<u>Q6.</u>** *What is your opinion about the e-readiness of public managers in general and their ICT competencies in particular?* All the participants (30/30) agreed that most public managers are not academically ready as far as ICT applications are concerned. There is thus a need firstly to empower managers academically and then to introduce relevant ICT training programs. Participants furthermore indicated that the e-readiness of public managers generally was "0%", which emphasises the need as urgent. Some participants indicated that most public managers are not "techno-savvy" and are generally reluctant to use ICTs in their management applications.

**g.** **<u>Q7</u>**. *What is your opinion about the development of ICT monitoring and evaluation procedures to monitor whether public managers utilise the ICT skills they have learned after training?* As many as 97% (28/30) agreed that there is a need to develop regulations, policies, and guidelines for training, monitoring and evaluating public managers' ICT programs. It is also necessary to monitor the applications and implementation of knowledge gleaned from training to avoid the wasting of government funds. The remaining 3% (2/30) indicated the following challenges regarding the monitoring and evaluation of ICT training:

a. There was a concern that adherence to policies, regulations and guidelines in South African Public Service are a serious challenge. Therefore, developing monitoring and evaluation policies will be a futile exercise.
b. One participant indicated that policies will not be enforceable as the administrators and politicians are not interested in ICT applications anyway.
c. A serious concern was highlighted that some public managers are not academically fit to hold their positions, because of inadequate or lack of academic qualifications. Therefore there was a perception that it will be a futile exercise to enforce adherence to policies to such managers, as they will not have the technical know-how to successfully implement ICT projects.

**h. Q8**. *In your opinion, which elements should be considered to be relevant for the development of an ICT training model for your department?* Of the participants 97% (28/30) answered that all ICT elements and programmes are essential for the development of an ICT training model for their departments. Some highlighted the following elements they consider relevant for the development of public managers:

a. Include the process programs in ICT training.
b. Consider the citizens' involvement when developing the ICT content.
c. Include web-site (html) training for public managers.

Only 3% (2/30) did not answer the question. The answers to this question satisfied the eighth objective of the study: suggest the dimensions and elements that should be incorporated in a comprehensive e-governance training model for public managers.

### 5.5.2 Discussion of the findings

From the analysis above it is evident: participants agree strongly that all levels of management should be trained in ICTs. The reasons cited for this need varies (see Q1). Participants concurred that the two most significant obstacles to management training in ICTs within the departments are firstly, the lack of funds, and secondly, the general absence of political will and administrative support (see Q2). An area that deserves attention is the positive contribution that public-private partnerships could make to address these and other cited obstacles (see Q3). Most participants strongly agree that the training of public managers in ICTs could make a significant contribution by improving service-delivery processes, two-way-communication between the government departments and the community, and cost-and-time savings (see Q4).

When participants were asked to comment on the state of e-governance readiness in the South African government departments, all perceived this state of e-readiness as still poor or very low. Reasons cited for this state of affairs are:

a. outdated technology;
b. limited ICT infrastructure;
c. public managers who are not academically competent and "techno-savvy"; and
d. general reluctance to use ICTs in managerial applications (see Q6)

The following discussion seeks to unfold the inputs by participants on the draft for the e-governance training model which was presented to them during the semi-structured interviews.

## 5.6 INPUT TO THE DRAFTED TRAINING MODEL

The following input (i.e. suggestions) from the participants were obtained to validate the content of the drafted model and to refine it further. It should be noted that the input obtained are related to the participants' specific departments. Table 5.6 below illustrates the general input to the drafted model.

***Table 5.6:*** **Input to the drafted training model**

| Model environments | Participants' input |
|---|---|
| **Macro (strategic) environment (MaE)** | • **(PI).** 33% (10/30) indicated that the single directional arrows in the model should be changed to two-way-directional arrows, thereby reflecting that not only the macro-environment initiates ICT training, but any environment can impact other environments in procedures of ICT training. |
| | . **(PI).** 50% (15/30) indicated that the model should include aspects such as community participation, involvement of social organisations, and "Chapter 9 institutions" as stipulated in the Constitution of the Republic of South Africa.<br>a. Some participants suggested that the role of non-governmental institutions and provincial social structures should be considered as part of the macro-environment. |
| **Meso (tactical) environment (MeE)** | • **(PI).** 43% (4/30) of participants agreed that the meso- environment can initiate programs, schedules and accredited service providers in ICT training, which may influence the National and Departmental ICT training initiatives. Furthermore, the meso-environment can also align with other departmental ICT content.<br>• Some participants also suggested that provincial structures should be considered in the design of the ICT content for training.<br>**(PI).** 27**%** (8/30) agreed that the provincial government should determine which levels of managers should be trained in ICTs in accordance with departmental operations and demands regarding ICT. |
| **Micro (operational) environment (MiE)** | • **(PI).** 73% (22/30) of participants believed that the micro- environment has more influence on the ICT operations of public managers as they service the communities |

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| | directly. Therefore, the ICT content should be developed directly by the micro-environment and sent to the provincial and national government for approval and recommendations. Community engagement is essential in developing training content in ICT for public managers<br>• **(PI).** 17% (5/30) of participants agreed that the micro- environment should identify and consider the public managers' academic credentials in determining their readiness for e-governance training, as managers with no academic background can prove to be "un-trainable" in ICTs and e-governance.<br>• **(PI).** 7% (2/30) of participants agreed that the ICT content should be tailor-made for managers who serve the community directly. It should also consider cultural diversities in designing ICT content for training.<br>• **(PI).** 3% (1/30) indicated that the ICT content for provincial departments should also include the ICT process structure, which paves the way for restructuring departmental operations and applications. |

The inputs gained on all aspects and dimensions of the drafted model fulfilled the last objective of this study: *Suggest the dimensions and elements that should be incorporated in a comprehensive e-governance training model for public managers.* The inputs made by participants validated the suitability of the model and helped refine the dimensions of its content.

The feedback and suggestions on other aspects relevant refining the model are summarised in Table 5.6 below. The table also contains the researcher's response to the participants' feedback and suggestions on how to refine the model.

***Table 5.7:*** **Other inputs relevant to the refinement phase**

| Participants' comments/suggestions | Researcher's response |
|---|---|
| **Participant 1:** *"there is a problem of political deployment, which defeats the issue of appointing appropriate academically fit personnel who will be able to understand the scientific activities such as ICT applications and implementation of programs to the utmost* | The model should accommodate issues that may compromise the integrity of management training. These include the misuse of opportunities, engaging in corrupt activities, becoming inefficient to the system, and lying about academic credentials. |

| | |
|---|---|
| *best of the departments' service-delivery process. Therefore, there is a need for the government to change the political-deployment issue and consider academics in running public administrations. Maybe there should be means to empower those who are already in the system. Efforts should be made to ensure that in future people are recruited according to their academic experiences and fitness."* | |
| **Participant 2:** *"Although generally it is accepted that the national government should provide guidelines on how departments should be run, it is important to recognise the innovative initiatives from provinces and departments. Currently, there are departments which are well-advanced in ICTs in certain provinces, but their efforts are not recognised, because they are perceived as violating certain national standards. Therefore, there should be means of recognising such efforts as long as they promote efficient service-delivery processes."* | The model should accommodate national standards and official guidelines for the uniform application of ICT in government. Existing standards and guidelines do specifically not make provision for ICT training of public managers. |
| **Participant 3:** *"There is still a serious challenge of adherence to the policies in South Africa, as one realises that there are so many policies, Acts and regulations which are not in any way adhered to. Therefore, one has doubts whether this model will also be recognised as this trend goes on. There is a need to create awareness and adherence to policies."* | The model should incorporate general control and monitoring, as well as evaluation mechanisms to ensure that departments adhere to the statutory and regulatory framework for training in the South African Public Service. |
| **Participant 4:** *"ICT utilisation in South Africa seems to be very high, but not easily identified. There is a need to ensure that ICTs are easily identified and utilised as many citizens are unaware of the ICT resources available to them. There is an indication that in most cases, ICT resources are only utilised by citizens living in urban areas."* | The model should provide for ICT awareness to enhance the e-readiness of the South African society and e-governance practices in Government. The more e-ready Government becomes, the greater the need for ICT training will become. It also is important to ensure that technology is available at affordable prices in rural areas. ICT could act as catalyst for socio-economic development in a knowledge-driven economy. |
| **Participant 5:** *"How will this model have an impact on departments when the* | The model advocates interrelationship and interdependence between the spheres of |

| | |
|---|---|
| *National Government dictates terms when it comes to ICT applications and implementations, with its policies and regulations? I suggest that this model should only be applied in the province and not incorporate the national government, as all levels of government have autonomy."* | Government. The model is thus a broad overarching framework and not specific to an individual department. The inputs of all spheres of Government should be accommodated since the system of intergovernmental relations and co-operative governance does not encourage a top-down approach. |

## 5.7 REFINING THE DRAFED E-GOVERNANCE TRAINING MODEL FOR FREE STATE PROVINCIAL DEPARTMENTS

In light of the suggestions made by participants in refining the model, the following alterations and adjustments were made to the drafted model:

a. The directional arrows were changed from one-way to two-way, to indicate the possibility of each environment influencing the other.
b. The need to consider the citizen's input in determining the ICT content for public managers was also included. The reason is that public managers serve the public and need to be trained in such a way that they are able to serve the diversified nature of communities.
c. Departmental ICT training content was altered to include aspects such as process programs for public managers.
d. ICT content should be tailor-made for managers, depending on their functional responsibilities.
e. Community engagement in designing the content was included.
f. Provincial social structures were included in the design of the ICT content for training.

In light of the adjustments above, a new, refined e-governance training model was developed for Free State provincial departmental public managers. The final design of this model will be presented in the following chapter (Chapter 6).

## 5.8 CONCLUSION

The purpose of this chapter was to validate and refine the drafted model by means of an empirical investigation of the selected cases. The chapter reported on the findings obtained from participants in selected Free State provincial departments. This chapter outlined the research objectives and methodology. To aid the analysis the researcher profiled the participants' managerial backgrounds and academic standing.

The researcher outlined the inputs which the various participants provided during the research. These helped in the final refinement of the model. The empirical findings in this chapter serve as a prelude to the conclusions that will be drawn and recommendations made in Chapter 6. This next chapter will also give the final presentation of the model as refined and re-designed through the input of the participants.

# CHAPTER 6

# SUMMARY, CONCLUSIONS AND RECOMMENDATIONS: A COMPREHENSIVE MODEL FOR E-GOVERNANCE TRAINING

## 6.1 INTRODUCTION

Chapter 5 reported on findings from an empirical investigation in selected Free State provincial departments regarding ICT activities and applications. The main purpose of the chapter was to gain input from the participants on ICT and e-governance practices with the view to refine the drafted training model presented in Chapter 4. The chapter furthermore provided a broad overview of the methodology followed, and highlighted the profile of the participants. The relative high-profile participants provided meaningful input on their respective departments' ICT and e-governance practices and applications, managerial considerations and as such also contributed to the refinement and finalisation of the e-governance training model.

The purpose of this chapter is to draw certain conclusions from the findings on the research method and triangulation of the data, including the literature review and empirical findings. For this purpose, the chapter is divided into two parts.

a. Part one provides a synoptic overview of the study by explaining the extent to which the research findings generated answers to the research questions and operationalised the research objectives.
b. Part two concludes the central aim of the study by evaluating the extent to which the problem statement was addressed.

The purpose of the study culminates in the designing of a comprehensive model.

## 6.2 STUDY SYNOPSIS AND REVIEW: RESEARCH AIM AND OBJECTIVES

In Chapter 1 of the present study the central research problem was presented as the assumption that provincial departments in the South African Government do not have a comprehensive e-governance training model to fulfil their legislative mandate regarding ICT effectively. However this is becoming a necessary requirement, according to legislation: the Public Service Act 103 of 1994 (section 3(v) and 4 (a), which highlights the significance of information management and information technology and the training of personnel in the public service and the Electronic Communication and Transaction Act 25 of 2002, which regulates ICT applications and practices.

The research problem was formulated in the form of a statement. The primary research objective was derived from this statement and was formulated to reflect the importance of the design of an e-governance training model to fulfil the mandate of the above legislation. This requires ICT units within provincial departments to apply e-governance optimally. Chapter 1 (1.5.2) cited the secondary objectives of this research were as follows:

i. *Developing theoretical models, approaches and paradigms associated with managerial training and development, with specific reference to the public sector.*
j. *Determine the theoretical underpinnings and approaches to the use of ICT in government and establish the typical managerial applications of e-Govt departments.*
k. *Determine the lessons that can be learned from international cases and best practice with regard to e-Govt and managerial training in its applications.*
l. *Determine the status of e-Govt in the South African Government and the training models and approaches that are available to departments.*
m. *Formulate the training models on e-governance available in selected Free State Provincial Departments to promote e-governance effectively.*
n. *Suggest solutions to the challenges faced by the mentioned Free State Departments' ICT managers in designing training models for e-governance.*
o. *Determine standards and specifications to which the Free State Departments' ICT units may ascribe, in order to implement e-governance fully.*
p. *Suggest possible dimensions and elements that should be incorporated in a comprehensive e-Govt training model for public managers.*

The following key research questions were derived from these research objectives:

i. *What are the theoretical models, approaches and paradigms associated with managerial training and development, with specific reference to the public sector?*
j. *Which theoretical underpinnings and approaches can be employed in the use of ICT in government and managerial applications are typical of electronic government (hereafter referred to as e-Govt) departments?*
k. *What lessons can be learned from international cases and best practices of e-Govt and managerial training in its applications?*
l. *What is the status of e-Govt in the South African government and what training models and approaches are available for governmental departments?*
m. *Which e-governance training models are available in selected Free State Provincial Departments to promote e-governance effectively?*
n. *What are the challenges faced by Free State Departments' ICT managers in designing e-governance training models?*
o. *What standards and specifications should the Free State Departments' ICTs units ascribe to, in order to implement e-governance fully?*
p. *Which dimensions and elements should be incorporated in a comprehensive e-Govt training model for public managers?*

Based on the explanation above, Table 6.1 below outlines the link between the research objectives and the research questions.

***Table 6.1:*** **Research questions linked to research objectives**

| Research objectives (RO) | Research questions (RQ) | Chapter(s) |
|---|---|---|
| RO1. *Developing theoretical models, approaches and paradigms associated with managerial training and development, with* | **RQ1.** *What are the theoretical models, approaches and paradigms associated with managerial training and development with* | **Chapter 2** |

| | | |
|---|---|---|
| *specific reference to the public sector* | *specific reference to the public sector?* | |
| RO2. *Determine the theoretical underpinnings and approaches to the use of ICT in government and establish the typical managerial applications of e-Govt departments.* | **RQ2.** What are the theoretical underpinnings and approaches to the use of ICT in government and what are the typical managerial applications of e-Govt departments? | **Chapter 3** |
| RO3. *Determine the lessons that can be learned from international cases and best practice pertaining to e-Govt and managerial training in its applications.* | **RQ3.** What lessons can be learned from international cases and best practices pertaining to e-Govt and managerial training in its applications? | **Chapter 3** |
| RO4. *Determine the status of e-Govt in the South African Government and the training models and approaches that are available to departments.* | **RQ4.** What is the status of e-Govt in the South African Government and what training models and approaches are available for departments? | **Chapter 4** |
| RO5. *Formulate the e-governance training models available in selected Free State Provincial departments to effectively promote e-governance.* | **RQ5.** What are the e-governance training models available in selected Free State Provincial Departments to effectively promote e-governance? | **Chapters 4&5** |
| RO6. *Suggest solutions to the challenges faced by the mentioned Free State Departments' ICT managers in designing training models for e-governance.* | **RQ6.** What are the challenges faced by Free State Departments ICT managers in designing e-governance training models? | **Chapters 4&5** |
| RO7. *Determine standards and specifications to which the Free State Departments' ICT units may ascribe, in order to implement e-governance fully.* | **RQ7.** What standards and specifications should the Free State Departments ICTs units ascribe to, to be able to fully implement e-governance? | **Chapter 5** |
| RQ8. *Suggest possible dimensions and elements that should be incorporated in a comprehensive e-Govt training model for public managers* | **RQ8.** What are the dimensions and elements that should be incorporated in a comprehensive e-Govt training model for public managers? | **Chapter 6** |

In **Chapter 1** the researcher analysed the problem statement, the research aim and objectives, and the research questions flowing from these objectives. The researcher also provided the analysis of the research method used for this study. Furthermore, the researcher outlined the concepts such as the e-governance and training of public managers, explained with the use of models. These concepts were used develop an e-governance training model for public managers. The ethical considerations and the contributions of the present study were also outlined in Chapter 1. Thereafter discussions followed on management training, which was guided by management principles as perceived by various theorists and was discussed in Chapter 2.

**Chapter 2** fulfilled the first research objective and answered the first research question on developing theoretical models, approaches and paradigms for managerial training and development, with specific reference to the public sector. The concepts such as "training", "management training" and "development" were outlined by means of a comparative analysis. Chapter 2 also focused on managerial principles, the uniqueness of public-management training, statutory and regulatory frameworks governing public-management training in South Africa, as well as training and development within a new public-governance paradigm.

The managerial principles were discussed on the basis of a theoretical background provided by theorists, namely; Stanley Jevons, Leon Walras, Frederick Taylor, Francis Ysidro Edgeworth, Vilfredo Pareto, Niklas Luhmann, Henry Fayol and Max Weber. These scholars advocate that managers should be trained for the multi-directional interactions within organisations as well as with stakeholders outside the organisation. They also suggest that managers should possess analytical abilities in the workplace to identify and address areas which may hamper organisational performance. The discussions led to the examination of public management training, with specific reference to e-governance.

In **Chapter 3** the researcher operationalised the second research objective by determining the lessons that can be learned from international cases and best practice of e-governance. This was done to match appropriate and relevant managerial competencies and training with particular ICT applications. The researcher furthermore analysed various international e-governance models, to identify appropriate elements and dimensions for the designing of an e-governance training model for Free State provincial departments. A comparative study was done to determine commonalities in approach, content, and application in order to select implementable elements within the Free State provincial public management context. The analysis also focused on the use of ICT in government since ICT forms the backbone for any e-governance applications and practices. The chapter also explored international e-governance trends, principles and applications in order to identify potential challenges in e-governance applications. This aspect further guided the researcher in developing operational guidelines for the design and implementation of an e-governance training model.

**Chapter 4** addressed the fourth and fifth research objectives. These objectives deal with the status of e-governance in the South African Government and also investigate training models and approaches available to government departments. The researcher focused particularly on available e-governance training models in selected Free State provincial departments. In the process, the researcher aligned public management training, as highlighted in Chapter 2, with dimensions of e-governance, as discussed in Chapter 3. This alignment was necessary to establish the critical interfaces between training and e-governance in a South African Public Service context. The analysis of the interfaces examined core elements of managerial training

and key aspects of e-governance skills, and drew a comparison between training principles and elements of e-governance skills and competencies. The analysis of the interface was primarily based on the literature review. Furthermore, a comprehensive literature survey was undertaken of views expressed by theorists such as of Routio (2007:2), Frigg and Hartman (2012:1), Cripe (2012:1), Van der Waldt (2013:1), Jensen (2014:1), and Martin (2014:1), which uncovered some basic elements of model design. The interface analysis and the principles of model design led to the construction of a drafted training model for e-governance. This drafted model was validated and refined in Chapter 5 by means of an empirical investigation.

In **Chapter 5** the researcher reached the sixth and seventh research objectives and answered the research question by reporting on empirical findings of the data collected, as well as the challenges Free State public managers face in their use of ICTs. Based on these findings, the researcher suggested solutions to the challenges that public managers in Free State Departments faced in ICT training. The researcher also determined appropriate standards and specifications that ICT units should ascribe to, in order to implement e-governance fully in the province. Chapter 5 furthermore outlined participants' input for the drafted training model. This input guided the researcher to validate the suitability of the model and to refine its content. E-governance practices and applications, managerial considerations and the input to the drafted training model, led to the refined and revised training model presented in this chapter.

### 6.2.1 Central theoretical statements linked to chapters in the study

Table 6.2 below presents the central theoretical statements linked to the chapters in this study.

***Table 6.2:*** **Central theoretical statements linked to chapters in this study**

| Central theoretical statements (CTS) | Chapter reference (CR) |
|---|---|
| CTS1. The training of public personnel in e-governance is essential and it should include training in five steps of the strategic planning process, namely visioning, goal forming, strategy development, objectives formulating, communication and review (APCICT, 2010:4). | **Chapter 1** |
| CTS2. "Management training" refers to initiatives that incorporate aspects such as adult learning theory, which focuses on needs assessment, motivation, reinforcement, retention, transference, and evaluation. Management training is thus concerned with motivating managers to carry out their managerial tasks efficiently (Westover, 2008:2). | **Chapter 2** |
| CTS3. International studies of theoretical models as well as ICT applications in public-sector settings traditionally differentiate between three dimensions of analysis: 1) intended; 2) implemented; and 3) achieved (Robitaille & Maxwell, 1996:3). | **Chapter 3** |

| | |
|---|---|
| CTS4. The first step towards building a theoretical model is conceptualising, which refers to the formulation of a concept from the research problem. This is followed by project planning, which entails the process of planning for the steps (Cripe, 2012:1). | **Chapters 4 and 6** |
| CTS5. When analysing data (i.e. from questionnaires, interviews, focus groups, etc.), the researcher typically has to start from the review of research goals, or the reasons why the research was undertaken (Mc Namara, 2014:1). | **Chapter 5** |
| CTS6. Scientists spend a great deal of time building, testing, comparing and revising models. Thus, much journal space is dedicated to introducing, applying and interpreting these valuable tools. In short, models can be considered one of the principal instruments of modern science (Frigg & Hartman, 2012:1). | **Chapter 6** |

## 6.3 RESEARCH CHALLENGES

Although the data-collecting procedure was completed in all the sampled departments, the research proceedings presented a number of challenges. The challenges that were encountered and the way they were resolved, are briefly expounded below:

a. *Un-sampled departments*. For unknown reasons, the Department of Home Affairs and Tourism, which was initially selected for the study, suddenly decided not to participate further. In replacing this department, the researcher approached the Department of Social Development and Public Works. Permission was obtained to conduct the study and the participants who were selected gave their full participation.

b. *Lower level participants.* The targeted management levels for this research were Supervisors, Assistant Directors, Deputy Directors, and Directors. However, during the interviews in departments some officials in lower ranks felt they also needed to participate since they are directly involved in practical ICT applications in departments. For example, traffic officers on lower ranks felt they were working with ICT devices such as Card Verification Devices (CVDs), Laser Guns, Electronic National Traffic Information System (eNaTis), and Vehicle Fitted Speed Cameras. The researcher thus decided to extend the sampled target population and to include their views. This contributed to the richness of the data obtained, by also gaining more operational dimensions for model application purposes.

The researcher was fortunate that not a single challenge or problem compromised the original research design and the integrity of the research findings.

## 6.4 CONSTRUCTING THE COMPREHENSIVE TRAINING MODEL

In building the comprehensive e-governance training model, the researcher went through the following process:

a. In Chapter 4 (4.5.1) the researcher outlined the rationale and theory of model-building by exploring some theoretical vantage points in the construction of models as

proposed by theorists such as Frigg and Hartman (2012:1), Jensen (2014:1), Van der Waldt (2013:1), Martin (2014:1), Cripe (2012:1), and Routio (2007:2).

b. The researcher outlined the steps to formulate and construct the model, including conceptualisation, planning, data collection, the design of a drafted model and ultimately presenting a validated and refined model.
c. The refined model accommodates management competencies and skills, elements of national and international training models, as well as the theoretical dimensions obtained from the literature review.
d. The refined and finalised model furthermore accommodates the input accessed from the participants (*see* chapter 5, section 5.4.5).

Section 4.5.2 of Chapter 4 discussed a drafted training model for e-governance. This draft was layered or structured according to three levels, namely a *macro (strategic-)* level model for e-governance in the South African Government as a synopsis of international models; *meso (tactical-)* level model for provincial departments outlining the core elements and dimensions for training; lastly *a micro (operational-)* level model for departmental training.

### 6.4.1 Macro (strategic-) training model for the South African Government

In Chapter 2 (2.3.2.3), the systems theory was utilised as a general theoretical framework. An open systems approach to management was chosen to view the organisations as a unified, purposeful system composed of integral parts. On the basis of this theoretical vantage point the macro (strategic-) training model was designed for the South African Government (*see* Chapter 4, (4.5.2.1). The elements of the macro (strategic-) training model were derived from various authors, namely Nabafu and Maiga's Four-stage Model, Layne and Lee's e-Governance Four-stage Model, Westholm's Triangular ICT Model, Teerling and Pieterson's Citizen's Multi-channel Behaviour Model and Gohel and Upandhyay's Two-stage Model (*see* Chapter 4, section 4.5.2.1. Furthermore, in designing the macro-model, the model stages, levels and/or phases of the respective models were integrated. From this endeavour the following core elements were identified and incorporated in the strategic training model as presented in Table 4.12 and depicted in Figure 4.13 in Chapter 4 of this study.

The macro-level training model as explored in Chapter 4 influences the meso-level training model, and the micro-level model environments. The macro (strategic-) model was outlined as representing the national government, the meso (tactical-) training model to represent the provincial government environment, and the micro-level training model was discussed as representing the departmental (operational) environments. To follow is a brief summary of how the meso (tactical-) training model was designed.

### 6.4.2 Meso (tactical-) training model for provincial governments

In Chapter 4, section 4.5.2.2 the researcher indicated that the South African Public Service must be governed by the democratic values and principles enshrined in the Constitution. Furthermore, it was accentuated that every public training model should align itself with these constitutional principles. The Public Service Act 104 of 1994 (*see* Chapter 2, section 4), also outlines the principles for the training of public employees. The legislative and regulatory framework for training and developing public managers thus forms one of the cornerstones for the literature review of the present study and the foundation for the design of training models. The elements that created this model were furthermore derived from a literature review considering the analyses of designs such as Onyacha's E-governance

Interaction Model, Colesca's E-governance Model for African countries, Bwalya's E-governance Conceptual Model for the SADC Region, and the United Nations' Web-presence Measurement Model for Southern African countries training model as it was presented in Table 4.13 and Figure 4.14 in Chapter 4

The provincial training model was discussed as exerting an influence on the provincial departments. The provincial government was outlined as being influenced by the national government (macro- environment), while impacting provincial departments. The following discussion outlines how the micro-level training model was designed.

### 6.4.3 Micro-level training model for Provincial Departments

The micro-level training model was designed on the basis of the elements provided by authors such as Colesca, Bwalya, Chen, Halligan and Moore, Rondinelli, as well as the statutory and regulatory framework particularly the Public Service Act 104 of 1994 (section 4), the Constitution of the Republic of South Africa, and the South African Qualification Authority Act 58 of 1995. The literature review and legislation provided a framework for the design of the micro-level training model. Certain "ideal-type" model elements were outlined in Chapter 4.14 – 4.21.

The steps towards developing the micro training model were discussed as follows (*see* Chapter 4, section 4.5.2.3):

***Step 1:*** *Developing a vision:* A vision for the use of e-governance and ICTs should be developed before any steps can be taken. This sets constraints towards realising the goal e-governance inception.

***Step 2:*** *Conduct e-readiness:* This step entails conducting a feasibility study on the value of e-governance implementations.

***Step 3:*** *Identify realistic goals*: Realistic, attainable goals should be formulated on implementing e-governance.

***Step 4:*** *Get the bureaucracy to buy in:* The participation and support of political and administrative leadership is essential for the successful implementation of e-governance.

***Step 5:*** *Build public-private partnerships:* The relationship between the private and public sectors is a prerequisite to successful e-governance implementations and applications.

***Step 6:*** *Skills and culture of the civil service:* The civil servants require skills in order to fulfil the culture of working and productivity.

***Step 7:*** *Monitoring and evaluation:* Setting clear responsibilities and realistic benchmarks for e-governance development, as well as for their transparent monitoring, is an important ingredient for eventual success.

***Step 8:*** *Identify e-governance management training content and engage in training:* Public-service personnel and managers should be trained and developed in order to maximise human potential.

The present study recommends that the micro-level model is aligned with both the macro- and the meso-level models of training. All training models were incorporated to formulate a drafted model for e-governance training, which would be refined through input obtained during data collection. The following discussion illustrates the drafted e-governance training model, which incorporates the macro-, meso- and the micro-level models of e-governance training.

### 6.4.4 A draft comprehensive e-governance model for provincial departments

A draft comprehensive e-governance training model was discussed as an intertwined three-stage model consisting of the external macro- e-governance training environment, the meso (tactical-) e-governance training environment and the internal micro e-governance training environment (*see* Chapter 4, section 4.5.2.4). A drafted training model was designed by integrating key elements from the drafted macro-, meso- and micro-level models to create the environments of the comprehensive model. All environments were indicated as having a mutual impact on the models.

a. The external environment represents the National Government's influence on the training of public managers in e-governance (*see* Chapter 4, section 4.5.2.4).
b. The meso (tactical-) environment was discussed as representing the impact the provincial governments have in such training of public managers.
c. The internal micro-environment illustrates the impact that initiatives of individual provincial governmental departments have on such training of public managers (*see* 4.5.2.4).

The draft comprehensive training model was further refined during the empirical investigation. The respective environmental perspectives are outlined briefly below.

**A. The external macro-environment**

The macro-environment was designed based on the following key elements:

*a. Interrelationships between the state, the private sector and society in relation to ICT Government.*
*b. National service providers for ICT training of public manager ICT strategy in training public managers.*
*c. National relationships between public administrators, managers and the private sector in relation to ICT training.*

From the above-mentioned elements the following macro-environment model was developed as the outer layer (external environment) of the comprehensive training model (*see* Fig. 4.16). This is presented in the Figure 6.1 below.

- *Interrelationships between the state, the private sector and society in relation to ICT Government.*
- *National service providers for ICT training of public manager ICT strategy in training public managers.*
- *National relationships between public administrators, managers and private sector in relation to ICT training.*
- *National relationships between public administrators, managers and private sector in relation to ICT training.*

**EXTERNAL MACRO-ENVIRONMENT**

***Figure 6.1:*** **Macro-environment model**

**B. Meso/tactical environment model**

A tactical or meso-environment model was designed based on the key elements of the tactical model (*see* Fig. 4.16) as follows:

*a. Intergovernmental relations and cooperation for training.*
b. *Develop partnerships with private companies for qualitative training and funding.*
*c. On-going and more effective utilisation of ICT.*
*d. Determine risks in ICT training.*

From the key elements listed above, a meso/tactical environment model was developed to form the second layer of the drafted comprehensive model (see Fig. 4.16). this layer is presented in Fig 6.2 below.

- *Develop partnerships with private companies for qualitative training and funding.*
- *Intergovernmental relations and cooperation for training.*
- *Continued and more effective utilisation of ICT.*
- *Determine risks in ICT training.*

**MESO (TACTICAL-) ENVIRONMENT**

***Figure 6.2:*** **Meso (tactical-) environment model**

**C. The micro environment**

The micro environment was developed from the key micro elements as follows:

a. Conduct e-readiness, analysis and assessment.
b. Set realistic e-governance goals.
c. Identify e-governance-management training content and engage in training.
d. Establish monitoring and evaluation procedures.
e. Continuous review of the training process and enforcement of ICT use on government departments.

From the key elements listed above, a micro-environment model was developed as the inner layer of the comprehensive model (see Fig 4.16), and is set out in Figure 6.3 below.

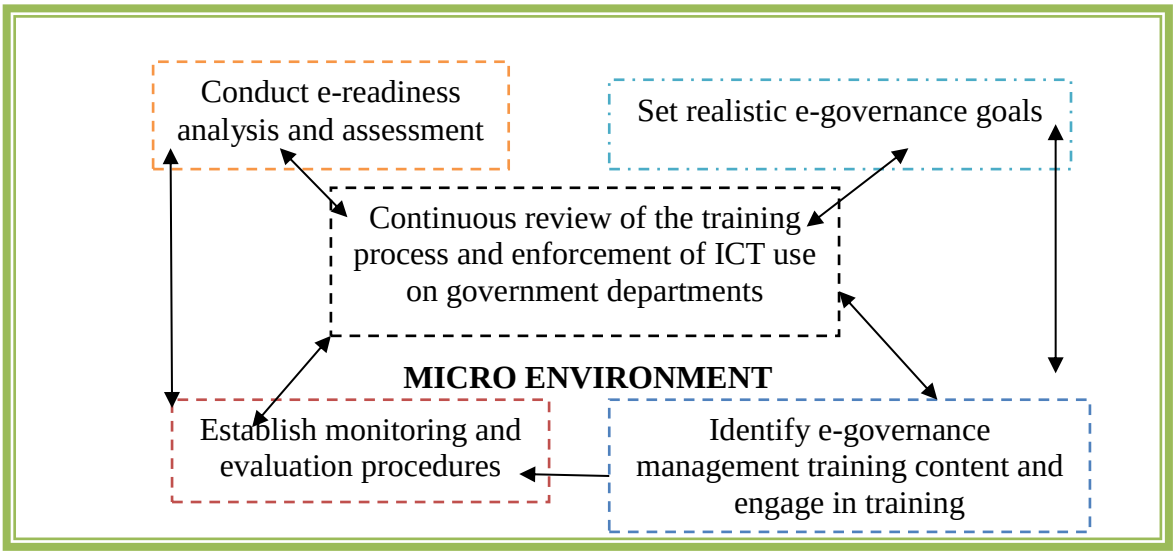


***Figure 6.3:*** **Micro environment model**

The environmental models presented above were developed based on discussed key elements, and established the basis for the development of a drafted comprehensive training model. This model can be refined after data collection in Chapter 5 – as depicted in 6.4 below.

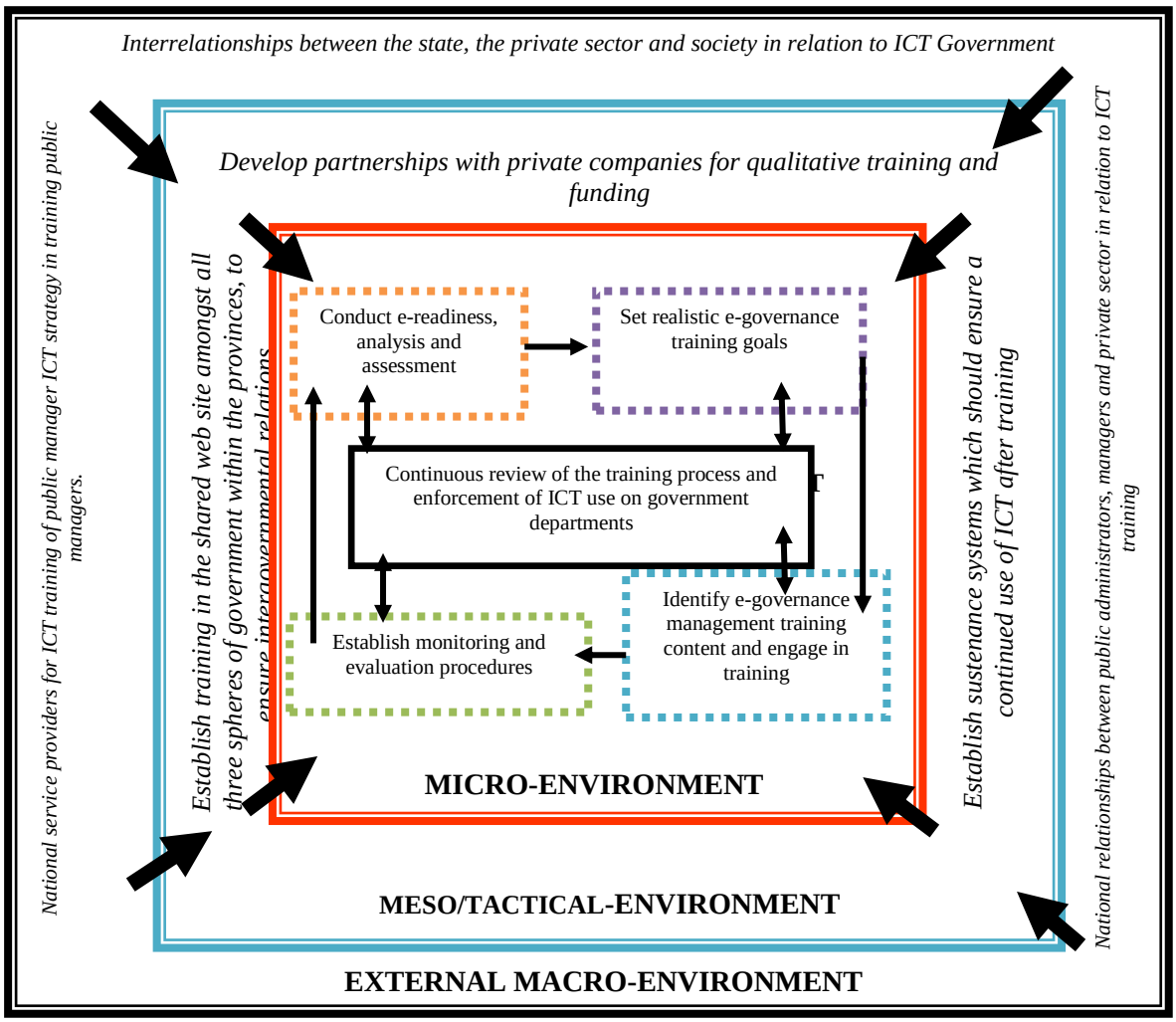


***Figure.6.4:*** **A drafted e-governance training model: synthesis of the macro, meso and micro environments**

The following section outlines a summary of the steps to develop a drafted comprehensive training model, ranging from steps 1 to 4.

### 6.4.5 Steps undertaken to develop the comprehensive e-governance training model

a. STEP 1: The researcher followed a comprehensive deductive approach to develop a drafted e-governance macro (strategic-) training model for the South African Government (*see* Chapter 4, Fig. 4.13). This was done by using the results of the literature review on building a model as espoused by various authors. It provided guidelines on the stages/levels/phases, the description and elements of the drafted e-governance training model.
b. **STEP 2:** The researcher employed an inductive approach in outlining a drafted meso (tactical-) e-governance training model for provincial departments (*see* Fig 4.14). The

literature on the building up of the model was discussed and the authors' designs utilised for constructing the stages/levels/phases, description and the elements of the e-governance training model.

c. **STEP 3:** The researcher refined the macro- and meso-levels to establish the dimension of the micro e-governance training model (*see* Fig. 4.15). Information from literature on the micro-level training model for e-governance was interpreted and outlined in Tables 4.14 – 4.21, which presented shared views on steps of e-governance application and training. The literature also focused on authors, steps, descriptions and ideal-type model elements that were integrated into the comprehensive draft.
d. **STEP 4:** A drafted comprehensive operational model was presented formulated according to steps 1 to 3 (*see* 4.5.2.4). The model incorporated the macro-, meso- and the micro-level models. The micro-level was defined as being influenced by the macro- and meso-environments. Thereafter a drafted comprehensive model was presented to be refined during data-collection. Inputs were made and processed to construct the redefined and adjusted model.

### 6.4.6 Inputs for the drafted comprehensive model obtained during the empirical investigation

The researcher received input from selected participants during data collection, which sought to validate and refine the drafted comprehensive e-governance model in Chapter 5. The inputs were incorporated in each of the environments (macro-, meso- and micro-). Other than the elements of the environments, the inputs from participants for the final training model were as follows:

**A. Macro environment**

For the macro-environment the following themes were prevalent:

a. *Directional arrows indicating the influence on environments should be two-way*. During data gathering the participants commented that the directional arrows cutting through from the macro- and meso- into the micro-environment should be two-way-directional, to show that any environment can influence each other. In other words, they indicated: not only the national government can influence the development and operation of the e-governance training model, but the micro (departmental-) and meso (tactical-) environments can also initiate and influence the development and training of public managers in ICTs and e-governance.
b. *Consider the role of non-governmental institutions*. Participants regarded the role of non-governmental organisations as essential to the full implementation of the macro-environment as the NGOs are regarded as impacting the development and adoption of national and provincial governmental policies and legislation.

**B. Meso/tactical environment**

One clear theme emerged about the meso-environment:

*a. Consider provincial social structures in the design of the ICT content for training.* Some suggestions were made that provincial social structures such as churches, political parties, and forums, should be considered when developing a training

process, seeing that these structures play a pivotal role in the development of a society.

**C. Micro-environment**

For the micro-environment two prominent themes emerged:

a. *The ICT content should be tailor-made for managers directly serving the community*. A significant number of participants felt that there is a need to develop ICT content for managers who are serving the community directly, rather than the general approach to content development. This is informed by the fact that currently (2015), most government services have a direct bearing on service delivery, and thus impact citizens directly.
b. *Consider cultural diversities in designing ICT content for training*. Some participants alluded to the fact that the cultures differ of officials, departments and communities. This has implications when planning to implement such a model. For example, one culture may tolerate the use of ICT resources in certain institutions, whereas other institutions may not allow any ICT resources within their operational activities. Therefore, cultural values and organisational rituals should be kept in mind when designing the ICT content for public management training at a micro-level.

Other than the key elements used to determine the environments, the inputs indicated above effected some changes on the model's environments as presented in Figure 6.8 – 6.5 below.

### *6.4.6.1 Macro-environment*

**Inputs on macro-environment**

*a. Interrelationships between the state, the private sector and the society in relation to Government ICT applications.*
*b. National service providers for ICT training of public manager ICT strategy in training public managers.*
*c. National relationships between public administrators, managers and private sector in relation to ICT training.*
***d. Consider the role of non-governmental institutions.***
***e. Not only the macro environment but any environment should influence/ initiate/innovate the design of ICT content, programs and schedule for other environments.***

**EXTERNAL MACRO-ENVIRONMENT**
***(National Government)***

**Figure *6.5:* Macro-environment inputs**

### *6.4.6.2 Meso/tactical environment*

**Inputs on meso-/tactical environment**

- *Intergovernmental relations and cooperation for training needed.*
- *Develop partnerships with private companies for qualitative training and funding.*
- *Continued and more effective utilisation of ICT.*
- *Determine risks in ICT training.*
- ***Consider provincial social structures in the design of the ICT content for training.***

**MESO/-TACTICAL ENVIRONMENT**
**(Provincial government)**

***Figure 6.6:*** **Meso/tactical-environment inputs**

### *6.4.6.3 Micro-environment*

**Inputs on micro-environment**

- *Conduct e-readiness, analysis and assessment.*
- *Set realistic e-governance goals.*
- *Identify e-governance management training content and engage in training.*
- *Establish monitoring and evaluation procedures.*
- *Continuous review of the training process and enforcement of ICT use on government departments.*
- ***The ICT content tailor-made for managers directly serving the community.***
- ***Consider cultural diversities in designing ICT content for training.***

**INTERNAL MICRO-ENVIRONMENT**
**(Provincial departments)**

***Figure 6.7:*** **Micro-environment inputs**

The models of the three environments (macro-, meso- and micro-) as presented above can be integrated as concentric layers for the presentation of the comprehensive e-governance training model for Free State provincial government departments as depicted in Figure 6.8 below.

### 6.4.7 Presenting the final comprehensive e-governance training model for Free State provincial government departments

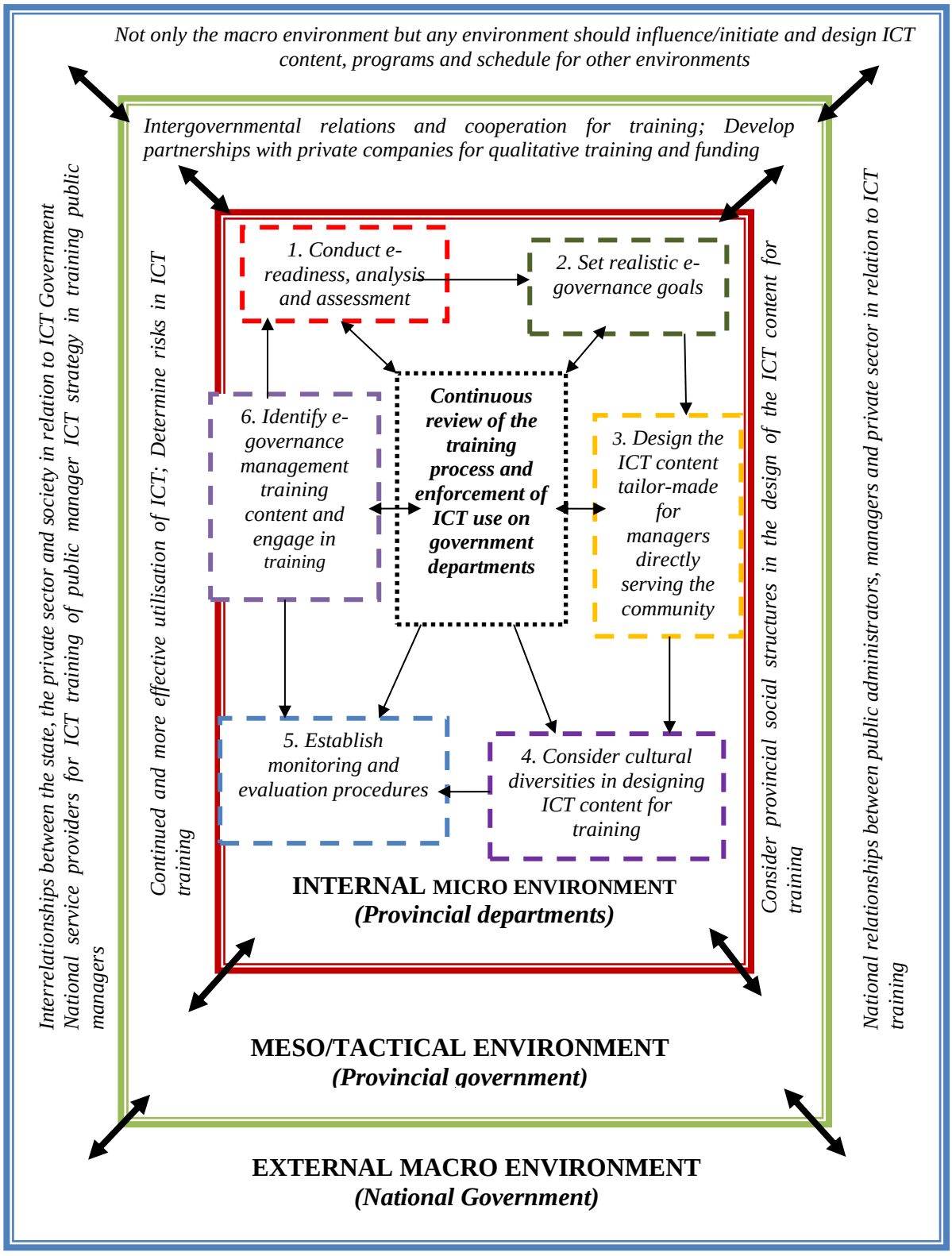


***Figure 6.8:*** **A comprehensive E-governance Training Model for the Free State Provincial Government Departments**

## 6.5 SUGGESTIONS FOR THE APPLICATION OF THE MODEL

Based on the synthesis from the literature review, case study analysis and empirical validation, the following suggestions can be made on the process that should be followed when applying the model in provincial departments:

a. Departments should develop their own operational policies and ICT training schedules, programmes and content, in line with international ICT standards.
b. Once these policies, schedules and content are formulated, it should be forwarded to the Provincial Government for scrutiny and approval.
c. In accordance with national standards the Provincial Government in turn, should approve these ICT training policies, schedules and content.
d. The Provincial Government should furthermore ensure that departments are supported adequately by resources and should facilitate the funding of such ICT training programmes and schedules.
e. The Provincial Government should obtain a list of preferred service providers for ICT training from the National Government to initiate actual training.
f. The National Government should support provincial governments in their general e-governance endeavours and their ICT-training needs in particular. This should include the design of national policies, strategies and programmes, which may be cascaded down to the departments for closer examination. The aim would be to identify ICT content which is relevant to the particular department.
g. The National Government should continuously benchmark their e-governance practices with international best practice, and thereby ensure that the South African Public Service remains on par with international standards and applications for e-governance.

## 6.6 SUGGESTIONS FOR FURTHER RESEARCH

Based on the rather limited scope of this research and the issues that emerged from this study, the following aspects deserve further scrutiny:

*ICT training content:* As highlighted by the inputs from participants (*see* 6.4.3there is a need for further research on the particular ICT training content, which targets specific government institutions. The applications vary significantly and therefore training programmes should be customised to suite the particular context. Furthermore, differences should be noted between so-called "back-office" operations of public managers, and "front-office" operations. Public managers who serve in front-office operational capacities (i.e. direct service delivery to customers) require specific skills. Such skills may include cultural sensitivities, diversity management, and customer care. Public managers should also be able to assess the challenges associated with the application of certain technologies and the "techno-phobia" that some customers may experience in dealing with certain applications. In a country such as South Africa, with its heterogeneous composition of population and diverse demographics, this aspect deserves further probing and investigation.

*A policy framework model for ICT and e-governance:* From the literature survey and the inputs of some participants, it is evident that there is no comprehensive policy framework. Such a framework should guide the development of specific departmental rules and regulations to facilitate ICT applications and e-governance practices in the South African Public Service. Although a number of departments do have policies and regulations on the

use of ICTs, some participants were of the opinion that there is a need to develop a model for policy development as a standard practice. This would help ensuring compliance with and the effective use of ICTs. The design of such a comprehensive policy instrument thus deserves further investigation.

*A framework model to monitor and evaluate ICT skills and knowledge gained:* The literature survey indicates that most participants were sceptical of current practices in the monitoring and evaluation of the skills that public managers gained from interventions for ICT training. Therefore, there is a need to develop a framework model to monitor and evaluate training programmes. Such a model will guide the design of appropriate content to match the particular skills and knowledge required to deal successfully with ICT and e-governance matters in departments. This will ensure that public funding allocated to training are utilised optimally.

*A public-private partnership strategy for ICT development:* The research revealed that the South African Government in general and provincial departments in particular, require the expertise of private service providers to help train public managers. Participants confirmed that public-private partnerships generally benefit public managers in ICT training by introducing more sophisticated training contents and skills. However, malpractice, fraud and corruption in the awarding of training tenders to private-sector service providers often characterise and taint the procurement process. The integrity of the supply-chain process should be maintained in all transactions. Based on this caution, there is a need for further research on the nature and extent of public-private partnerships in ICT training within the South African Public Service. Such research should culminate in the design of a comprehensive strategy to guide the cooperation and interaction between Government and the private sector. The main focus will then be to enhance ICT training and general e-governance practices in the public sector in collaboration with efficient above-board facilitating service providers.

## 6.7 CONCLUSION

The main aim of the present study was to develop an e-governance training model for the Free State provincial government. To start off the study, the orientation outlined the problem statement, the research objectives and the methodology utilised in gathering relevant data. The second chapter provided explanations and discussions on the principles and skills of management, as a basis from which to analyse the perceptions and views of theorists on management. This was followed in Chapter 3 by discussions on the international experiences in the use of ICT, which served as a benchmark for the development of models, programmes and content for managerial training in the South African Public Service Thereafter Chapter 4 discussed the development of a drafted e-governance training model for public managers. This model was refined in light of information gained in the empirical study in Chapter 5 after processing the data. The collected data thus helped to refine the drafted model, which was presented in Chapter 6.

The final comprehensive model was presented in this chapter with recommendations on how to use the e-governance training model to ensure that it achieves the purpose for which it was designed. Recommendations on future research on the same topic were also discussed, which highlighted the possibility of further refinement of the model. This is mainly due to the highly dynamic nature of governance and the technological advancement in ICT applications.

Although this study employed a case-study method by only focusing on the Free State Provincial Government as *locus* of study, the model has a broader value for the public sector. This value is mainly based on the application of the model in other contexts (i.e. national and local government) as well as the contribution that it makes to the existing corpus of knowledge on training of public managers, ICT applications and e-governance practices. The successful implementation and appropriate application of this proposed comprehensive model for ICT training of public service managers could result into a scientifically advanced and developed public service that serves the public of South Africa with pride and dignity that also ascribes to the globally advanced ICT world economic practices.

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**ADDENDUM: INTERVIEW SCHEDULE**

# INTERVIEW SCHEDULE

**Research Thesis towards the completion of a PhD in Public Management and Governance at the North-West University (Potchefstroom Campus)**

**Topic: An E-Governance Training Model for public managers: The case of selected Free State Provincial departments**


| | | |
|---|---|---|
| **Researcher** | **:** | Vusi E. Sithole |
| **Contact Details** | **:** | Cell. 0722044717, email; siboni@vodamail.co.za |
| **Promoter** | **:** | Professor G van der Waldt |


## DECLARATION OF CONSENT

I hereby acknowledge that I willingly and voluntary participate in this research and that all information provided by me will be treated as confidential by the researcher. My anonymity will be ensured at all times**.**

**Signed:** .....

**Date:** .....

## 1. BIOGRAPHICAL DETAILS

**Kindly provide the following biographical details:**

Department .....
Current position .....
How long are you in your current position? .....
Highest qualification .....
What are your main responsibilities with regard to ICT and e-Governance? .....
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## 2. CURRENT ICT AND E-GOVERNANCE PRACTICES AND APPLICATIONS

2.1 Do you have any ICT management training schedules in your department? (**Yes/No)**
If 'Yes' please briefly elaborate.

2.2 Do you have any ICT management training programs in your department? (**Yes/No)**
If 'Yes' please briefly explain the nature of these programs.

2.3 Were you trained in the use of the contemporary departmental IT software or any ICT resources for your departmental services as a manager? (**Yes/No)**. Please elaborate/explain.

2.4 Are you aware of any rules, regulations or policies about ICT operations in your department/unit/component as a manager? (**Yes/No).** Can you please provide some examples of such rules, regulations and policies?

2.5 Were you ever involved in the design of an electronic governance (e-governance) training model**?** (**Yes/No)**. If "Yes", please elaborate.

2.6 Is there a specialized ICT management training unit in your department? (**Yes/No)**

2.7 Is there a need for specialized ICT management skills training to improve services rendered by your department? (**Yes/No)**. Please elaborate.

2.8 Please rate the significance or importance of each of the following skills on a scale of **1-10** in relation to public management responsibilities. Please take note that the rating (1) indicates less important or significant, while the rating of (10) indicates highly important or significant.

| Skills | Rating | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 2.8.1 Interpersonal skills | | | | | | | | | | |
| 2.8.2 Communication skills | | | | | | | | | | |
| 2.8.3 Decision-making skills | | | | | | | | | | |
| 2.8.4 Leadership skills | | | | | | | | | | |
| 2.8.5 Technical skills | | | | | | | | | | |
| 2.8.6 Time management | | | | | | | | | | |
| 2.8.7 Conceptual skills | | | | | | | | | | |
| 2.8.8 Technical skills (e.g. program development and design, ICT, presentation) | | | | | | | | | | |

2.9 Please rate the significance/importance of each of the following operational guidelines for training and development on e-governance/ICT skill on a rate of **1-5** by placing an X on your rating selection (**1** represents strongly disagree, **2** disagree, **3** uncertain, **4** agree and 5 strongly agree).

| Operational issues | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 2.9.1 There is a need to develop and revisit a vision and mission for training in e-governance/ICTs. | | | | | |
| 2.9.2 An effective e-governance training plan requires regular e-readiness assessments. | | | | | |
| 2.9.3 An e-governance training plan should be determined by training goals. | | | | | |
| 2.9.4 An e-governance training schedule should include a determination for administrative and political support. | | | | | |
| 2.9.5 Identifying appropriate service provider(s) should form part of an e-governance training plan. | | | | | |
| 2.9.6 There is a need to identify e-governance management training content before engaging in operational training. | | | | | |
| 2.9.7 Establishing monitoring and evaluation procedures are compulsory to oversee e-governance training. | | | | | |
| 2.9.8 There is a need for continuous reviews of e-governance training processes and compliance with statutory and regulatory guidelines pertaining to the utilisation of ICT in government. | | | | | |

## 3. MANAGERIAL CONSIDERATIONS

3.1. Which levels of management do you think should be exposed to ICT training for e-governance applications? Why do you say so?

3.2. In your opinion, what are the main obstacles and hindrances to further implement and enhance e-governance endeavours in your department/unit/component?

3.3. What in your view may be the benefits of Public-Private Partnership in public management ICT training in the Free State Government?

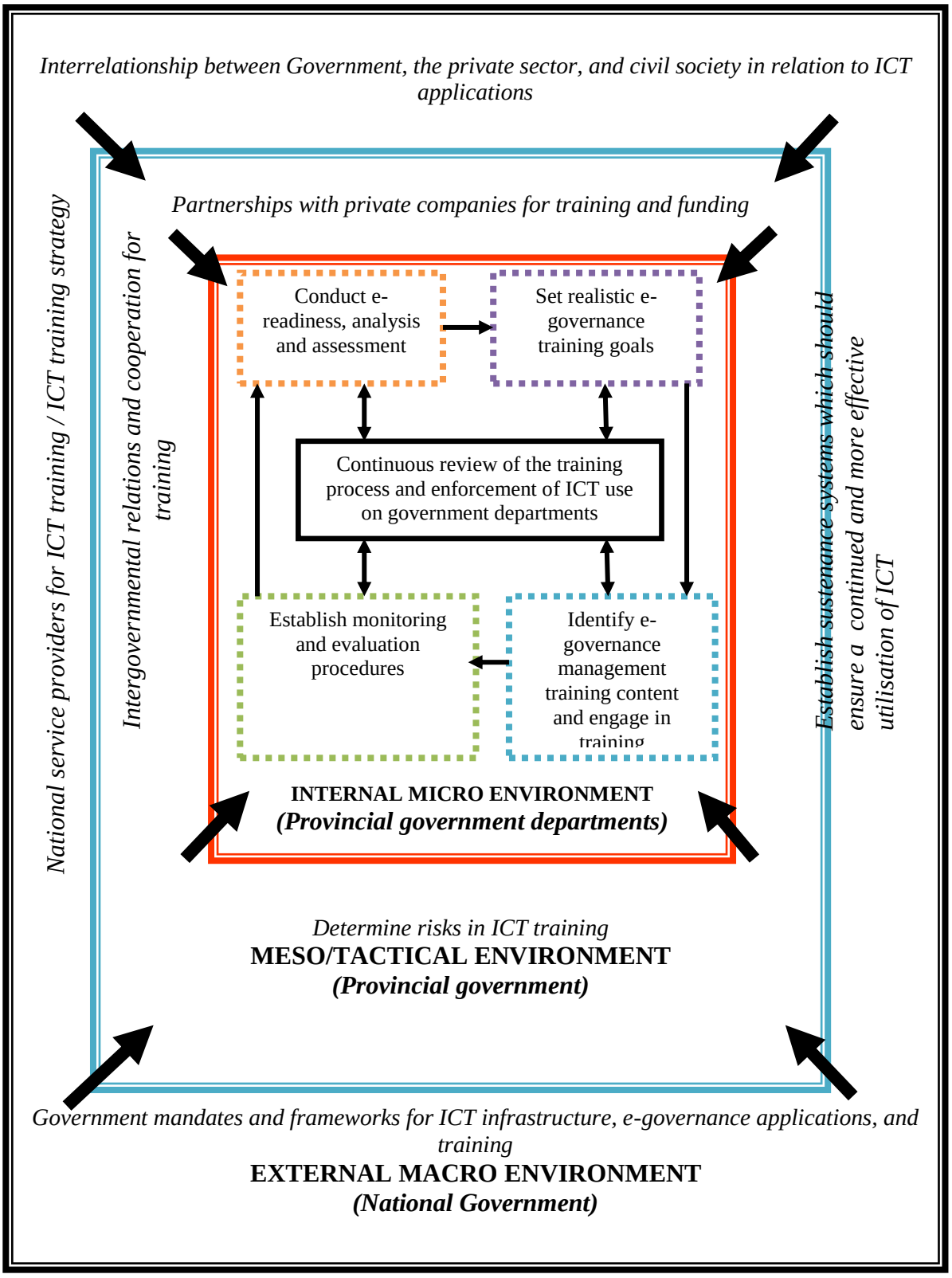
3.4. What do you think are the main benefits of training public managers in ICT/e-governance? (e.g. benefits for the department, for government as a whole, for the community/customers)

3.5. What is your opinion about the state of e-Govt in the South African Government in general and in Free State provincial departments in particular?
3.6. What is your opinion about the e-readiness of public managers in general and their ICT competencies in particular?
3.7. What is your opinion on the development of ICT monitoring and evaluation procedures to monitor whether public managers utilise the ICT skills they have learned after training?
3.8. In your opinion, which elements should be considered to be relevant for the development of an ICT training model for your department?

## 4. INPUTS TO THE DRAFT TRAINING MODEL

The following model is a draft model for training public managers in ICT/e-governance in the Free State provincial government. The model is derived from international best practice in implementing e-governance for service delivery processes. Included in the model are eight suggested steps which should ensure that public managers are adequately trained and empowered in ICT/e-governance. Please kindly criticize, refine and adjust the following training model for your ICT/e-governance specific situation and application. Kindly include all the elements you think can be appropriate in making the model workable for your department on strategic, tactical and operational levels. You can provide as much information as you can.

The thick black arrows in the model below represent the influence of various environments in training of public managers from the national government, provincial government and the provincial departments. The external environment (macro environment) set the parameters to empower public managers in ICT applications. The meso (tactical environment) refers to the provincial government's responsibility in relation to public managers' ICT training. The inner-most part of the model (micro environment) represents provincial government's role and initiatives to train public managers.


Interrelationship between Government, the private sector, and civil society in relation to ICT applications
Partnerships with private companies for training and funding
National service providers for ICT training / ICT training strategy
Intergovernmental relations and cooperation for training
Establish sustenance systems which should ensure a continued and more effective utilisation of ICT
Networking amongst core training stakeholders
Conduct e-readiness, analysis and assessment
Set realistic e-governance training goals
Continuous review of the training process and enforcement of ICT use on government departments
Establish monitoring and evaluation procedures
Identify e-governance management training content and engage in training
INTERNAL MICRO ENVIRONMENT
(Provincial government departments)
Determine risks in ICT training
MESO/TACTICAL ENVIRONMENT
(Provincial government)
Government mandates and frameworks for ICT infrastructure, e-governance applications, and training
EXTERNAL MACRO ENVIRONMENT
(National Government)