A Project Governance Model for the Provincial Broadband Project: The Case of the Eastern Cape Province

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DECLARATION

I, Ayanda Madyibi, declare that **"A Project Governance Model for the Provincial Broadband Project: The Case of the Eastern Cape Province"** research study is my individual work, and all sources used have been included as part of the references.

Signature: _____

Date: _____

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ABSTRACT

This study focused on institutional arrangements to facilitate the design of a project governance model for the implementation of the Provincial Broadband Project in the Eastern Cape Province (henceforth the Broadband Project). This project was contextualised within the National Broadband Policy, the Eastern Cape Broadband Master Plan, and other statutory policy frameworks related to information technology applications in the South African Government.

Even though provincial policymakers have been keenly aware of the Internet's increasing economic importance, there is no clear and precise methodology for governing the Broadband Project. Therefore, the primary objective of the study was to develop a project governance model for the Provincial Broadband Project in the Eastern Cape Province.

The literature review focused on the conceptualisation of projects and project management principles as well as on how projects influence organisational change and act as instruments of effective resource utilisation. The literature review also analysed theoretical perspectives of project-based organisations, including the role of associated organisational arrangements such as a project management office (PMO). Finally, project governance was conceptualised and contextualised, including its typical principles, scope, structures, and frameworks.

The theoretical framework of the study further explored the application of Information and Communications Technology (ICT) in the South African Government and focused on the existing strategic statutory and regulatory frameworks in South Africa that govern ICT initiatives, such as e-Governance (or electronic Governance) and the Broadband Project. For this purpose, 52 participants were selected, comprising 12 accounting officers from strategic departments in the province, 10 Provincial Broadband Steering Committee members, 15 Provincial ICT Working Group members, nine district municipalities, four provincial tertiary institutions, and the two metropolitan municipalities in the province. Semi-structured, face-to-face interviews, telephone interviews, and e-mail communication were utilised to obtain data

regarding perceived challenges associated with the governance of the Broadband Project.

The conclusions drawn from this empirical investigation are solely based on the interpretation of literature and data collected from the participants. This enabled the researcher to design a comprehensive project governance model developed for the successful implementation of the Provincial Broadband Project in the Eastern Cape. Lastly, recommendations for further research were outlined to guide the design of similar governance models for government projects.

KEYWORDS: projects, project management, project governance, project governance model, project management office, project charter, project plan, electronic-Government, broadband, Internet economy, National Broadband Policy, Information and Communications Technology (ICT), Eastern Cape Province.

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List of Acronyms and Abbreviations

BICS	Broadband Implementation and Coordination Support
CSIR	Council for Scientific and Industrial Research
CGICTPF	Corporate Governance of ICT Policy Framework
DEDEAT	Department of Economic Development, Environmental Affairs and Tourism
DPSA	Department of Public Service and Administration
DTPS	Department of Telecommunications and Postal Services
ECDC	Eastern Cape Development Corporation
ECIP	Eastern Cape Provincial Infrastructure Plan
ECSECC	Eastern Cape Socio-Economic Consultative Council
ECPG	Eastern Cape Provincial Government
ECSERO	Eastern Cape Socio-Economic Review Outlook
FOSS	Free and Open Source Software
GDP	Gross Domestic Product
GITO Council	Government Information Technology Officers Council
ICASA	Independent Communications Authority of South Africa
ICT	Information and Communications Technology
ISAD	Information Society and Development
KPIs	Key Performance Indicators
NDP	National Development Plan
OECD	Organisation for Economic Cooperation and Development
P3M3	Portfolio, Programme & Project Management Maturity Model
PMBOK	Project Management Body of Knowledge
PMI	Project Management Institute

PMO	Project Management Office
POO	project-oriented organisation
PPM	Project Portfolio Management
PPP	Public Private Partnership
SIPs	Strategic Infrastructure Projects
SITA	The State Information Technology Agency
USAASA	Universal Service and Access Agency of South Africa

CHAPTER 1
ORIENTATION AND PROBLEM STATEMENT

1.1 ORIENTATION

The Organisation for Economic Cooperation and Development (OECD, 2013), specifies that the Internet began as a communication tool but has transformed into a universal technology supporting virtually all sectors of the economy, much in the same way as electricity and water networks. The Internet has also brought extraordinary user and consumer empowerment as well as opportunities for innovative and social activities. Individuals have greater access to information, which facilitates comparisons and creates downward pressure on prices. Internet users are extremely active, creating new content themselves and interacting in new ways (OECD, 2013).

The Internet is quickly permeating all economic and social domains and most public policy areas (Menipaz *et al*., 2011:63). For instance, according to the OECD (2015:23) electronic-government (e-Govt) has turned into the prime apparatus for supporting government capacities and cooperation. Healthcare systems and educational institutions are also utilising the availability of the internet and other online applications to increase efficiency, quality, and affordability. Moreover, environmentally-friendly technologies based on the Internet of things, including transport systems and alternative power-generating systems, can help address climate change and improve energy efficiency (Houghton, 2009:67).

In the OECD Declaration for the Future of the Internet Economy (2008), the Internet economy is defined as covering "the full range of our economic, social and cultural activities supported by the Internet and related information and communications technologies" (OECD, 2008:6). In the same vein, Dean *et al*. (2012) clarify that the Internet economy contains access to and utilisation of the Internet, as well as interest in the foundation and consumption of the Internet activity in a country. These incorporate Internet foundation, cash spent on online retail and web-based publicising, and business and government engagement with the Internet.

The Federal Communications Commission (FCC) (2009:3) defines “broadband” as high-speed Internet access that allows users to access internet-related services by combining data, voice and video over one cable. Kelly and Rossotto (2012) further emphasise that broadband is not only about enhancing the speed at which clients can read online news, play computer games, and participate in long-range informal communication. Even though these are helpful drivers of interest and do give advantages to clients, it is also an enabling platform that allows developers and individual users to enhance existing services and to develop previously unimaginable tools that improve business and society. They add that the benefits of broadband range through all sectors of the economy, including education, health, transportation, energy, and finance, focusing not only on Information and Communications Technology (ICT) (Kelly & Rossotto, 2012).

A World Bank study (2008) found that low- and middle-income countries experienced “about a 1.38% point increase in gross domestic product (GDP) for each 10% increase in broadband penetration” between 2000 and 2006 (Qiang & Rossotto, 2009:45; Kim, Kelly & Raja, 2010:34). This study further found that the socio-economic development impact of broadband is greater in emerging economies than in high-income countries, which “enjoyed a 1.21% point increase in per capita GDP growth” for each 10% increase in broadband penetration.

Various other studies support the World Bank findings, including McKinsey and Company (2009), which estimated that “a 10% increase in broadband household penetration delivers a boost to a country’s GDP that ranges from 0.1% to 1.4%”. A study of OECD countries by consulting firm Booz & Company (2009) found, among high-income countries, a strong correlation between average annual GDP growth and broadband penetration, wherein “countries in the top tier of broadband penetration have also exhibited 2% higher GDP growth than countries in the bottom tier of broadband penetration” (Friedrich *et al*., 2009:4). Most of these studies have found a positive impact of broadband on economic growth but the estimate of its actual magnitude varies.

South Africa has set a target of universal broadband coverage by 2020 through the development of the National Broadband Policy (2013) called *South Africa Connect: Creating Opportunities, Ensuring Inclusion,* focusing on four streams, namely Digital Readiness, Digital Development, Digital Future and Digital Opportunity. The National Broadband policy is aligned to the Constitution of the Republic, 1996 (Section 7.3) which aspires to improve the quality of life for all citizens by utilising the internet as a basic human right (The National Broadband Policy, 2013).

The Broadband policy and its strategy plans highlight South Africa's vision of "a seamless information infrastructure by 2020 that will underpin a dynamic and connected vibrant information society and a knowledge economy that is more inclusive, equitable and prosperous". The National Broadband Advisory Council was also launched in 2014, immediately after the approval of the National Broadband Policy, with the role of including independent experts to support and advise the government on the implementation of the policy. This council acted as a governance structure on a national scale for the entire implementation process, reporting directly to the Minister of Communications at its inception.

In the same year (2014), the council was subject to the splitting of the Department of Communications into two. This meant that the council was included in the newly created Department of Telecommunications and Postal Services Ministry headed by Dr Siyabonga Cwele. According to Fin24 (Van Zyl, 2016:3), the chairperson of the council, the CEO of the Council for Scientific and Industrial Research (CSIR), as well as the deputy chairperson, the Executive Director of Research ICT Africa, handed in their resignations in December 2015 due to insufficient guidance from the ministry.

During this period, the Eastern Cape Provincial Administration developed a Provincial Broadband Master Plan (2015) through the Department of Economic Development, Environmental Affairs and Tourism (DEDEAT) that is aligned to the approved National Broadband Policy (2013) for the implementation of the Broadband Project in the Eastern Cape. The Eastern Cape Broadband Master Plan was drafted as a "plan of plans", whose main objective is to ensure that the Eastern Cape has broadband infrastructure covering all priority areas and this infrastructure is

effectively utilised for socio-economic development and is accordingly maintained and enhanced as needs evolve.

The master plan is intended to improve broadband infrastructure reach, the skills to operate and use broadband, and to drive the use of broadband for the following:

- Government operations and services;
- Utilities and infrastructure development projects associated with the National Strategic Infrastructure Projects (SIPs) and development corridors to make this a smart and green infrastructure;
- Improvement of the economy (including agriculture, renewable energy supply, and tourism); and
- Improvement of citizen access and well-being (which includes households, education, hospitals, and security).

The budget for the four focus areas of the Eastern Cape Broadband Master Plan is estimated at R 19.04 billion. The plan excluded the two metropolitan municipalities, namely the Nelson Mandela Bay and Buffalo City, as they have the capacity to develop their own plans and manage the roll-out of broadband. In so doing, the metros, however, must ensure alignment with a national broadband policy framework and provincial policy imperatives.

To ensure effective and efficient implementation, it would be prudent for the province to establish a formal coordination or governance structure, which amongst others, will:

- engage all relevant role-players and stakeholders;
- ensure alignment of priorities and activities;
- guide resource mobilisation;
- facilitate accountability; and
- act as a central repository for all relevant information on broadband roll-out in the province.

This coordination or governance structure is referred to as the Broadband Implementation and Coordination Support (BICS) Office. An inter-departmental structure, the Provincial Broadband Steering Committee (PBSC), has further been established to support and coordinate the Broadband Project and assist in the prioritisation of the project management process. Since there was widespread consultation amongst government departments during the formulation of this Provincial Broadband Master Plan, it would be critical to raising awareness amongst communities, the business sector, non-governmental organisations, and traditional leaders about the benefits of the Broadband Project.

The Project Management Body of Knowledge (PMBOK) (2012) defines a project as a temporary endeavour undertaken to create a unique product or service. The Association for Project Management Body of Knowledge (APMBOK) (2012) also defines a project as a unique, transient endeavour undertaken to achieve the desired result, which could be an output, an outcome, or a benefit. Levine (2002) expands on this by further defining a project as a group of tasks performed in a definable period to meet a specific set of objectives. Projects differ in size, scope, costs, and time to complete (Burke, 2013:18).

These sets of tasks need to be managed and coordinated by applying processes, methods, knowledge, skills, and experience, hence the notion of project management (Burke, 2013:24). Having established some of the special characteristics and features of a project, it follows that a project also requires some project management techniques, which include:

- Project Charter – A document that translates the business case into project objectives. These objectives outline the scope of work, how the project should be managed, and critical success factors for the project manager to achieve (time, cost, and quality) (Burke, 2013:24).
- Project Plan – A document integrating the knowledge areas' individual plans to form one combined baseline plan (Burke, 2013:24).
- Project Management Office (PMO) – Also referred as the project office (PO), this is the home of the project team members who are responsible

for supporting the information and administration needs of the project manager (Burke, 2013:24), with the main function of coordinating all projects and aligning them with the strategic plan (Renz, 2007:240). It therefore needs monitoring and continuous updates as new projects emerge for ultimate project success (Van der Waldt, 2009:10). It should also be utilised by the senior management for project prioritisation aligned to strategic objectives and assist in resource allocation (Crawford, 2006:76).

As projects are often once-off, self-contained, temporary, and complex tasks, they do not easily fit into routine organisational processes and often require dedicated modes of organisation and specific management practices and techniques (Grabher, 2002:207–208). Projects are therefore vitally important to organisations because it is through the successful delivery of projects that they are able to deliver services (Garland, 2009).

Governance is about guiding and monitoring the process of converting investment decisions into value for the organisation, delivering the anticipated benefits or the business outcomes and benefits to intended beneficiaries (Australian Department of Treasury and Finance, 2012). Van der Waldt (2009:4) further explains the alignment of the project portfolio and the organisation's objectives for the effective delivery and sustainability of these objectives.

Abu Hassim *et al.* (2011:1930) define project governance as the framework around selection, prioritisation, and project oversight for continued adherence to organisation objectives. Garland (2009:38) further explains that project governance is a subset of corporate governance focusing on areas of corporate governance related to project activities, including portfolio direction, project sponsorship, project and programme management, efficiency, disclosure and reporting.

According to Van der Waldt (2009:1), in organisations that utilise project methodologies and have mature project applications, project governance mechanisms are permanently established. He further explains the importance of oversight entities, organisational practices, accountability, and governance. In

addition, Van der Waldt (2009:5) indicates that the governance requirements for managing projects should be the responsibility of the committee or the board, with clearly defined roles and responsibilities, appropriate methods and control, authorization, and criteria for reporting project status.

Governance affects projects through its impact on the behaviour of people. It needs to be implemented through a framework that guides managers in their daily work of decision-making and action-taking (Muller, 2009:23). According to Garland (2009:78), a project governance framework should clearly show the decision-making path during the life cycle of a project. This framework is necessary to prevent the decision-making process from being prolonged, which could eventually delay project implementation. It is important to ensure that decision-making involves only people who are in the relevant managerial positions in the host organisation (Abu Hassim *et al.*, 2011).

Promoting accountability in project processes requires a transparent process. Project governance generally helps in outlining the relationships between internal and external people involved in the project, including project stakeholders (Abu Hassim *et al*., 2011:1933). Unaccountable decision-making could increase the danger of corruption. This includes the diversion of public resources, the risk of costly projects and project rejection (Abu Hassim *et al.*, 2011:1933). Therefore, project governance provides the structure through which the objectives of the project are set; the means of attaining those objectives and of monitoring performance are determined (Turner, 2006); and ensures that the project objectives are aligned with the organisation portfolio and objective (Abu Hassim *et al.*, 2011:1932).

Arguably the most significant challenge in developing an effective governance structure and the model for the implementation of the Eastern Cape Provincial Broadband Project is the establishing of ownership within government and agreeing to certain roles, responsibilities and terms of engagement with all parties involved. Deloitte (2015) specifies that a governance structure should be established early in the project to maximise the likelihood of success in its adoption and delivery.

This study focused on institutional arrangements to facilitate the design of a project governance model for the implementation of the Broadband Project within the Eastern Cape Province and hence reference will also be made to the National Broadband Policy, the Eastern Cape Broadband Master Plan, and other statutory policy frameworks relating to Broadband in South Africa.

1.2 PROBLEM STATEMENT

The Eastern Cape is a rural province characterised by poverty, poor service delivery and socio-economic underdevelopment. Uneven spatial development has generally led to a so-called “digital divide”, a common problem in rural areas. Rural areas and poor communities in the province often lack sufficient information and communication infrastructure and other resources to meet a range of development goals (May, 1998:7). For example, the province has one of the most underdeveloped ICT sectors in the country despite significant development potential and opportunities (Goldstuck, 2012:17). As such, the provision of access to broadband connectivity can drive the Internet economy of rural communities.

In the Eastern Cape, the provincial government is responsible for a wide variety of functions or portfolios, including tourism, health, education, housing, transport, and public works, but these functions can only be implemented effectively through a shared responsibility by municipalities in the province. These areas of responsibility by local government can benefit from ICT systems and services and would, therefore, benefit from access to the Broadband Project. Even though provincial policymakers have been keenly aware of the Internet’s increasing economic importance, there is no clear and precise methodology for governing the Broadband Project. If the economic value of broadband is arguably well understood, then the underlying causes for the slow implementation of the Broadband Project in the Eastern Cape should be investigated. Furthermore, the development of a project governance model should be explored since it could guide the speedy and effective implementation of the Broadband Project.

For effective implementation of the Broadband Project in the province, a project governance structure and model should be developed, focusing on:

- imperatives to coordinate activities and functions across the various sectors in the provincial government;
- a clear funding model to be utilised;
- organisational and human asset capability;
- accountability and progress reports from all stakeholders;
- monitoring and evaluation by means of periodic testing processes;
- risk contingency plans; and
- end-user profiles and an analysis of demand from public-sector users.

Currently, the capacity to govern the implementation of the Broadband Project, or even ICT projects in general, is fragmented within various departments of the Eastern Cape Provincial Government. Furthermore, no guiding project governance model has been formally approved by the leadership of the provincial administration. Five of these project governance concerns are:

- lack of a clear link between the Broadband Project and the provincial administration's key strategic priorities, including agreed metrics of success;
- lack of senior management and ministerial ownership and leadership;
- lack of effective engagement with stakeholders;
- lack of understanding of and contact with the supply industry at senior levels; and
- inadequate resources and skills to successfully deliver the overall Broadband Project.

The development of a project governance model should detail the key roles and responsibilities to oversee, monitor, deliver, evaluate, control and approve, including:

- a steering committee with a clearly defined and communicated role and terms of reference to oversee the implementation of the Broadband Project;
- a central project management office (PMO) to monitor the progress of the Broadband Project, and
- workgroups led by workgroup champions (key stakeholders) who are

responsible for implementing and delivering the assigned project tasks. This includes project charters to govern the implementation of the assigned tasks with clear milestones and key performance indicators.

The research problem was thus to design a project governance model for the effective implementation of the Broadband Project in the Eastern Cape.

1.3 RESEARCH OBJECTIVES

The primary objective of this study was to design a project governance model for the effective implementation of the Broadband Project in the Eastern Cape. The secondary objectives were to:

- uncover the theories, principles, and approaches associated with project management in general and project governance in particular;
- investigate the interface between e-Governance and the need for the Broadband Project in the Eastern Cape;
- analyse the statutory and regulatory frameworks that govern ICT in general and broadband projects in particular;
- obtain empirical evidence regarding the successes, challenges, and failures of project governance of the Broadband Project in the Eastern Cape Provincial Administration; and
- design a project governance model for the effective implementation of the Broadband Project in the Eastern Cape.

1.4 RESEARCH QUESTIONS

The research study attempted to achieve the above objectives through answering the following questions:

- What are the theories, principles, and approaches associated with project management in general and project governance in particular?

- What is the interface between e-Governance and the need for the Broadband Project in the Eastern Cape?
- What are the statutory and regulatory frameworks that govern ICT in general and broadband projects in particular?
- What is the empirical evidence for the successes, challenges and failures of project governance for the Broadband Project in the Eastern Cape Provincial Administration?
- What should be incorporated in a project governance model for the effective implementation of the Broadband Project in the Eastern Cape?

1.5 CENTRAL THEORETICAL STATEMENTS

The statements below served as the preliminary arguments for this study.

What differentiates an organisational structure from a project governance structure is the definition of accountability for strategic decision-making for each project (Van der Waldt, 2009:3).

Project governance deals with issues of best practices for managing projects through resource allocation, enforcing of policies, procedures, assigning of roles and responsibilities, performance standards for monitoring, oversight and control that are utilised and aligned to strategic objectives (Partington, 1996:15; Chien, 2004:429; Bresnen, Goussevskaia & Swan, 2004:1538).

1.6 METHODOLOGY

Various designs of research could be used, depending on whether a study employs a qualitative paradigm, a quantitative paradigm or a combination of these two paradigms (Seabi, 2012). Seabi (2012:22) further explains that a research design is a plan for accomplishment of a specific task through theories, methods and instruments.

For this study, a qualitative research design in an explanatory way was used, focusing on a project governance model for broadband implementation in the Eastern Cape as a case study. Project management and governance theory guided the research.

Collins and Hussey (2009:16) describe research data as primary or secondary in nature. Primary data are data generated from the original sources, such as interviews, whereas secondary data are data that have been collected from an existing source, such as publications, databases, and internal records, and may be available in a hard copy from or on the Internet. This study made use of interviews for primary data collection, and included secondary data obtained from various databases and publications.

1.6.1 Literature review

A literature review served as a tool to explore typical governance issues involved in the field of broadband. McMahon and Morgan (2012:72) define a literature review as a knowledge base or platform for the research to be conducted, enabling the researcher to better understand the research problem and field of study. Also, Singh (2006:67) confirms that a literature review refers to the knowledge of a particular area of investigation of any discipline which includes theoretical and practical surveys. Singh (2006:67) further explains the term “review” as referring to the organisation of knowledge regarding the specific area of scientific inquiry.

In this study, a literature review was conducted on a number of international and national sources regarding the Broadband Project, with particular reference to project governance. The National Broadband Policy Framework (2013), Electronic Government: The Digital Future: A Public Service IT Policy Framework (2001), the e-Governance Strategy (2010), Provincial Broadband Master Plan (2015), and the National Broadband Policies from International Telecommunications Union (ITU) (2010) were analysed to obtain a broad conceptual basis regarding the guidelines, prescripts and best practice associated with the governing of the Broadband Project in the Eastern Cape. Without this literature review, it was not possible to determine what studies had previously been conducted and to identify the existing gaps in

current knowledge (cf. Hart,1998:69). The literature review assisted the researcher to define the important questions in this field of research and to consider how other researchers have dealt with similar studies in the past. It also highlighted any shortcomings of previous research (cf. Collins & Hussey, 2009:50).

1.6.1.1 *Databases consulted*

The following databases were consulted to establish the availability of material for the purpose of this research:

a) EBSCOhost Online Research Database
b) EconBiz
c) Index to South African Periodicals
d) Other useful information related to the topic from Internet publications.

1.6.2 Empirical investigation

In the most elementary sense, a research design can be regarded as the logical sequence that connects the empirical data to a study's initial research questions and, ultimately, to its conclusions (Yin, 2013:49). This research was conducted by following a qualitative approach and a case study design. An interview schedule was designed to conduct a semi-structured interview with key role-players and stakeholders involved in the Broadband Project. This design was selected due to the nature of engagement with the participants, the constructed conceptual framework and ethical compliance matters. Since the interviews were interactive, it was relatively simple to obtain additional data if initial responses were vague, incomplete, or not specific enough.

A potential drawback of interviews, according to Hall and Rist (1999:297-298), is that they may involve "selective recall, self-delusion, perceptual distortions, memory loss from the respondent, and subjectivity in the researcher's recording and interpreting of the data". Multiple interviews—that is, interviewing the same subject more than once, or interviewing many different subjects—provide one potential means of addressing such issues. Although it is essential to obtain permission from the relevant authority

for face-to-face interviews, Bogdan and Biklen (1982:110-120) point out that even when permission has been granted, it is essential to gain the commitment of the people the researcher will be working with. Because the researcher is involved in the Broadband Project and is known by most participants, this issue was largely addressed. To ensure the validity and reliability of data collected, cross-verification questions were asked and compared with the responses of other participants.

1.6.2.1 *Sampling*

Sampling is an important part of any research project. A sample is a subset of the population that researchers are interested in studying. It is also smaller than the total population but its intention is to represent the original group (Maree & Pietersen, 2007:129). Non-probability sampling is generally used where the aim of the investigation is to create an in-depth description and not to generalise findings (Merriam, 2009:172). It is also utilised when it is difficult to sample an entire population group (Maree & Pietersen, 2007:132).

There are various forms of non-probability sampling, including convenience sampling, quota sampling, opportunistic sampling and purposive sampling (Onwuegbuzie & Collins, 2007:79). In this research, a non-probability purposive sampling method was used. The main goal of this sampling method is to focus on the particular knowledge base of the target population. Data was collected by means of interviews with senior managers of various strategic departments responsible for the Broadband Project. The first targeted group was the accounting officers (AO) from the following provincial departments:

- Office of the Premier;
- Cooperative Governance and Traditional Affairs (CoGTA);
- Provincial Treasury;
- Education;
- Health;
- Economic Development;
- Environmental Affairs and Tourism;

- Public Works;
- Provincial SAPS; and
- The State Information Technology Agency (SITA).

The second group consisted of heads of ICT from the same strategic departments who are also participating in the Provincial Broadband Steering Committee. The third and the last group was sampled from the Provincial ICT Working Group, which comprises representatives from the four universities in the province (Walter Sisulu, Rhodes, Fort Hare, and the Nelson Mandela Metropolitan University), as well as senior officials from the nine district municipalities and the two metros (Nelson Mandela Metropolitan Municipality and Buffalo City Municipality). The participants were therefore purposefully selected as follows:

- Heads of Department, including the premier and the Provincial Director-General (10);
- Provincial Broadband Steering Committee members (10);
- Provincial ICT Working Group members (9);
- Senior officials from the nine district municipalities (9);
- Representatives of the four provincial universities (4); and
- Senior officials from the two metros (2).

1.6.2.2 *Data collection*

Data can be defined as “bits and pieces of information found in the environment” (Merriam, 1998:70). The first step in collecting data is gaining access to the subjects of research or the respondents. In the case of this study, face-to-face interviews were used as data collection instrument. O’Leary (2004:85) explains that researchers using this method generally begin with a defined questioning plan, but use a more conversational style of interview. Wellington (2000:80) warns that so-called “double-barrelled” questions (i.e. two or more questions in one sentence); leading questions (i.e. questions that are preceded by position statement); loaded questions (i.e. questions that are emotionally charged); culturally insensitive

questions; and unethical questions should be avoided during the interview. All questions followed a similar pattern from interviewee to interviewee.

The interviews were recorded (using a digital recorder), transcribed, and reviewed by the researcher. Ethical clearance was obtained and a confidentiality and non-disclosure agreement was entered into before conducting the interviews with the participants.

1.6.2.3 *Data analysis*

Analysing data requires grouping of the data into meaningful patterns and/or themes that will be observed. This process is at the core of qualitative data analysis. Although the analysis is without question the most difficult aspect of any qualitative research project, it is also the most creative (Berg, 2001:102). This process is generally conducted in two primary ways: content analysis, and thematic analysis.

The type of analysis is highly dependent on the nature of the research questions and the type of data collected. For this study, a content analysis was conducted by:

- coding the data for certain words or content;
- identifying their patterns; and
- interpreting their meanings.

1.6.2.4 *Limitations and delimitations*

The scope of the study was limited to the institutions and role-players involved in the Eastern Cape Broadband Project. Therefore, the findings cannot be generalised to other provinces. However, the principles of project governance as well as the content design of the proposed governance model are generic and universal in nature.

A further potential limitation of the study was the fact that the researcher is the Chairperson of the Provincial Broadband Steering Committee. This might have influenced the objectivity of data interpretation since the researcher might be biased.

To circumvent this issue, a cross-reference of responses was undertaken and the principles of source and data triangulation were utilised.

The study depended on gaining access to the leadership and senior management of the Eastern Cape Provincial Administration and other institutions as “gate-keepers” of the study. Written permission was, however, obtained to conduct the survey.

1.7 ETHICAL CONSIDERATIONS

The Information Commissioner (2015:14) states that when access to personal information has been provided for any purpose it should be taken to restrict accessibility that could lead to international crimes and identity theft, for example. Means to maintain certain information confidentiality should be taken to expand Internet usage within the province and to extend the existing society and to encourage would-be users. The information could be encrypted and made accessible with the permission of the holder. For this reason, a confidentiality and non-disclosure agreement was entered into before conducting the interviews. Bulger (2002:117-125) also emphasises that informed consent is a vital step to any research project in which respondents commit to participate after being informed of its procedures and benefits. Informed consent was therefore obtained and the research project also received ethical clearance at North West University.

The following legislation and regulations were considered when addressing matters pertaining to confidentiality and informed consent:

- The Constitution of the Republic of South Africa, 1996;
- The Electronic Communications and Transactions Act 25 of 2002;
- The Access to Information Act 2 of 2002;
- Social Media Policy Guidelines (2011); and
- The Protection of Personal Information Act 4 of 2013.

1.8 SIGNIFICANCE OF THE STUDY

There are significant gaps in the existing body of knowledge of project management regarding project governance, especially in government settings. This study makes a significant contribution in this regard by building the scientific corpus of literature. On a practical level, the significance of this study is vested in the fact that it designed the parameters of a project governance model. The study further made specific recommendations for the successful operationalisation of this model. This should not only guide the effective implementation of the Broadband Project within the Eastern Cape but also facilitate the effective governance of similar government projects in future.

1.9 CHAPTER LAYOUT

The first chapter introduced the context of the research. Its purpose was to establish a framework for the research so that readers can understand how it relates to the topic being explored. This includes contextual background to the Broadband Project, key project governance challenges affecting its implementation in South Africa, the current status of the project within the Eastern Cape, the data collection approach, instrumentation, data analysis, as well as ethical issues.

In Chapter 2 a theoretical exposition of project governance is provided. This content focuses on the operationalization of the first research objective, namely to uncover the theories, principles, and approaches associated with project management in general and project governance in particular. This theoretical orientation serves as the first leg of source triangulation by uncovering the principles and theoretical underpinnings of project management and project governance. It therefore serves as a yardstick to gauge current project governance practices associated with the Broadband Project.

The purpose of Chapter 3 is to explore the general application of ICT in the South African Government. The focus is further on the existing strategic statutory and regulatory frameworks in South Africa that govern ICT initiatives such as e-

Governance. This exploration serves as a contextual orientation for the implementation of the Broadband Project in the Eastern Cape.

Chapter 4 investigates the current status of the Broadband Project in the Eastern Cape, with specific emphasis on an analysis of its current governance approaches, structures and processes. This also includes an analysis of the current project governance model, planning processes, and various other aspects relating to the implementation of the Broadband Project.

An empirical investigation follows in Chapter 5. The chapter outlines the methodology utilised for purposes of data collection and data analysis. The chapter further reflects on the research findings based on the responses obtained from the sampled participants.

The last chapter concludes the study and outlines specific recommendations to improve the implementation of the Broadband Project by means of a project governance model. This model is the main contribution of the study and is mainly aimed at overcoming current shortcomings associated with the governance of the Broadband Project in the Eastern Cape.

1.10 CONCLUSION

This chapter introduced the importance of broadband in general, then outlined the research problem, followed by the research aims and objectives. The chapter also explained the research methodology and process of data analysis followed and outlined the limitations and ethical implications of the study. In addition, the chapter outlined the significance of the study and the overall chapter design to operationalise the research objectives and to answer the research questions.

The next chapter will focus on the theories, principles, and approaches associated with project management in general and project governance in particular.

CHAPTER 2
PROJECT GOVERNANCE: A THEORETICAL EXPOSITION

2.1 INTRODUCTION

This chapter aims to operationalise the first research objective, namely to provide a theoretical exposition of the theories, principles, approaches and mechanisms associated with projects, project management, project portfolio management (PPM), project-oriented organisation (POO), project-management offices (PMOs), and project governance.

The chapter firstly outlines the basic theories and principles of projects as temporary endeavours to operationalise specified objectives, and secondly analyses projects as change processes and projects as agencies for resource allocation. The chapter thirdly explores project management from a structural perspective by focusing on the interface between projects and portfolios and the notion of PPM. The last section of the chapter will focus on project-oriented or project-based organisational arrangements including the role of project management offices (PMOs). These aspects are critical constructs for the detailed conceptualisation and analysis of project governance as the main focus of this research.

2.2 CONCEPTUALISING PROJECTS AND PROJECT MANAGEMENT

The Project Management Institute (PMI) defines a project as a "temporary endeavour undertaken to create a unique product, service, or result" (PMI, 2004:5). Kerzner (2003:7) further defines projects as any series of activities and tasks that have a specific objective to be completed within specification; have defined start and end dates; have funding limits; consume human and other resources; and are multi-functional. To this, Munns and Bjeirmi (1996:81) add that a project can be considered to be the achievement of a specific objective, which involves a series of activities and tasks that consume resources.

The role of a project has been classically defined as a production function comparative to the earliest definitions of an organisation in classical economics (Varian, 1978; Hart, 1995). More contemporary definitions, according to Andersen *et al.* (1989) and Arain *et al.* (2004:238), focus on the human dimensions of projects. The authors argue that a project can be regarded as a complex human endeavour which creates change, is limited in time and scope, has mixed goals and objectives, involves a variety of resources and variables, and is unique. Cleland and King (1983) also state that a project is a complex effort to achieve a specific objective within a schedule and budget target, which typically cuts across organisational spheres, is unique, and is usually not repetitive within the organisation. Smith (1985) further emphasises the fact that projects usually include something that has not been done that way before.

Projects can be distinguished from normal functional operations and processes in organisations (PMI, 2004:5). Projects are designed and executed at all levels within organisations, which may involve one or more business units and many role-players and stakeholders. The duration of projects can vary from a few weeks to many years. Projects can be simple to plan and implement or may be highly complex, especially in cases where the project is executed in multiple locations across multiple countries (Singh & Lano, 2014:107).

In relation to policy making and development, Van der Waldt (2007:251) emphasises the "end-to-end" processes of implementing policies into delivery plans, thus achieving the desired outcomes as the focal point for management of projects, and this must involve project managers.

In a typical project, many tasks are performed concurrently. Another key feature of projects is the existence of precedence relations between the tasks. These relations typically define constraints that require one task to be completed before another starts (Hall, 2012:129). The project process can be influenced by changing variables and unpredictable factors that could derive from diverse sources. These sources include the performance of the parties involved, resource availability, environmental conditions, the involvement of other stakeholders, and contractual obligations (Arain

& Low, 2003:100). Consequently, projects may face problems that could cause a delay in the project completion time.

2.2.1 Projects as an instrument or agency of change

Andersen *et al.* (1987) and Turner (1990) emphasise that projects always involve and bring about change. Traditional organisations encourage the adoption of projects as an agency for change by creating temporary project teams for the delivery of change objectives because projects are usually more appropriate for managing change than the functional organisation (Turner & Muller, 2003:3).

Turner and Muller (2003:4) further explain that this interpretation of a project as a change agent assists in defining the limitations of a project since it can be regarded as a coherent set of change objectives. For example, the South African Public Service embarked on radical transformational change as specified in the Transformation of the Public Service (RSA, 1995) and White Paper on Transforming Public Service Delivery (RSA, 1997) by setting goals that would move the Government from an “old” to a “new” model, using change management projects resulting in a new organisational culture (Drucker, 1985:71).

In this regard, Van der Waldt (2007:15-16) emphasises that the process of managing change by projects involves the entire organisation’s support structures, including the flexibility to adapt to the new changes that may evolve. Barriers that include resistance to change can be successfully managed from both a functional and cultural or behavioural point of view by developing a communication approach between project management teams and the functional departments or units, allocating and managing resources, and implementing a best practices approach (Van der Waldt, 2007:253-254).

This process of managing change by projects has been the effective success factor for the organisations that have implemented it (Crawford, Pollack & England, 2006:177). It also supports the usual distinction between a programme and a project (Murray-Webster & Thiry, 2000:46-64). As was established earlier, a project can be regarded as a temporary challenge designed to deliver a specific set of change

objectives. A programme, in turn, can be regarded as a framework to provide strategic direction to a group (i.e. portfolio) of projects so that they can combine to provide higher-order strategic change for the organisation (Turner & Muller, 2003:4).

2.2.2 Projects as agencies for resource allocation

Turner's (1990) definition includes the role of a project as an agency for organising resources for completion of a task as a central element, and Cleland and King's (1983) and Cleland and Kerzner's (1985) definitions reflect that a project can act as focal point for assigning resources from across the organisation.

Carroll (1995:58) suggests that the success of different organisational forms is dependent on their ability to attract resources. Morris (1997) confirms this, stating that since 1950s projects have been used as an organisational form of assigning resources for the delivery of change and this has been taken as a measure of its success.

Carroll (1995:69) also argues that the only measure of an organisation's efficiency is its durability. Clearly, this is wrong in the case of projects that are established as temporary organisations, although their successes (i.e. change process) should be sustained in the host organisation. This concludes that the limit of the project is defined by a coherent set of change objectives to which it is sensible to assign a set of resources for its management. If one set of resources is responsible for several unrelated sets of change objectives, it could lead to their ineffective or inefficient utilisation (Turner & Muller, 2003).

Turner and Muller (2003:1-8) further explain that the role of the project as an agency for resource allocation also implies something about the structure of the project and the conflicting goals of principle and agent. While the agent's goal is efficiency in project delivery through the employment of 'the best' and most effective resources, the principal's objective is the balanced utilisation of the entire staff and with it the simultaneous allocation of effective and less-effective resources to projects.

Project management can be regarded as a set of principles, methods, and techniques that people use to effectively plan and control project work (Richman, 2002:4). It establishes a sound basis for effective planning, scheduling, resourcing, decision-making, controlling, and re-planning. Project management principles and techniques help complete projects on schedule, within budget, and in full accordance with project specifications. At the same time, they help achieve the other goals of the organisation, such as productivity, quality, and cost-effectiveness. The objective of project management is to optimise project cost, time, and quality (Richman, 2002:121).

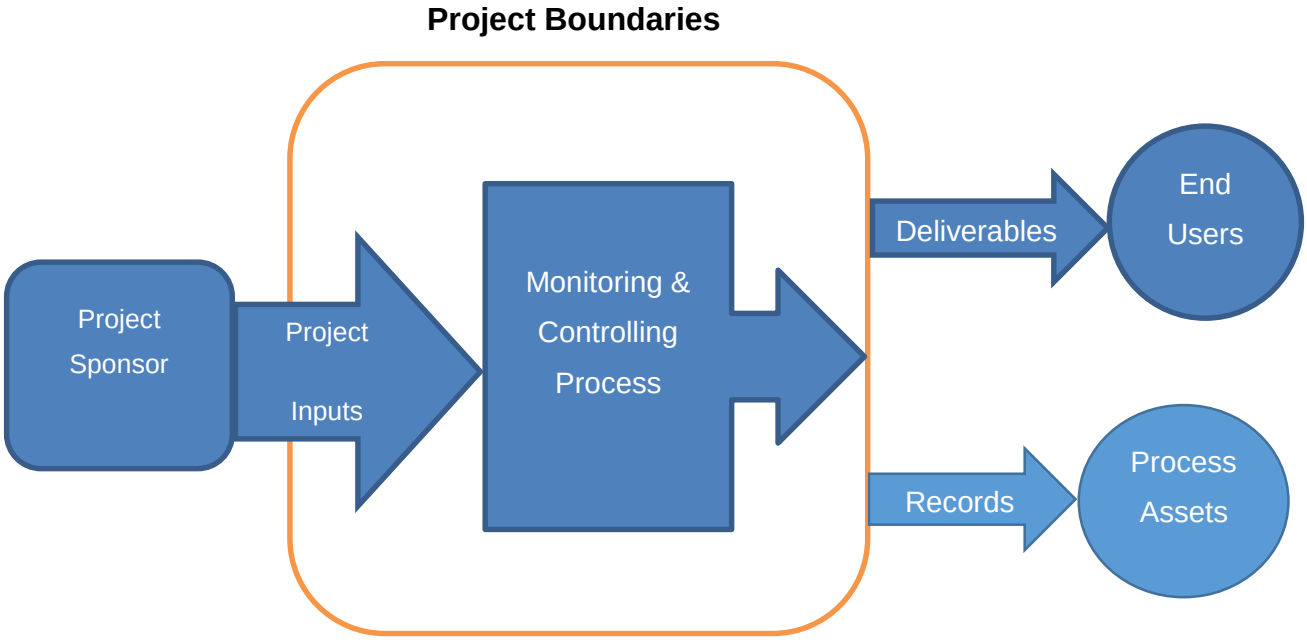
The Project Management Institute (PMI, 2004:5) defines project management as a process that involves the application of a body of knowledge, skills, tools, and techniques to project activities to meet project necessities. This includes interrelated processes to manage inputs and produce outputs by executing certain activities. In this regard, Arain and Assaf (2003) argue that project management is rapidly becoming a standard way of producing a business change in an organisation. Duncan (1996) adds that this conversion process is necessary to meet or exceed stakeholder needs and expectations from the project.

A project management plan is a strategic roadmap for a project manager to deliver the project successfully (Munns & Bjeirmi, 1996:82-83). This involves project objectives by describing the project lifecycle, project work breakdown structure, risks, communication planning with the stakeholders, and managing changes. It is a living document that is reviewed and updated throughout the project milestones (US Department of Interior, 2009:5-7).

2.2.3 Project management processes

To understand the significance value of project management, it is necessary to understand the core characteristics of project management processes. This includes how success is evaluated during each process, the roles, responsibilities, and activities of a project manager and the expertise required, as well as the context in which projects are performed. Figure 2.1 below reflects the various key processes in project management.

Figure 2.1 Project management processes



Source: US Department of Interior (2009:1)

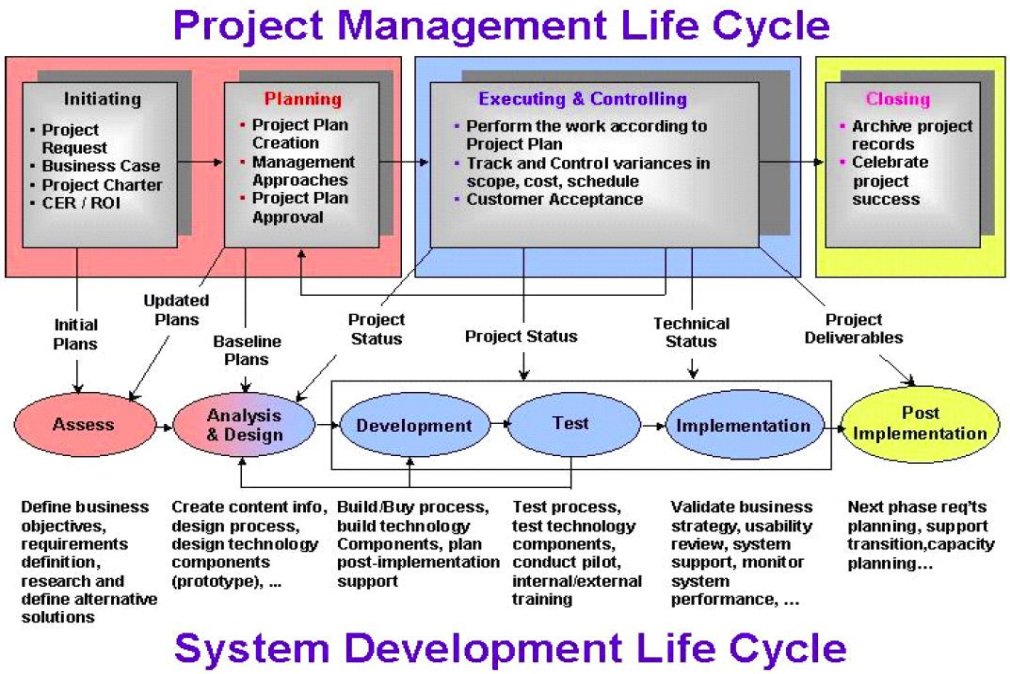
As stated, project management entails the overall planning, coordination and control of a project from inception to completion aimed at meeting clients' requirements in order to produce a functional and financially viable project that will be completed on time within authorised cost and to the required quality standard (CII, 1994:12). Due to the complex nature of the present business environment, organisations often undertake multiple projects that are varied in nature and call for more specialised expertise in project management (Arain & Low, 2005:24).

The project management process groups, as depicted in Figure 2.1, are initiating, planning, executing, monitoring and controlling, and closing. *Initiating* defines and authorises the project or a project phase. *Planning* defines and refines objectives and plans the course of action required to attain the objectives and scope that the project was undertaken to address. *Executing* integrates people and other resources to carry out the project management plan for the project. *Monitoring and controlling* regularly measures and monitors progress to identify variances from the project management plan so that corrective action can be taken when necessary to meet project objectives. *Closing* formalises acceptance of the product, service, or result and brings the project or a project phase to an orderly end (US Department of Interior, 2009:4).

The five processes have a strong relational dependency that is not exclusive to one another and it involves a combination of various factors that include roles and responsibilities of project teams, methodology, and the organisational structure for the delivery of the outcome (Lock, 1988:76). These processes are constantly monitored through the project deliverables for the determination of the next phase and reinforcing or releasing of resources as required by the project milestone (Thiry & Deguire, 2007:43). Each project phase normally includes a set of defined work products designed to establish the desired level of management control (Ching, Holsapple & Whinston, 1991:56). The project phases are known as the project life cycle.

There is also an IT-based project management life cycle known as a system development life cycle (SDLC) that is actively used in the development of IT systems and applications (such as the Provincial Broadband Project as the focus of this research). The alignment between the two life cycles is shown in Figure 2.2 below.

Figure 2.2 Project management life cycle and system development life cycle



Source: Oakwood Inc. http://stlpmi.org/images/meeting/2010_october_lunch.pdf

As defined in Chapter 1, the Provincial Broadband Project is categorised as a socio-economic project that uses ICT as an enabler and it will also follow the principle of SDLC as depicted in Figure 2.2.

Project management has become a scientific field with its own professional associations, namely the Project Management Institute (PMI) and the International Project Management Association (IPMA). These associations have as the main aim the development and promotion of the standardisation of project management practices and the design of certification programmes for the training of project managers (Soderlund, 2004:78). *A Guide to the Project Management Body of Knowledge* (PMBOK Guide), published by PMI, presents a set of standard terminology and guidelines for project management. The PMBOK Guide is process based, describing project management as being accomplished through the application and integration of the project management processes of initiating, planning, executing, monitoring and controlling, and closing.

As explained above, projects deliver outputs, discrete parcels or "chunks" of change (Obeng, 1994:156), and a project might deliver a new factory, hospital, or IT system. By combining these projects with other deliverables and changes, their programmes might deliver increased income from a new product, shorter waiting lists at the hospital, or reduced operating costs due to improved technology. A programme is nothing more than a set of projects (or portfolio) combined in order to exploit economies of scale and to reduce coordination costs and risks (Nokes, 2007:98). An organisation should, therefore, select the group of programmes that would most likely take it towards its strategic aims while remaining within its capacity to deliver the changes.

The next section focuses on the management of a set of projects (or portfolio) for coordination of costs and risks associated with them.

2.3 PROJECT PORTFOLIO MANAGEMENT (PPM)

A project portfolio can be regarded as a group of projects that are carried out under the sponsorship and/or management of a particular organisation. These projects must compete for scarce resources (e.g. people, funds, time, etc.) available from the sponsor since there are usually not enough resources to carry out every proposed project that meets the organisation's minimum requirements on certain criteria such as potential profitability (Archer & Ghasemzadeh, 1999:208).

Project Portfolio Management (PPM) has been mainly concerned with aligning projects with corporate strategy, focusing on methodologies for project evaluation, selection and ranking. The output of PPM is a collection of selected projects, ranked according to their contribution strategy. On the other side, multi-project management (MPM) is focused on operative issues, such as resource allocation, scheduling and risk (Pajares & Lopez, 2014:645). Lopez (2014) further emphasises that PPM can be considered as a managerial approach for helping firms to obtain corporate objectives more efficiently. This approach underlies the concept of the organisation as a set of projects implementing corporate strategy. This approach also focuses on the possibility of obtaining higher levels of efficiency by means of a better and more rational allocation of resources; higher than the efficiency obtained when the projects are managed separately.

PPM literature has been more concerned with strategic issues (alignment processes), whereas operational processes have turned to methodologies from the operational research field. Thus, for instance, the Standard for Portfolio Management by the Project Management Institute (PMI, 2006) focuses on alignment, monitoring and controlling processes, than operational issues. Furthermore, both kinds of processes have been frequently considered as two independent and separate fields (Pennypacker & Dye, 2002:112). Pennypacker and Dye (1999:34) further explain that PPM can be defined as the management of numerous projects with a focus on single project involvement to the success of an organisation. The set of ranked projects to form part of the portfolio is the output of the alignment processes and also the input of the operational processes.

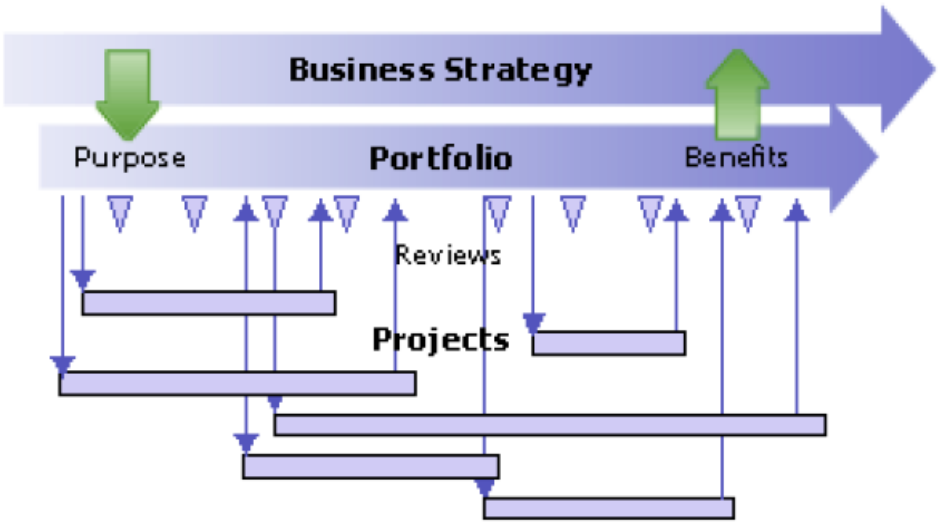
Turner and Speiser (1992:45) argue that if the portfolio of projects is managed in a coordinated way they can deliver benefits that would not be possible when the projects are managed individually. It is suggested that in portfolio management the determination of the strategic fit of a project based on the integration of the senior manager and the project manager, together with an adequate allocation of resources through a project selection framework, results in benefits that are aligned with the organisation's mission and vision. This, in turn, enables the organisation to compete based on strategic performance, rather than on operational improvements, treating its product or process development projects as a business venture (Stadnick, 2007:7).

Levine (2005:77) argues that PPM functions as a tool for innovative positioning in a scenario of aggressive competition and it sets projects for proper evaluation and analysis based on their potential for value creation and benefits. Cooper *et al.* (2001:48) also state that portfolio management treats the financial resources of an organisation with a focus on return on investment, an appropriate balance of the portfolio, and strategic alignment of the portfolio with the business objectives.

2.3.1 The project portfolio structure

For PPM to be successful, project management, resource management, reporting, and organisational processes must be well established. Similarly, if processes have not evolved to allow individual projects to be managed in a standard way, or if the team members are not fully participating in the Enterprise Project Management Solution initiative, accurate analysis of project portfolio data is not possible (Oakwood, 2010:16).

Figure 2.3 Business strategy alignment to portfolio



Source: Oakwood Inc. http://stlpmi.org/images/meeting/2010_october_lunch.pdf

The Project Management Institute (PMI, 2006) has recommended best practices for PPM Tool capabilities as follows:

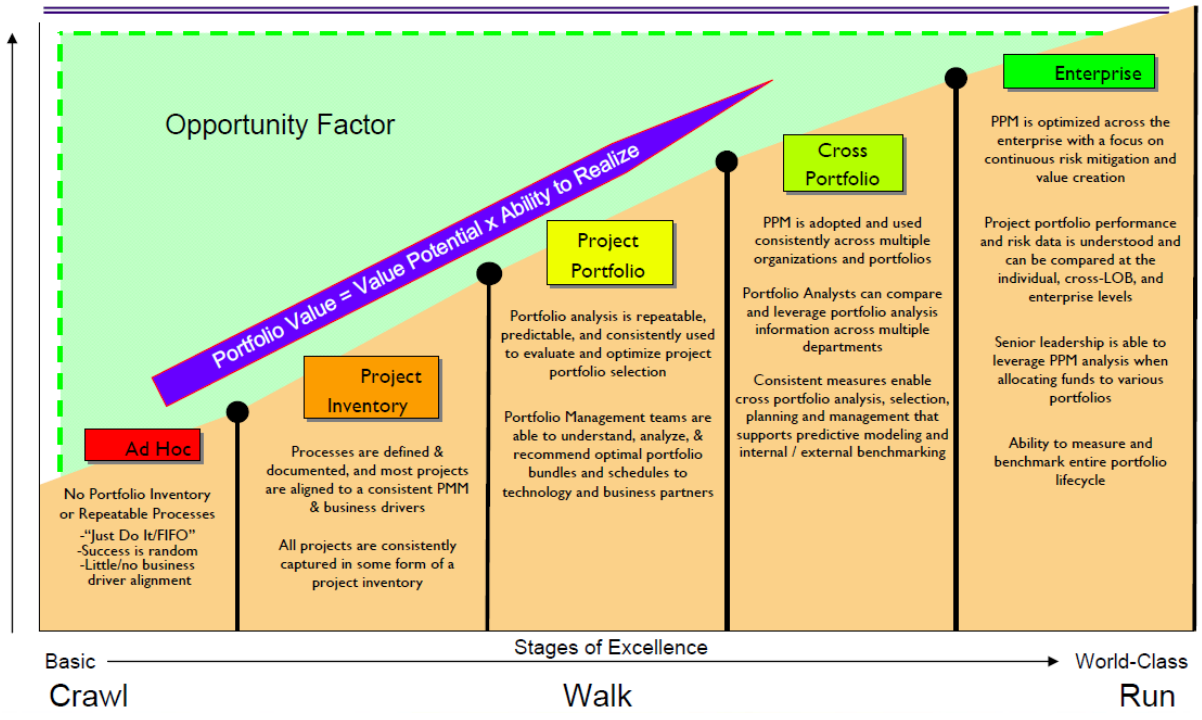
- Prioritise projects by their business values as derived statistically;
- Select the best portfolio by optimising against risk, budget, and resource constraints;
- Utilise “What If” analysis through advanced portfolio intelligence;
- Provide drill-down capability as to the reasons why a project may not qualify for portfolio selection;
- Enable communication and sharing of portfolio data through automated, real-time distribution services;
- Provide practical graphics and representations that are easily interpreted and modified to reflect a project’s current state within the portfolio, including project change requests; and
- Through effective workflow management, ensure and expedite scalable project governance.

2.3.2 Portfolio, Programme and Project Management Maturity Model

The Portfolio, Programme & Project Management Maturity Model (P3M3) describes the level of maturity within key process areas in relation to the organisational portfolio, programme, and project-related actions in attaining effective project deliverables (Office of Government Commerce, 2006). The Office of Government Commerce (2006) states that these key processes are hierarchically structured as an opportunity factor of transition from an "ad-hoc" or immature state to a fully "optimised" enterprise stage.

A fully optimised or mature organisation has an organisation-wide ability for managing programmes and projects based on standard processes, defined programme and project management processes that are tailored to meet the organisational needs (Office of Government Commerce, 2006:5). The maturity model can be used as the basis for improving portfolio, programme, and project management processes. Graphically, the P3M3 is represented by Figure 2.4 below.

Figure 2.4 Portfolio, programme and project management maturity model



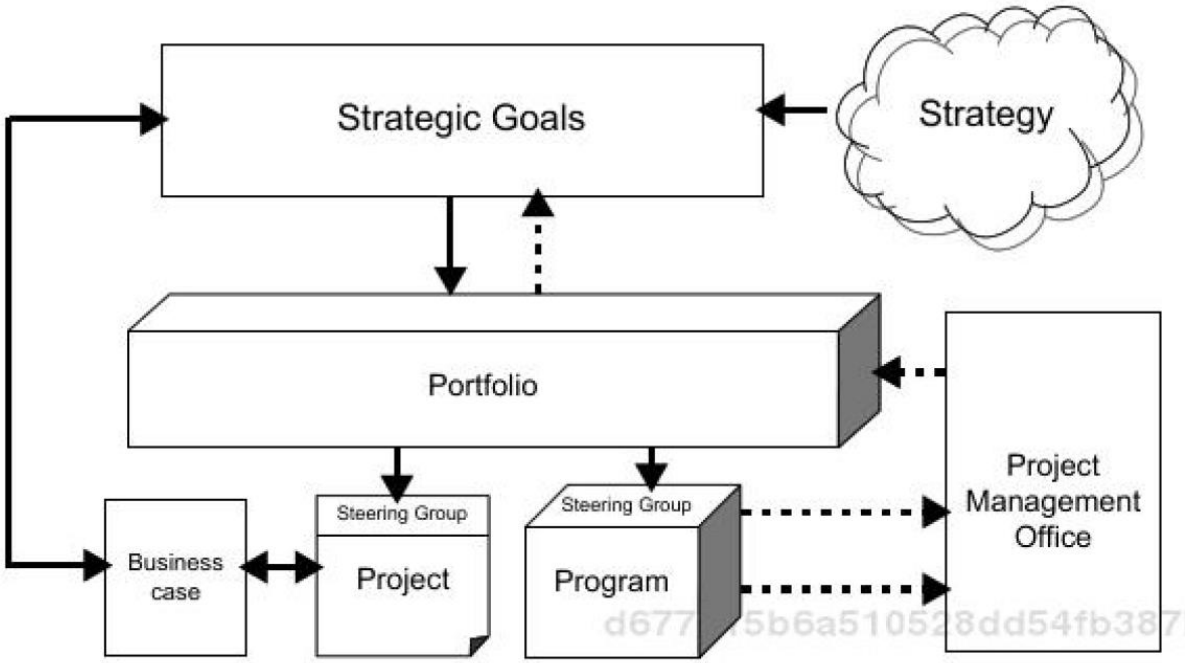
Source: Oakwood Inc. http://stlpmi.org/images/meeting/2010_october_lunch.pdf

This categorised approach of P3M3 enables organisations to measure their current maturity capability and then plan a roadmap for improvement ranked by those key performance areas that will make the effective impact on performance using project portfolio.

2.3.3 Project-oriented organisation (strategy, structure, and culture)

Projects are created to accomplish an organisation's strategy. Figure 2.5 shows the relationship between organisational strategy and associated projects. It shows how strategy and projects are linked through a delivery circle and a control circle (Muller, 2009:15).

Figure 2.5 Relationship between strategy and projects



Source: Muller (2009:16)

The project-oriented organisation (POO) considers projects not only as tools to perform complex processes but as strategic options for organisational design (Gareis & Huemann, 2000). Gareis and Huemann (2000) further explain that POOs perceive projects and programmes as temporary organisations for the performance of complex processes, such as contracts for external clients, as well as product

development, marketing campaigns, or re-engineering activities for internal clients. The more projects of different types a company holds in its project portfolio, the more differentiated it becomes and the higher becomes its management complexity. To support the successful delivery of individual projects, and to ensure the compliance of the objectives of the different projects with company strategy, the POO must adopt specific integrative structures such as a strategic centre, expert pools, competence, and a project portfolio steering committee (Fincher & Levin, 1997).

A POO is one which:

- defines management by projects as an organisational strategy;
- adopts temporary organisations for the performance of complex processes;
- manages a project portfolio of different project types;
- has specific permanent organisations to provide integrative functions;
- applies a 'new management paradigm'; and
- perceives itself to be project-oriented.

Management by projects is the strategy of organisations dealing with an increasingly complex operational environment. By applying management by projects, the following organisational objectives are generally pursued:

- organisational differentiation and decentralisation of management responsibility;
- quality assurance by project teamwork and holistic project definitions;
- goal orientation and personnel development; and
- organisation of organisational learning by projects (Gareis & Huemann, 2000:1).

In project-oriented organisations, individuals are grouped into working (i.e. project) teams for a limited time according to the duration of the project, management of the project, team cooperation, and communication (Kovaz, *et al.*, 2004; Hraskova, 2009). Project-oriented organisations typically have specific strategies, specific

organisational structures, and specific cultures for managing projects, programmes, and project portfolios (Gareis, 2008).

The commitment by organisations to manage change through project-oriented philosophy starts by categorising all activities as “projects” (Pollack, 2007:268) and this concept affects all planning processes of an organisation that include strategy and operational planning cycles (In’t Veld, 1999; Bresnen, 2007:366).

As discussed in section 2.2.1, change is not an overnight process but a transition roadmap that needs to be properly managed through a transformational and management process of doing business (Dey, 1999:148). Thus, for a project-oriented organisation approach to get embedded as a new service-delivery model in government, certain adjustments are needed to be fully implemented that will require cultural, systematic, and structural alterations (Van der Waldt, 2007:16).

Van der Waldt (2007:19) further argues that project-oriented organisations have better utilisation of resources, agile performance, improved project controls, and are dynamic in nature in responding to the needs and demands of the changing conditions, unlike the unadaptable traditional bureaucratic structures. This flexibility allows the clarification of project and functional roles and responsibilities as per the project requirement (Van der Waldt, 2007:20).

As far as organisational culture is concerned, an organisation with very strong hierarchical structures and highly authoritarian styles may inhibit the flexibility that project managers require to adapt quickly to changing circumstances (Schein, 1993:189). In such a rigid, bureaucratic work environment it would be problematic to obtain approval to secure additional funding and other resources. Culture change does not come only as a result of a change in the system. It comes because of a consistent (incremental) change in the way people feel about that system (Van der Waldt, 2007:19).

To fully utilise the strategic management of organisations using projects, a full project management office (PMO) should be in place as illustrated in Figure 2.5. The

next section will outline the role of a PMO, which will also be key to the Broadband Project.

2.4 THE ROLE OF PROJECT MANAGEMENT OFFICES

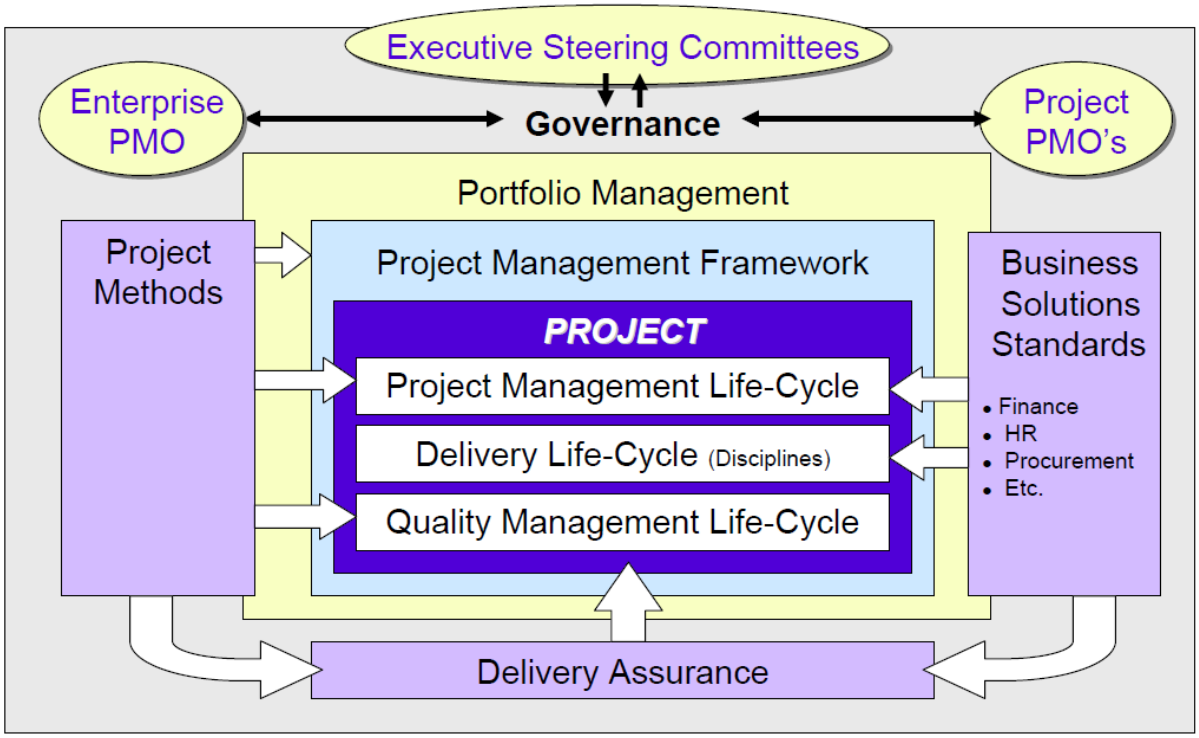
Globally the notion of a project management office (PMO) is regarded as an organisational body or entity assigned with various responsibilities related to the centralised and coordinated management of projects under its domain. The responsibilities of the PMO can range from providing project management support functions to actually being responsible for the direct management of a project. The projects supported or administered by the PMO may not be related, other than being managed together. The specific form, function and structure of a PMO is dependent upon the needs of the organisation that supports it (PMI, 2004:41).

PMOs are a relatively recent phenomenon which only started to gain popularity in the mid-1990s (Dai & Wells, 2004:256). This growth in popularity has been identified as recognition by organisations that their strategies and initiatives are essentially achieved via projects and as such project management is a critical competence which should be developed (Hurt & Thomas, 2009:55). A PMO is fast becoming the global project management standard for those enterprises that perform a significant amount of project work activities, along with their associated project management methods and tools for doing so repeatedly, consistently and successfully .

Muller *et al.* (2013:59) further define the PMO through service, which entails administrative support to projects to enhance the efficiency of resources; a controlling role, by exercising the managerial authority and partnership through information sharing; knowledge; and expertise to the stakeholders. Hobbs and Aubry (2007:82-83) also suggest that PMOs can assist in the implementation of professional competency of project teams by aligning strategic goals of an organisation with project objectives. Finally, Kerzner (2003) emphasises that a PMO can help an organisation accomplish more with fewer resources in limited time, thus avoiding any organisational restructuring.

In general, a type of project-oriented organisational structure, which supports an enterprise's business strategy and business development, and is described as the rationale of how a portfolio, programme and project management tools are interlinked and utilised for the benefit of an organisation. Collectively PMOs initiate, create, capture, and deliver value within an enterprise's economic, social, cultural, and business capabilities, its infrastructure, and other contexts (Bolles & Hubbard, 2015:3) (refer to Figure 2.6 below).

Figure 2.6 Aligning of the project management office in an organisation



Source: PMI (2004:30)

In conclusion, the primary goal of a PMO is to achieve the desired benefits from standardising, governing and following project management policies, processes, and methods. The enterprise PMO assumes a governance process that involves the project office in all projects, regardless of size, allowing it to assess the scope, allocate resources and verify time, budget, risk, and impact assumptions before the project is undertaken (refer to Figure 2.6 above). PMOs can thus perform a significant role in the overall governance of projects. Project governance, as the core focus of this research, will be highlighted in the next section.

2.5 PROJECT GOVERNANCE: CONTEXTUAL AND CONCEPTUAL CLARIFICATION

Since the late 1990s, the term project governance has attracted much attention and debate in the project literature. The quest to define and apply project governance is fuelled by the growing frustration of large capital project failure (Miller & Lessard, 2000:14; Flyvbjerg, Bruzelius & Rothengatter, 2003:12-21).

Khan (2012:113 in Bernardo, 2014) defines project governance as "an oversight function that encompasses the project lifecycle, and provides the project team with structure, processes, decision-making model and tools for managing the project, while supporting and controlling the project, in order to ensure that the project meets its objectives and delivers business value to all stakeholders". To this Jia *et al*. (2008:3) add that project governance can be regarded as the process of project decision-making within a framework, to ensure coherence between the realising of organisational objectives and the processes and resources used in a project, thus enhancing a smooth-running organisation and profitability. Bekker and Steyn (2009:81-82) further elaborate by pointing out that project governance contains the management system, regulation, relationship, structure, and framework to provide decision support in order to realise the expected goal. Good project governance can cultivate a good operational environment and provide a strong institutional guarantee for project success (PMI, 2006:84).

Garland (2009) in turn focuses on the frameworks and structures of project governance by defining it as "the process of project decision-making and the framework, models or structures that are established to enable this". Similarly, O'Leary (2012) describes project governance as a means to provide the management structures, policies, processes and roles and responsibilities in the process to select and implement successful projects. In these definitions, project governance is described in relation to different activities that comprise processes, procedures and structures that are used by project promoters to develop and analyse information, to select the right project alternative, to make optimal decisions, and to implement them successfully. This implies that to understand project governance it is important to understand the various processes, structures,

principles, and the different episodes that are developed to resolve problems and arrive at a project closure.

The project governance is seen as a connecting factor between the organisation governance and the project management activities (refer to Figure 2.7 below).

Figure 2.7 Components of project governance

Source: OPSI (2007:5)

Figure 2.7 identifies the governance linkage to these activities by setting programme direction, programme ownership and sponsorship, the effectiveness of the project management function and including reporting (OPSI, 2007:5).

2.5.1 Project governance frameworks

Miller and Lessard (2008:156) define a project governance framework as setting a structure: a set of decision-making processes and methods for collecting and analysing information to ensure that creativity and discipline are considered. Similarly, Klakegg *et al.* (2009) define a project governance framework as "an organised structure that is established as authoritative within the institution, comprising processes and rules established to ensure projects meet their purpose". From these definitions, one can understand that the project governance framework is

a decision-making structure that embraces predefined processes, procedures, principles, and rules that are useful for selecting the right project option and doing it right, and then achieving the project's objectives.

A project governance framework also enables scrutiny at the right level and at the right time; helps to ensure the involvement of stakeholders' interests from the beginning; and allows advice and consultation from independent sources for best practices (UK Treasury, 2007). This implies that the effectiveness of a project governance framework depends on how the governance structure and the various processes and systems support the decision-making process (O'Leary, 2012:89), and how the key elements of a project governance are organized in a framework to select and implement the right project concept and to make the optimal decision.

Garland (2009:167) argues that project governance reinforces project success through a best practices approach, and ultimately results in efficient project deliverables. Garland (2009:98) further emphasises that the framework is applicable to most projects in most organisations but focused primarily on high-risk projects. Lower risk projects should subscribe to the same principles but their implementation can take different forms to suit the needs of the organisation.

Clarke (2004), Mosaic (2005), the Association of Project Management [APM] (2006), Turner (2006, 2009), PMI (2008), Garland (2009), Klakegg (2009), Müller (2009), Narayanan and DeFillippi (2012), O'Leary (2012), and others have all defined project governance in their own terms but all these definitions agree that good project governance is based on four key principles:

- **Identify a single point of accountability:** identification of an individual or project governance structure accountable for the success of the project deliverables.
- **Ensure project governance is service delivery focused:** to ensure that the project governance structure is able to translate the project business case into a service delivery outcome.

- **Separate project and organisational governance:** to ensure that project decisions are separated and different from the organisational governance activities, thus reducing project decision nodes that will not follow the organisational line.
- **Separate stakeholder management and project decision-making:** to ensure stakeholder management and project decision-making are separated to avoid the project decision structures becoming congested with stakeholder issues (Garland, 2009:1-5).

The successful implementation of a project governance framework and the implementation of a system to monitor and adjust the framework depend on the culture and capability from stakeholders. Therefore, it is equally important to develop the right culture and capability of institutions and stakeholders, because the cultural changes within the government, policy issues, structural, resourcing and skill issues are challenges for implementing effective project governance systems (Garland, 2009:6).

2.5.2 Project governance structures

According to Johnston and Evans (2006:223), governance structures are mechanisms that are necessary to achieve good governance, and authorities make decisions according to the framework provided by the project governance structures.

The project governance structure is meant to define lines of accountability, encourage effective collaboration, allocate required resources, give direction in the project development process, and ultimately deliver the required outcome (UK Treasury, 2007). The Project Management Institute (2006:83) also emphasises the importance of early identification of project problems due to potential conflicts between structures and mechanisms on the delivering of effective project governance.

Therefore, the aims of a project governance structure are to set out lines of responsibility and accountability within the authority for the delivery of the project, including the following:

- Give the stakeholders in the authority the ability to manage their interest in the project;
- Support the authority's project team to deliver the required outcomes by providing resources, giving direction, and enabling trade-offs and timely decision taking;
- Provide a forum for issue resolution;
- Provide access to best practice and independent expert advice;
- Disseminate information by reporting to stakeholders so that they can effectively fulfil their roles; and
- Provide a framework for project disclosures (Office of the Public Sector Information, 2007:6).

Van der Waldt (2008:734) states that the role of project governance should be the essential part of the decision-making structures within an organisation and must be aligned to the broader strategic governance issues in a department. He emphasises that project governance could be influenced by a range of requirements and constraints arising from the following factors:

- external factors outside the organisation's direct control, such as those arising from the legal, fiscal, political, social, and technological environments within which the organisation operates;
- sector-specific factors, such as political directives within national or provincial government, strategic objectives, and service delivery targets and initiatives; and
- factors within the department such as its policies, culture, organisational structures, and level of project maturity.

The key element of steering, according to Kooiman (2003:117), is the direction-finding and arguably a form of "directed" governing. Van der Waldt (2008:741)

argues that as a governance structure, a project steering committee is responsible for the issues associated with the project deliverables that include budgeting, key deliverables, risks, schedules, resource allocation, and scoping of the project.

2.6 CONCLUSION

The objective of this chapter was to uncover the theories, principles, and approaches associated with project governance. Much of the work of many organisations is accomplished through projects. In some cases, a large project is called a programme and then the programme is split up into smaller projects or "sub-projects". However, a portfolio has a broader meaning than a programme. The four terms have been compared and contrasted in this chapter when viewed from the perspective of PPM, and the nature of the project as a temporary organisation has been analysed from the perspective of project-oriented organisation including the role of a PMO; finally, the project governance was defined, including its structures and framework.

The next chapter will explore the application of ICT in the South African Government and focus on the existing strategic statutory and regulatory frameworks in South Africa that govern ICT initiatives, such as e-Governance (or electronic Governance) and the need for the Broadband Project.

CHAPTER 3
STATUTORY AND REGULATORY FRAMEWORKS THAT GOVERN ICT APPLICATIONS IN THE SOUTH AFRICAN GOVERNMENT

3.1 INTRODUCTION

This chapter will explore the application of Information and Communications Technology (ICT) in the South African Government and focus on the existing statutory and regulatory frameworks that govern ICT initiatives such as e-Governance and the need for the Broadband Project. E-Governance is the application of ICT to the processes of government functioning in improving citizen-government interactions.

Khan (2015) defines broadband as an ICT enabler that encompasses an ecosystem of electronic network infrastructure based on high-speed bandwidth and high-quality, services, applications, and a variety of content for consumption by diverse types of users.

According to the OECD (2008:48), broadband and ICT are general-purpose technologies with a promise of significant and far-reaching growth impacts that may arise more quickly than other economic indicators. They further emphasise that it is an economic activity that is key to every sector of the society, especially health and education; however, due to its emerging trends, some short-term adjustment costs arising from associated structural changes need to be realised and must also be accompanied by policies and frameworks to support the amended process (OECD, 2008:49-50).

This chapter firstly outlines the chronological evolution of ICT applications in South Africa and secondly focuses on regulatory and statutory frameworks and mechanisms that govern the sector. Thirdly, the role of these frameworks in the implementation of e-Government (electronic government) initiatives is explored. The role of the statutory and regulatory frameworks in relation to the Broadband Project will be the focus of the last section.

3.2 CHRONOLOGICAL BACKGROUND OF ICT APPLICATIONS IN SOUTH AFRICA

Farelo and Morris (2006:4) explain that the South African Government has understood the required need for the development of an "Information Society" that will connect the influence of ICTs for economic and social development for the benefit of the country and its citizens. They further explain that Government plays a critical role in supporting and enabling this process and in the creation of a socially inclusive information society. Recognising this, in 1998 the Department of Public Service and Administration (DPSA) requested an approval in principle by Cabinet for addressing the current ICT problems in the Public Service by establishing a State Information Technology (IT) Agency (SITA) outside the Public Service that would provide ICT-related services to the Public Service (Cab Memo, 1998). The State Information Technology Agency Act 88 of 1998 was approved on 16 October 1998 and published in the Government Gazette. The DPSA was mandated with the task of managing and overseeing this agency.

The then Department of Communications, which was later (in 2014) to become the Department of Telecommunications and Postal Services (DTPS), was mandated "to create a vibrant ICT sector that ensures that all South Africans have access to robust, reliable, affordable and secure ICT services in order to advance socio-economic development goals and support the Africa agenda and contribute to building a better world" (DTPS, 2000:34). In addressing their mandate, they established the following state-owned companies (SOC):

- As early as 1992, the South African Broadcasting Corporation (SABC) corporatised the signal distribution division as SENTECH, a wholly owned subsidiary of the Corporation. In 1996, the SENTECH Act 63 of 1996 was amended, converting SENTECH into a separate public company responsible for providing broadcasting signal distribution services as a "common carrier" to licensed television and radio broadcasters (SENTECH, 2015).
- In 2000, the Independent Communications Authority of South Africa (ICASA) was formed to regulate spectrum licensing, broadcasting, postal services, and

communications. ICASA's mandate is spelt out in the Electronic Communications Act (to be further elaborated on in the chapter) for the licensing and regulation of electronic communications and broadcasting services, and by the Postal Services Act for the regulation of the postal sector. Enabling legislation also empowers ICASA to monitor licensee compliance with license terms and conditions, develop regulations for the three sectors, plan and manage the radio frequency spectrum as well as protect consumers of these services (ICASA, 2010).

- In 2005, the Universal Service and Access Agency of South Africa (USAASA) was formed "to ensure that every man, women and child whether living in the remote areas of Kalahari or in urban areas of Gauteng can be able to connect, speak, explore and study using ICT" (USAASA, 2015).

Parallel to these regulatory bodies, the Presidential National Commission on Information Society and Development (PNC on ISAD) was formed in 2001 through President Thabo Mbeki's Office by ensuring that government funds and human resources are effectively utilised through government initiatives and increase the usage of ICTs for service delivery outcomes and to increase economic growth (PNC on ISAD, 2006).

The South Africa's e-Government policy (2001) was produced by the DPSA after an extensive consultative process that consisted of six phases and ran from June 1999 to November 2000 (e-Government Policy, 2001). Three areas of focus were targeted within the e-Government policy, namely, e-Governance, e-Services and e-Business. The detailed policy imperatives will be outlined later in the chapter.

In November 2004, an ICT Charter was officially launched by the Department of Trade and Industry (DTI). The ICT Charter generally applies to all ICT sector enterprises active in the South African market. This also includes specialised and sizeable ICT-related business units outside of the ICT sector itself, in respect of which clearly defined lines of applicability will be negotiated with the specific sectors to which those business units belong (ICT Charter, 2004:7-8).

In 2005, the amended Electronic Communications Act 36 of 2005 for convergence of the broadcasting and telecommunications sectors was officially introduced and it provided the legal framework for granting of new licenses, including social obligations.

In 2006, the Presidential National Commission for the Information Society and Development (PNC on ISAD) produced a holistic ISAD Plan with the aim of articulating a vision for the type of inclusive Information Society that South Africa aspires to become and to provide a framework that will guide all initiatives in the area of building an inclusive Information Society (PNC on ISAD, 2006:2).

The Corporate Governance of ICT Policy Framework (CGICTPF) was officially approved in December 2012 by the former Minister of Public Service and Administration, Ms Lindiwe Sisulu. The framework is guided by Batho Pele principles of equal access to services by the broader society and recognises the 12 government strategic outcomes through which ICT is identified as the key enabler for transformation in its quest for service delivery (CGICTPF, 2012:1).

In December 2013, Cabinet approved the National Broadband Policy or SA Connect Framework as a guiding document for the Broadband Project in the country. The Broadband Policy also featured as a full chapter on the economic policy framework, the National Development Plan (NDP).

The NDP “aims to eliminate poverty and reduce inequality by 2030” and states that “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 society.” The plan, as endorsed by the ruling ANC party, has been earmarked as the centrepiece of its economic strategy (News24, 2013).

The DTPS also acknowledged the fact that due to the dynamic nature of ICT, in general, all these policies will require review and regulatory approaches in future, hence the process of integrating the policy frameworks for different sectors in recognition of convergence in the communications sector (DTPS, 2000).

In 2014, the Minister of the Department of Telecommunications and Postal Services (DTPS) commissioned a panel for the development of a white paper on ICT Policy, which should serve as a cross-cutting ICT sector policy framework required by the industry and the NDP. What necessitated the policy review is that the ICT sector continues to experience major market changes and these rapid changes require a policy and law review in order to have a framework across the sector. Mobile technology such as digital and broadband television, smartphones, and other new media technologies are all recent developments in this space, hence the review of this policy (DTPS, 2000).

The next section will outline each of these statutory documents in detail and the role they played in the context of ICT initiatives in South Africa.

3.3 STATUTORY FRAMEWORKS FOR ICT IN SOUTH AFRICA

Nicol (2003:55) defines policy as the key determinant of legislation and regulation. It sets out the vision for ICT and its links to national development goals. He further argues that legislation establishes how policy is implemented by providing the statutory foundation for the required institutions (for example, consultative, advisory, and regulatory bodies) and processes (for example, licensing). Dudley and Brito (2012:1) further define regulations, also called administrative laws or rules, as the primary vehicles by which the government implements laws and agency objectives. They are specific standards or instructions concerning what individuals, businesses, and other organisations can or cannot do. The OECD (2010:1-2) also emphasises that effective and efficient regulations help foster innovation and good controlling management.

3.3.1 Constitution of the Republic of South Africa, 1996

Chapter 1 of the Constitution of Republic of South Africa defines the founding provisions of the Republic as one, sovereign, democratic state founded on the following values:

- Human dignity, the achievement of equality and the advancement of human rights and freedoms.
- Non-racialism and non-sexism.
- Supremacy of the constitution and the rule of law.
- Universal adult suffrage, a national common voter's roll, regular elections, and a multi-party system of democratic government, to ensure accountability, responsiveness and openness.

The chapter further states that the Constitution is the supreme law of the Republic; law or conduct inconsistent with it is invalid, and the obligations imposed by it must be fulfilled. On citizenship, the Constitution specifies that all citizens are: equally entitled to the rights, privileges and benefits of citizenship; and equally subject to the duties and responsibilities of citizenship; and that national legislation must provide for the acquisition, loss and restoration of citizenship.

The Constitution further emphasises that the Bill of Rights is a cornerstone of democracy in South Africa. It enshrines the rights of all people in our country and affirms the democratic values of human dignity, equality and freedom. On Access to Information, it states that everyone has the right of access to any information held by the state and any information that is held by another person and that is required for the exercise or protection of any rights (Constitution of South Africa, 1996). Section 7.3 of the Constitution also encourages the state to improve the quality of life for all citizens through the usage of modern electronic devices and technology, thereby enabling equality in the rights of every citizen (Constitution of South Africa, 1996).

3.3.2 Public Services Act 103 of 1994

The Public Services Act 103 of 1994 is the guiding legislative act in the public service, particularly regarding the conditions of employment. It applies to every government employee within the public service as amended after the dawn of democracy (Public Service Act, 1994).

3.3.3 Telecommunications Act 103 of 1996

The primary objective of this Act is to provide for the regulation and control of telecommunication matters in the public interest, and for that purpose to:

- promote the universal and affordable provision of telecommunication services in the interest of the economic growth and development of the Republic of South Africa;
- ensure fair competition within the telecommunications industry;
- encourage investment and innovation in the telecommunications industry;
- ensure compliance with accepted technical standards in the provision and development of telecommunication services; and
- promote and facilitate convergence of telecommunication, broadcasting and information communication technology (Telecommunications Act of 1996).

This Act was specifically drafted in order to regulate the telecommunications, broadcasting and ICT sector in South Africa leading to the creation of state-owned entities or companies such as Telkom, Sentech, SABC, USAASA, ICASA and later mobile companies (i.e. Vodacom, Cell C, and MTN).

The current internal telecoms monopoly and the lack of external competition in South Africa gives no apprehension about statutory or regulatory frameworks that guide different technology models, hence the unresponsiveness of these frameworks to the current conditions (Goldfarb, 2005:13-14). Service providers that are in direct competition with one another sometimes may be subject to different regulatory rules because they use different technologies. Some examples are:

- For certain long-distance calls, if the caller uses a wireless telephone number, the caller's wireless carrier is subject to a cost-based "reciprocal compensation" intercarrier-compensation charge for the termination of that call. But if the caller made an identical call, from the same location to the same called party, using a fixed telephone (and hence a wireline long-

distance carrier), that carrier would be subject to above cost “access charges” for the completion of the call.

- When a long-distance call is made to a called party’s wireline telephone, that party’s wireline local exchange carrier can charge the calling party’s long-distance carrier an above-cost access charge for terminating the call; but if an identical long-distance call were made to this same called party, from and to the same physical location, but to the called party’s wireless telephone, the called party’s wireless carrier is not allowed to charge the calling party’s long-distance carrier any access charge for terminating the call (Telkom, 2010).

The current universal service funding mechanism, as it applies to entities such as the Universal Service and Access Agency of South Africa (USAASA), is only available to support telecommunications services rather than information services, depriving other universal services (Telecommunications Act, 1996).

3.3.4 State Information Technology Act 8 of 1988

The State Information Technology Agency (SITA) Act 88 of 1988 was developed in order to establish a company that will act as an agent of the government for the provisioning of ICT-related services and connectivity to all government departments, including municipalities (GCIS, 2010).

On 4 April 2001, Cabinet approved a new business model for SITA, which fundamentally changed the way in which SITA must conduct its business. This new model included the realisation of Government’s ‘‘Information Technology House of Value’’, which focuses on the fundamental principles of information technology (IT) security, interoperability, economies of scale and elimination of duplication, with the aim of lowering costs, increasing productivity and enhancing service delivery to the public (South African National Assembly, 2002).

The SITA Act (section 18) currently provides for the State to be issued with fully paid-up shares for all assets transferred to SITA. State assets are regularly transferred to SITA whilst at the same time depreciating in accordance with National Treasury guidelines. The baseline of asset value for which shares are to be issued is

therefore constantly changing. The Bill accordingly proposes the amendment of the current provisions of the SITA Act on shareholding (SITA Act of 2001).

3.3.5 Promotion of Access to Information Act 2 of 2000

The Promotion of Access to Information Act (PAIA) 2 of 2000 was approved by parliament to assist persons or individuals wishing to request access to information and it gives effect to the constitutional right of access to any information held by the state or private bodies (PAIA, 2000).

3.3.6 Electronic Communications Act 36 of 2005

The Electronic Communications Act was endorsed as an improvement to the Telecommunications Act of 1996 to promote convergence in the broadcasting, broadcasting signal distribution and telecommunications sectors and to provide the legal framework for convergence of these sectors. It further makes new provision for the regulation of electronic communications services, electronic communications network services and broadcasting services and to provide for the granting of new licences and new social obligations (Electronics Communication Act of 2005). Relating to ICASA and USAASA, the Act is to provide for the control of the radio frequency spectrum and the continued existence of the Universal Service Agency and the Universal Service Fund.

In conclusion, while a statutory requirement is a requirement written into a law passed by a legislative body, regulatory requirements are those requirements made by a government agency in accordance with the law. The next section will chronologically list the regulatory and policy frameworks for ICT in South Africa.

3.4 REGULATORY AND POLICY FRAMEWORKS FOR ICT IN SOUTH AFRICA

According to the OECD (2009), a policy and regulatory framework is defined as "the existence of the necessary infrastructure which supports the control, direction or implementation of a proposed or adopted course of action, rule, principle or law." It is

a systematic approach to regulations and the means to enforce them, usually established by a government to regulate a specific activity.

3.4.1 Minimum Information Security Standard of 1996

The minimum Information Security Standard of 1996 was developed as an official information security policy document that is applicable to all institutions of government that deal with sensitive or classified information due to the need for secrecy and information security measures in a democratic and open society with transparency in governmental administration (MISS, 1996).

3.4.2 E-Government Public Service IT Policy Framework of 2001

The e-Government Strategy or A Public Service IT Policy Framework (2001) addresses three major issues:

- *E-Governance:* electronic governance for delivering government information through the electronic exchange of data. Dash and Pani (2016:843) define e-Governance as the use of ICT to improve efficiency, effectiveness, transparency, and accountability of government, that is, a technology-enabled transformation of government.

- *E-Services:* The delivery of public services through electronic means; this includes government documentation, electronic billing, online education, and health consultation through telemedicine.

- *E-Business:* The delivery of business-to-business transactions through electronic means. An obvious example is the procurement of goods and services by the government: e-procurement covers the steps from electronic tender to electronic payment (DPSA, 2001:4-5).

SITA and Government Information Technology Officers Council (GITO Council) are the two statutory bodies established to coordinate the implementation of e-Government with the South African public service. The GITO Council, which consists

of national and provincial ICT officers, is responsible for consolidating and coordinating ICT initiatives in government, including e-Government, to facilitate service delivery.

3.4.3 ICT Charter of 2004

The main objectives of the ICT Charter, in compliance with the Broad-Based Black Economic Empowerment (BBBEE) Act 53 of 2003, are to promote and facilitate economic empowerment in the ICT sector by doing one or more of the following:

- enabling meaningful participation of blacks in the growth of the ICT sector and, by extension, in the national economy;
- achieving a substantial change in the racial and gender composition of ownership, management, and control structures as well as in the skilled and specialist positions of new and existing enterprises;
- increasing the extent to which black women, communities, disabled persons, workers, co-operatives, and the youth participate meaningfully in all areas of the sector;
- facilitating access to ICTs by black people, the rural and urban poor as well as other marginalised groupings, otherwise referred to as “bridging the digital divide”;
- providing skills development and training and thereby increasing access to and participation in the national economy of South Africa by black people; and
- providing an enabling environment for transparency, fairness and consistency when measuring and adjudicating on matters related to BEE in the ICT sector.

The core transformation indicators in the charter include ownership, management and control. The charter aims to regulate key employment equity such as skills development, employment equity, enterprise development, and preferential procurement as social investment.

One of the key issues identified in the charter is that empowerment is one of the primary objectives of legislation governing the regulated ICT sub-sectors. These

usually take the form of encouraging ownership and control of licensed services by persons from historically disadvantaged groups, especially those promoting the empowerment and advancement of women, and encouraging the development of human resources and training (ICT Charter, 2004:14).

3.4.4 ISAD Plan of 2006

In 2002, the Presidential International Advisory Council (PIAC) on Information Society and Development (ISAD) recommended that the country should develop a plan around which all stakeholders would be rallied for the building of an Information Society and which would be a clarion call to all to ensure that activities, initiatives, projects and programmes are aligned, coordinated and integrated.

The World Summit on Information Society (WSIS), in which South Africa participated actively, in both the Geneva and Tunis sessions in 2003 and 2005 respectively, instructed countries to develop national e-strategies to guide the building of the Information Society. Emanating primarily from these processes, the South African version of the ISAD Plan was a response to the development challenges facing the Information Society within the country.

The ISAD Plan identified ten pillars and five focus areas for the transformation of South Africa from an Industrial Economy to an Information-based Knowledge Economy. These pillars cut across the social and economic realities facing South Africa and act as enablers for the development of the South African Information Society:

- Policy and Regulatory environment
- ICT Infrastructure and Universal Access.
- Local Content
- Digital Inclusion and e-Awareness
- Human Capital
- ICT Capacity Development and R&D
- Coordination and Integration

- Funding
- Institutional Mechanisms
- Measurement of the Information Society Development in South Africa.

The purpose of the ISAD Plan is to articulate a vision for the type of inclusive Information Society that South Africa aspires to become and to provide a roadmap to guide the coordination and integration of all initiatives contributing to the building of an inclusive Information Society. Through the coordination and integration of the Pillars and Priority Focus Areas in the respective lead departments through the Forum of South African Directors-General (FOSAD) Information Society and Development (ISAD) Cluster, the Presidential National Commission (PNC) expects that the ISAD Plan will be accelerated in South Africa (PNC-ISAD, 2006).

3.4.5 Policy on Free and Open Source Software of 2007

The South African Government has acknowledged, along with many industry leaders, that free and open source software (FOSS) (2007) is often a viable choice, both on the desktop and in the back-end. Justifications typically focus on cost, security, and similar issues. Even so, when objective technical and financial analyses are conducted to calculate the total cost of ownership, return on investment, technical performance levels, security, and other measures, FOSS typically proves highly competitive (and frequently superior) across many categories of ICT. Existing Government policy on FOSS reflects such analyses. The policy notes the following:

- The South African Government will implement FOSS unless proprietary software is demonstrated to be significantly superior. Whenever the advantages of FOSS and proprietary software are comparable, FOSS will be implemented when choosing a software solution for a new project. Whenever FOSS is not implemented, then reasons must be provided to justify the implementation of proprietary software.
- FOSS standards, principles and licensing should be adhered to for all new software being developed for or by the South African Government.

- All Government content should follow and encourage the use of an open content policy unless analysis on specific content shows that proprietary licensing is beneficial (FOSS, 2007).

3.4.6 Corporate Governance of ICT Policy Framework of 2012

The change in government is informed by key priority areas, the so-called “apex” priorities as outlined in the annual State of the Nation Address (SONA) and the strategic Government’s Programme of Action (GPoA). These key priorities are then translated into 12 strategic outcomes, guided by the *Batho Pele* principles of equal access to services, increased productivity, and lowering of costs. The purpose of ICT is to serve as “enabler” for the Public Service in its quest to operationalise these key priority areas for general service delivery. The ICT House of Value consists of five building blocks – security, interoperability, reduced duplication, economies of scale, and digital inclusion – to lower costs, increase productivity and improve citizen convenience (SITA, 2009).

The purpose of the Corporate Governance of ICT Policy Framework (CGICTPF) is to institutionalise the governance of ICT as an essential part of corporate governance within government institutions, thereby providing political and executive leadership guided by principles and practices for good governance in the form of the King III and ISO 38500 Standard of Corporate Governance of ICT (CGICTPF, 2012).

It also places accountability for governance of ICT fully in the hands of political leadership and executive management. The framework requires departments to implement the corporate governance of ICT (CGICT) and Governance of ICT (GICT) as an integral part of their corporate governance arrangements. A phased implementation approach is followed that should be completed by the dates indicated. These phases include deliverables as per the following:

- Phase 1 (March 2014): Creation of an enabling environment: Implementation of the CGICT and GICT

    - Departmental Corporate Governance of ICT Policy and Charter depicting how CGICT will be implemented and managed in the context of the department.
    - Designation of a Governance Champion to coordinate the development and implementation of CGICT.
    - Departmental Governance and Management of ICT Framework for the governance and management of the ICT unit by the Government Information Technology Officer (GITO).
- Phase 2 (March 2015): Strategic alignment: Implementation of business and ICT alignment
    - ICT Strategic Plan (ICT Plan), ICT Implementation Plan – depicted in the Medium Term Expenditure Framework (MTEF) – and ICT Operational Plan (ICT APP), which is aligned with the departmental strategic plan.
    - Optional deliverables that will allow departments to improve the articulation of ICT enablement and management of information.
- Phase 3 (Beyond March 2015): Continuous improvement of governance and strategic alignment arrangements
    - Continuous Improvement Roadmap depicting the department's improvement plans for its CGICT, GICT and strategic alignment arrangements to optimise ICT enablement of service delivery.

The implementation of the framework will be monitored for conformance by the DPSA, a performance by the Department of Planning, Monitoring and Evaluation (DPME) and audited by the Auditor General.

3.4.7 National Broadband Policy (South Africa Connect Vision 2020)

The National Broadband Policy is called *South Africa Connect Vision 2020* and its purpose is the provisioning of a long-term strategy for broadband connectivity in South Africa. It also outlines the role to be played by national departments and agencies in implementing the plan.

The objectives of *South Africa Connect* are to:

- institutionalise and implement a robust cost-effective broadband connectivity solution in South Africa.
- encourage and promote mechanisms for greater co-ordination at all tiers of government and enable more equitable access to broadband, including managing the removal of obstructions to broadband network expansion in South Africa.
- facilitate infrastructure planning through the mapping of existing broadband networks, coordination of deployment plans of operators, and infrastructure sharing through a world-class open-access national broadband network to limit the duplication of civil works (SA Connect, 2013).

The Broadband policy has four focus areas, namely Digital Readiness, Digital Development, Digital Future and Digital Opportunity.

- *Digital Readiness*: Preparing the enabling regulatory and institutional environment, including removal of bottlenecks for rapid deployment and unnecessary duplication.
- *Digital Development:* Development of public-sector demand and procuring high-speed network capacity at affordable rates.
- *Digital Future:* Sharing and cooperation by reducing risk, guaranteed returns, and ensuring economies of scale.
- *Digital Opportunity:* Benefits realisation through skills development, necessary awareness and relevant content and applications to stimulate demand and usage (DTPS, 2013).

The government encourages the support and investment from the private sector for the broadband backbone network infrastructure to increase the uptake and usage and enhance the universal access for social and economic growth (DTPS, 2013).

3.4.8 National Development Plan (Vision 2030)

The National Development Plan (NDP) was drafted almost 18 years into the democratic South Africa with the aim of eliminating poverty and reducing inequality by 2030. The then Minister in The Presidency: National Planning Commission, Trevor Manuel, said at a media briefing on the implementation of the plan on 19 February 2013, *"The NDP offers a long-term perspective. It defines the desired destination and identifies the role different sectors of society need to play in reaching that goal".*

The NDP acknowledges that ICT is a critical enabler of economic activity in an increasingly networked world. As a sector, ICT may provide important direct opportunities for manufacturing, service provision, and job creation, but their main contribution to economic development is to enhance communication and information flows that improve productivity and efficiency (NDP, 2013). The NDP (2030) further states that for South Africa to achieve its ICT goals, it must have a coordinated, enabling ICT strategy and plan with the following key aspects:

- A national e-strategy that cuts across government departments and sectors, by stimulating sector growth and innovation for private and public ICT investment.
- Assessing the benefits and costs of duplicating versus sharing infrastructure, given that the radio spectrum on which mobile networks depend is limited, and applying open-access policies to encourage private long-term investment.
- Engage on a Public Private Partnership (PPP) investment.
- Effectively engaging various global ICT governance agencies, such as the International Telecommunications Union and the World Trade Organisation, on issues of regional integration and coordination (NPC, 2013:191-192).

The Commission supports the Department of Communications' (now under Department of Telecommunications and Postal Services) proposed target of 100 percent broadband penetration to all schools, health facilities and similar social institutions by 2020 (NPC, 2013:195).

3.4.9 ICT Policy White Paper

The ICT Policy Review Process started with the appointment of the ICT Policy Review Panel in 2012, and the release of the ICT Review Framing Paper in April 2014 kick-started public discussions on the relevance of existing policy objectives and principles in developing new policies for the sector (DTPS, 2014). The next stage was the release of the Green Paper for public discussion on the status quo of the communications sector and consideration of what needs to be done to ensure a sector that is responsive to the needs of South Africans.

The Discussion Paper that followed the National Integrated ICT Policy Green Paper outlined different options in addressing the convergence of technologies and a policy and regulatory structure that will be used to extend services to all and provide for the opening of the sector to innovative services. The National Integrated Information and Communication Technologies (ICT) Policy White Paper was approved in September 2016 and sets out Government's formal policy position on key issues relating to Information and Communications Technologies (ICTs). The White Paper provides the framework for new ICT legislation (DTPS, 2014).

Previously, three sectors were regulated as silo sectors of telecommunications, broadcasting and postal services. Convergence of technologies has since blurred the boundaries between the sectors. The same infrastructure can be used to deliver voice, video and data. Different services can now be received using the same end-user devices.

Mobile technology, broadband, digital television, smartphones, the cloud, tablets, and new media technology are all recent developments in the market. These changes have serious implications for policies and legislation that were written prior to these developments and need to be adequately reflected in current policy and legislation (DTPS, 2014).

3.5 THE ROLE OF STATUTORY AND REGULATORY FRAMEWORKS IN THE IMPLEMENTATION OF E-GOVERNMENT

The already conceptualised White Papers on Transforming Public Service Delivery (WPTPSD), Promotion of Access to Information Act, Electronic Communication and Transaction Act, Electronic Government Policy Framework, Minimum Information Security Standards (MISS), Minimum Interoperability Standards (MIOS) and Policy on Free and Open Source Software (FOSS) regulate the application of e-Government in South Africa. Collectively, these frameworks promote transparency, accountability, good governance, information security, and freedom in the acquisition and use of Information Technology (Department of Communications, 2004).

The DPSA is currently working on a revised strategy to tackle e-government issues across all departments and sectors. The strategy intends to overcome the prevalence of uncoordinated and isolated project approaches and is meant to establish itself as a one-stop solution for e-government problems. It is also intended to improve service delivery in all areas of e-government (DPSA, 2009). For the South African government, the focus is on government-to-government (G2G), government-to-business (G2B) and government-to-citizen (G2C) activities. Improved service delivery is facilitated by building e-government awareness, being a model user in e-government centres of excellence, working towards one government information and communication channel (one portal, one call centre, etc.) and above all providing expertise on e-services (DSPA, 2009).

3.6 ROLE OF THE STATUTORY AND REGULATORY FRAMEWORKS IN THE BROADBAND PROJECT

The Constitution is a supreme document that is binding for all role players and is the basis of legislation and all activities that relate to the ICT sector. It also directs the sector policy to uphold and extend the rights of all South Africans as enshrined in the Bill of Rights (Constitution of South Africa, 1996). With these constitutional principles, the South African ICT sector continues to show significant expansion, especially with the improved growth in the economy over the last few years, but the findings of a

household and individual user survey completed by Research ICT Africa (2012) suggests that policy outcomes geared at the creation of an equitable information society may be sub-optimal.

According to Research ICT Africa, fixed-line broadband growth is almost static in South Africa, with a decline in the ratio of residential to business connectivity. This is despite the introduction of pre-payment for fixed services. Only 18% of households indicated that they had a working fixed-line broadband connection in their homes. A major implication of this from a policy point of view is evident in the poor Internet usage figures for the country, which at only 15% of the population is only just among the highest of the sub-Saharan countries survey, but below other lower income countries such as Turkey, Poland and Argentina and also some Maghreb countries (Research ICT Africa, 2012).

Also, the statutory laws or regulatory frameworks on funding models of the Broadband Project in South Africa are fragmented and uncoordinated. At the national level, all national departments have budgets that are allocated to ICT rollout; however, these are not spent appropriately and in a coordinated fashion, while provincial and local government competencies are not duty bound to coordinate ICT programmes for national benefit and homogeneity (Nyanda, 2010).

3.7 CONCLUSION

For South Africa to compete globally, the policies, frameworks and practices encouraging investments and innovation are essential to reaching the complete distribution and mainstreaming of ICTs and broadband infrastructure. Furthermore, stimulating competition in the provision of broadband may have positive benefits in reducing pricing and wider usage.

The key role of policymakers and regulators is to be responsive to the emergence of new technologies that make a new entry for commercial viability. However, greater use requires greater supply, and hence it is important for policy to also consider the incentives for service providers to invest.

The objective of this chapter was to analyse the statutory and regulatory frameworks that govern the Broadband Project in South Africa and their role in the project. In South Africa, project governance and leadership in the broadband policy development presents a unique situation whereby there is a number of national departments with ICT mandates, for example the Department of Telecommunications and Postal Services, Department of Public Service and Administration, Department of Science and Technology, and Department of Public Enterprises. Project governance and policy leadership in terms of the development and implementation of broadband appears to be uncoordinated.

The next chapter will focus on the analysis of the current status of broadband implementation in the Eastern Cape. This will include the review and the economic outlook of the province and also focus on the State of the Province address and the MEC for Finance Policy speech in which the Broadband Project was prioritised as the key focus area. It will also explore the current broadband penetration and project governance approach in the province and what structures are currently in place.

CHAPTER 4
BROADBAND IMPLEMENTATION: THE CASE OF THE EASTERN CAPE PROVINCE

4.1 INTRODUCTION

According to Qiang *et al.* (2009:35-50), broadband has been increasingly recognised as a service of general economic interest in recent years. They also argue that broadband's economic significance can be put into context by referring to similar changes in other areas of infrastructure, such as roads, rail, and electricity. Each of these infrastructure services contributes significantly to stimulate economic activities for citizens, business, and governments. These services also sustain existing economic activities and provide countries with the ability to gain competitive and comparative advantages. Though many of these advantages are unforeseen when original investments are made, they quickly become an essential part of economic activities. A similar assumption about the expected transformative benefits of broadband for economic and social variables has led many governments to set ambitious targets for its deployment (The International Telecommunications Union, 2009).

Many studies, such as the frequently cited World Bank study (2015), found that low-income and middle-income countries experienced "about a 1.38 percentage point increase in GDP for each ten percent increase in broadband penetration" between 2000 and 2006 (Qiang, 2010:45). The World Bank (2015) further found that the development impact of broadband on emerging economies is greater than for high-income countries, which "enjoyed a 1.21 percentage point increase in per capita GDP growth" per ten percent increase in broadband penetration (Qiang & Rossotto, 2010:56). These studies have sought to identify and measure broadband's economic benefits. Though some of these studies have found a positive relationship between broadband access and economic development, most of them have been restricted to developed economies and to qualitative arguments and case studies. This chapter intends to address this knowledge gap by exploring broadband's role in socio-

economic development with specific reference to the Broadband Project in the Eastern Cape Province.

The chapter firstly explores the profile of the Eastern Cape Province, which includes the socio-economic outlook of the province and broadband penetration, and also focuses on the alignment of the State of the Province Address, the MEC for Finance's Policy Address and other provincial strategic frameworks related to the Broadband Project. Secondly, the chapter will explore the Broadband Project in the Eastern Cape by focusing on its origins, its host department, and other stakeholders involved. Lastly, the chapter will explore the Broadband Project's current governance and funding model with specific reference to the actors involved as far as the design, execution and monitoring of the implementation plan are concerned.

4.2 THE SOCIO-ECONOMIC PROFILE OF THE EASTERN CAPE PROVINCE

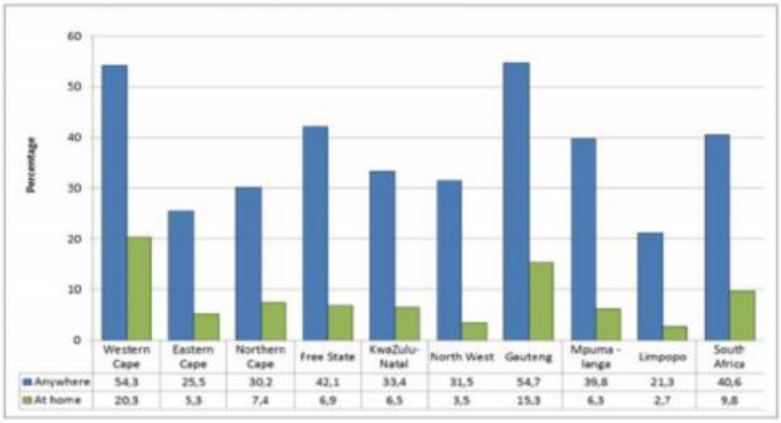
The Eastern Cape is on the south-eastern coast of Africa, a location that is proving to be an international asset due to the fibre infrastructure laid at the bottom of the ocean, called the Undersea Cable Network, used for linking communication networks with various countries across the world. As of 2014, there were 285 communication cables at the bottom of the ocean, and 22 of them were not yet in use. Submarine cables have a life expectancy of 25 years, during which time they are considered economically viable from a capacity standpoint (OECD, 2014). The Eastern Cape consists of six district municipalities (Amathole, Chris Hani, Sarah Baartman, Joe Gqabi, OR Tambo, and Alfred Nzo) and two metropolitan municipalities (Buffalo City and Nelson Mandela Bay).

The OECD (2010) refers to "broadband penetration" as the amount of the Internet access market that high-speed or broadband Internet has captured. The area of the world with the highest broadband penetration is Asia, which bypassed traditional dial-up access to the Internet in many locations and jumped to satellite or DSL broadband services. Europe is second, with the Scandinavian countries having the highest rate of broadband penetration. North America follows, with South America and Africa slowly catching up (OECD, 2014).

The latest United Nations global broadband rankings report (2015), which measures the penetration rates of fixed and mobile broadband in over 190 countries, shows that in 2014, 48.9% of South Africans had access to the Internet, up from 41% (92nd) in 2013. Across the developing nations, this placed South Africa 37th, up from 44th the previous year. In terms of fixed broadband penetration, South Africa had also improved, climbing from 2.2% (111th) in the 2013 report to 3.1% penetration (106th) in 2014. Mobile broadband penetration rates for South Africa were not tracked in the 2014 report. In 2013, the figure was at 26%, ranked 62nd overall (United Nations Report, 2015).

Filtering down to the provincial level, access to the Internet was highest in Gauteng (54.7%), followed by the Western Cape (54.3%), and Free State (42.1%), and the lowest in Limpopo (21.3%) and Eastern Cape (25.5%). See Figure 4.1 below.

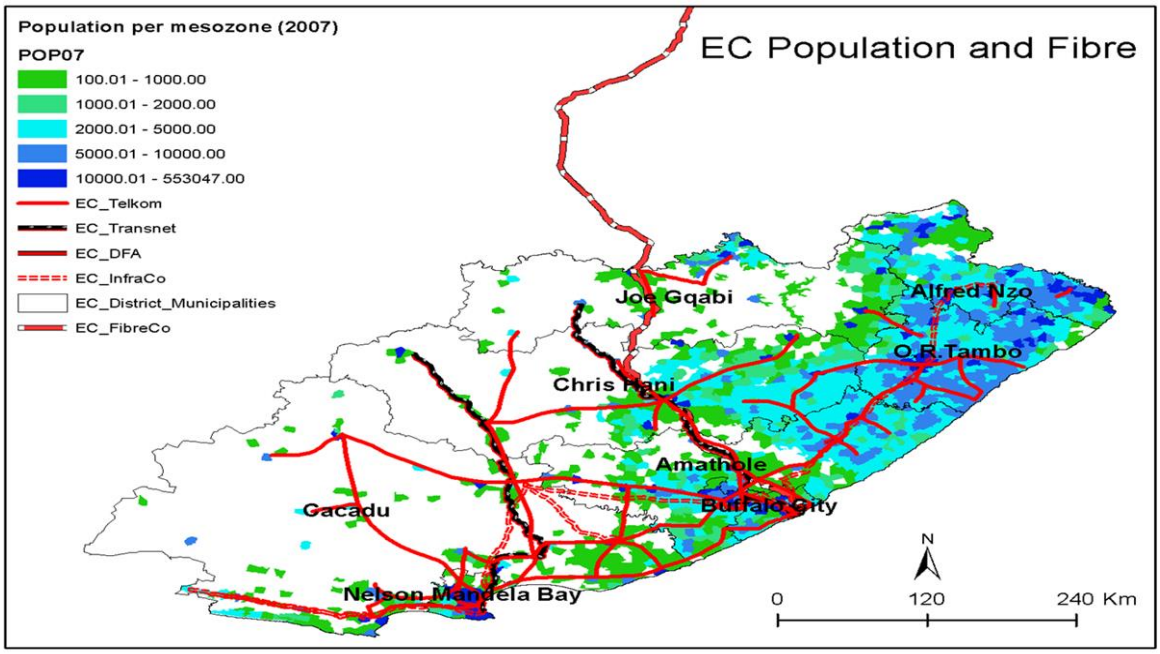
Figure 4.1 Percentage of households with access to the Internet by province



Source: Statistics SA (2013)

The Eastern Cape Province has about five major broadband service providers that have rolled out a Broadband Backhaul or Backbone across the province, namely, TELKOM, Transnet, Dark Fibre, Broadband InfraCo, and FibreCo. See Figure 4.2 below.

Figure 4.2 Broadband backhaul in the Eastern Cape Province



Source: Centre for Scientific and Industrial Research (2013)

The above-mentioned Eastern Cape profile and the current broadband penetration tend to influence the socio-economic status of the province. The next sub-section will focus on the socio-economic review of the province.

4.2.1 Socio-economic review

According to the Eastern Cape Socio-Economic Review Outlook (ECSERO) report created by the Department of Economic Development, Environment Affairs and Tourism (2015:36), the Eastern Cape's socio-economic performance should be seen within the context of lower national growth. The GDP growth rate in 2013 and 2014 was relatively low at 1.1% and 1.45% respectively. On provincial demographics, the ECSERO report observed that minors (ages 0 - 14) account for over a third (35%) of the provincial population, higher than the national average of 29%, and the highest provincial proportion in the country (StatsSA, 2014). This has implications for the demand for healthcare and educational services within the province, as well as the presence of quality-of-life infrastructure linked to sustainable human settlements (e.g. housing linked to the presence of adequate recreational facilities).

The report further emphasises that a third of households in the province are living in traditional dwellings (the highest percentage in the country) that are typically found in rural settlements (StatsSA, 2014). There is a noticeable reduction in the provincial population as progression is made from the 20 – 24, 25 - 29 to 30 – 34 age cohorts, resulting from the net outward migration due to people looking for jobs in other provinces such Gauteng and Western Cape.

Health indicators on HIV/Aids prevalence, child mortality, maternal mortality, and TB treatment are included in the assessment of the economy of the Eastern Cape as these offer insights into the health, well-being and productivity of the population. The report also notes that one in ten people in the province is still illiterate, with a significant proportion of these illiterate citizens having grown up during the apartheid era (especially age cohorts over the age of 60) (StatsSA, 2014). The impact of the province's rural nature and backlogs in access to good educational facilities is still very strong today, with nearly a fifth of learners in the province (18%) having to walk more than 30 minutes to their nearest school (StatsSA, 2014).

The Eastern Cape Socio-Economic Review Outlook report clearly identifies the challenges the province experiences on the structural formations of the socio-economic infrastructure, especially health and education. The next sub-sections will show what intervention has been initiated by the Provincial Government in addressing all these challenges by analysing the State of the Province Address (SOPA) and the Provincial Policy Statement.

4.2.2 State of the Province Address

The Premier of the Eastern Cape announced (2015) various initiatives and a Programme of Action (PoA) for all the provincial sector departments. Some of the most critical issues announced include:

- ***Better access to quality education*** – this will be achieved through the strengthening of the administration and management of curriculum delivery in public schools, especially in quintile 1-3; Improving the quality of primary

education through a number of interventions, including training of educators and use of ICT.

- ***Promoting better healthcare for all our people*** – the objective is to address the social determinants of health and to improve health outcomes and quality of life of our people through the usage of broadband technologies, for example Tele-medicine.
- ***Stimulating rural development, land reform and food security in the province*** – by utilising ICT for rural development, which in turn requires the Broadband Project.
- ***Transformation of the economy to create jobs and sustainable livelihoods*** – by tasking the Department of Economic Development, Environmental Affairs and Tourism with the consolidation and coordination of support to all Cooperatives as well as commitment to formulate a Provincial Maritime Skills Development Plan.
- ***Infrastructure, especially roads, are a critical enabler to access and mobility*** – through collaboration with SANRAL, the provincial government is continuing to upgrade provincial and national roads within the province. With respect to the broadband solutions to education and health, the rollout of Integrated Financial Management Systems (IFMS), will be piloted in two sites in the province, namely the Departments of Social Development and Provincial Treasury.
- ***Strengthening the developmental state and good governance*** - through the Back to Basics Programme, the province is providing hands-on support to municipalities throughout the province. It is also rolling out so-called "War Rooms" in all wards in order to promote citizen participation in planning and to address the need for accountability and effective performance management at all leadership levels in the Provincial Administration. Measures to foster accountability and consequence management will be developed and implemented to enhance service delivery and performance agreements.

In 2016/2017 the province further intends to pay more attention to programmes that will bolster social inclusion, social capital and social mobility as key components of nation-building and social cohesion. These programmes will include fostering

constitutional values, offering equal opportunities, promoting inclusion and redress through increased interaction across race and class, as well as promoting active citizenry (SOPA, 2016).

All these provincial initiatives or priorities require a provincial Broadband Project. For example, broadband-enabled technologies are redefining traditional notions of education and are leading to the development of a new, learner-centric education paradigm. In particular, broadband-enabled technologies:

- Improve the effectiveness of instruction and enhance learning outcomes through more engaging, interactive activities;
- Encourage innovation in how education is delivered, which has resulted in a number of hybrid approaches to teaching (e.g. blended learning);
- Enable a wider array of professional development opportunities for educators and adult learners;
- Enhance access to quality education via distance learning programmes, online learning modules, and the availability of relevant content from any location;
- Enable a range of administrative efficiencies. For example, a number of affordable cloud computing services are streamlining and automating numerous administrative functions; and
- Facilitate the collection and analysis of greater amounts of student data to more accurately track student performance (Davidson & Santorelli, 2010:4).

Such impacts, however, are dependent on the wide availability and robust adoption of broadband and educational technologies inside and outside of the classroom, as well as on the willingness and ability of educators to incorporate these technologies into lesson plans.

In healthcare, broadband access is not usually highlighted in policy prescriptions for improving outcomes and lowering costs of health care. But it is a prerequisite for a range of technologies that can provide more cost-effective and higher-quality care, such as video consultation, remote patient monitoring, and electronic health record

operability. In many places, particularly rural areas of the Eastern Cape that have the most to gain from telemedicine and connectivity, broadband remains too expensive, unreliable, or simply not available at the speeds required to enable innovations in care. This “connectivity gap” remains an important obstacle to achieving better healthcare in rural areas. Many of the recommendations outlined in the National Broadband Policy or SA Connect (2013) have not yet been implemented, despite their potential to reduce the connectivity gap and increase the impact on social cohesion.

4.2.3 The Provincial Finance Policy Speech

The Honourable Minister of Finance in the province, Mr S. Somyo, reiterated in his policy speech that the provincial economy is forecast to lag behind the national average, thus requiring an integrated sectoral approach to ensure its growth. He also announced that the severe drought has affected agricultural output, which stood at 1.5 % in 2013 to – 10.6 % in the 3rd quarter of 2015.

The Minister expressed that in light of these factors, the province had introduced a number of initiatives, including tight cash management, improved revenue generation and collection, and ensured a more rigorous expenditure management to improve value for money. These difficult economic times call for innovative thinking and high levels of discipline. In this regard, core service delivery programmes will be protected, all non-core expenditure items such as travel and subsistence, venues and facilities, entertainment, catering, overseas travel and accommodation will be strictly managed and curtailed.

The Provincial Treasury has further developed a draft framework for cost containment measures within the province with a specific emphasis on wasteful expenditure in Supply Chain Management (SCM). Sector task teams have been formed to streamline the implementation of the strategy and the monitoring thereof under the supervision of the OTP. These challenges require the province to curb the provincial wage bill over the medium term which is currently sitting at 65%. To manage this bill the following should be adhered to:

- The appointment of provincial administrative and executive support staff will be frozen.
- Quarterly analysis of personnel numbers and CoE expenditure within the departments of Education, Health, Rural Development and Agrarian Reform and Social Development will be undertaken by pursuing reprioritisation, programme reviews and ensuring that core programmes in departments are filled with the right skills.
- Over the medium term, efforts will be made to centralise the recruitment processes in the provincial administration.
- Withdraw the funding of posts that have been vacant for extended periods, with all posts requiring approval by a central structure.

The institutional arrangements to solicit efficiencies from the wage Bill would be driven through the Provincial Coordinating Monitoring Team (PCMT) commencing in April 2016. The Office of the Premier (OTP) constitutes and oversees the PCMT, the approval structure for Annual Recruitment Plans (ARP's) and recruitment management.

The process of restructuring and rationalising provincial entities, particularly those that are performing with similar mandates and those that derive a minimal value for the province, is progressing smoothly. In line with this intervention, a further process will be undertaken to maximise efficiencies and strengthen governance structures of all provincial entities, for implementation in 2017/18.

An allocation of R4.6 billion was made for education infrastructure over the medium term to build schools and hostels and to equip them with modern facilities, such as ICT infrastructure, broadband and science laboratories. R20 billion was allocated in the 2016/17 financial year to the Department of Health to ensure the provision of quality health care services. The Department of Rural Development and Agrarian Reform gets an allocation of R6.6 billion over the medium term with R830.6 million set aside for comprehensive agricultural support programmes over the same period. An amount of R4.1 billion goes to the Department of Roads and Public Works over the medium term for the construction and maintenance of provincial roads. This is

part of the massive R24.2 billion that have been allocated to cater for the needs of both economic and social infrastructure commitments over the medium term.

The importance of adequate infrastructure for provincial aspirations of growing the economy was furthermore stressed in the Provincial Finance Policy Speech. The Minister stated that there is a need for a paradigm shift on performance in infrastructure service delivery. Over the medium term, the introduction of the Strategic Framework for Improved Infrastructure Service Delivery will be rolled-out. To this end, an amount of R16 million has been allocated to the OTP to support the establishment of the infrastructure Rapid Response Team. The Minister emphasised that putting this budget together was not easy because he had to contend with a variety of needs, including the views of ordinary citizens who gave their opinions through various mediums of communication. Despite the tight fiscus, the Minister was, however, of the opinion that his team had produced a budget that would be used to progressively address the needs of people in the province.

The next section will focus on the provincial strategic documents that influence the implementation of the Broadband Project in the province by addressing perceived challenges and responding to the SOPA and Policy Speech initiatives.

4.3 PROVINCIAL STRATEGIC FRAMEWORKS AND PLANS

The following are the Provincial Strategic Plans that clearly articulate the need for a Broadband Project in the Eastern Cape as approved by the Provincial Executive Authority Council (EAC).

4.3.1 Provincial Growth and Development Plan (2004 – 2014)

In 2004, the Government of the Eastern Cape published the Provincial Growth and Development Plan (PGDP). The document was intended to serve as an overarching framework for socio-economic and development planning during the decade leading up to 2014. Its aim was to provide a stimulus for transformation and sets out six core objectives: agricultural transformation, poverty eradication, manufacturing diversification, infrastructure development, transforming the public sector, and

developing human resources. These six “pillars” of the PGDP provide the foundation for 27 associated programmes (Provincial Planning Commission, 2003). The process of developing the PGDP is divided into two phases:

- Firstly, the development of an overarching strategy framework.
- Secondly, the translation of this strategy framework into detailed and sequenced sectoral strategies, plans and programmes.

It is a medium to long-term roadmap for growth and development and its implementation has to be done in distinct but interrelated steps that are guided by the provincial government fiscus and operational capacity. Priority areas for improvements are:

- Good corporate governance for control and regulation;
- Project-based service delivery outcomes and impact;
- Management of planning and implementation;
- Alignment and support of the key objectives of the strategy framework.

In conjunction with the above efforts, the plan emphasised the need for a process of preparing the massive project rollout focusing on municipal, strategic economic infrastructure and poverty eradication that would have to be accelerated with implementation envisaged from the second fiscal year of 2005-2006 (Provincial Planning Commission, 2003).

4.3.2 The Provincial ICT Strategy (2014 – 2019)

The key requirement for the Provincial ICT Strategy (2014 -2019) is to ensure that it has both an external, citizen-centric focus aimed at addressing the goals of the Provincial Program of Action (PoA) as well as an internal focus on the Eastern Cape Provincial Government (ECPG) to ensure a solid ICT foundation to support delivery. While the province has made initial significant strides towards achieving the goals of the PGDP, there are vital outstanding challenges that urgently need to be addressed as part of the 2014-19 transformation journey regarding ICT, namely:

- Integrated ICT Shared Services for the province;
- Broadband Connectivity and Accessibility;
- Human Resource Development for ICT Skills;
- ICT for socio-economic development in the province; and
- Implementation of ICT Governance in the province.

The ability to store, share and analyse knowledge through these five focus areas using the new Information and Communication Technologies (ICT) allows the Provincial Administration to exploit the unique properties of knowledge to gain competitive advantage. Perhaps the most important property is that knowledge is the ultimate economic renewable – the stock of knowledge is not depleted by use. Indeed, the value of knowledge to an economy comes from sharing with others, forming an Information Society.

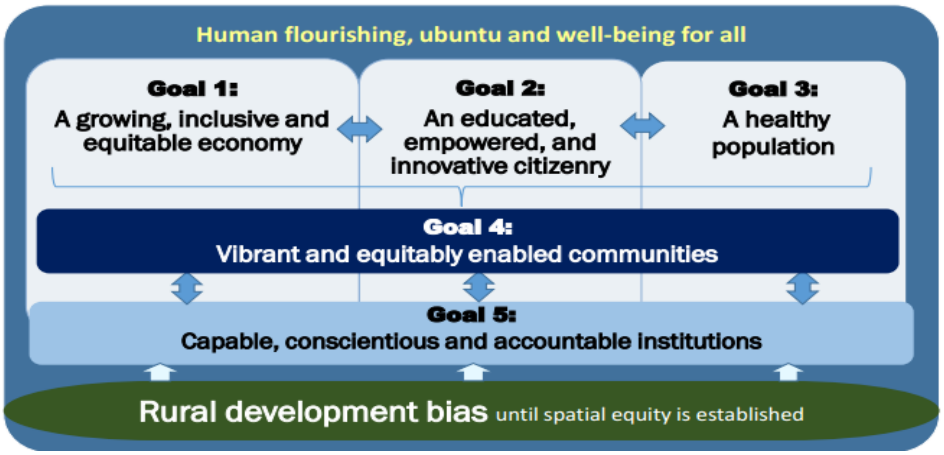
As was determined in Chapter 2, the information society requires adequate ICT infrastructure to perform its functions. It is through these technologies that information is transmitted and made universally available to citizens, business and government. Broadband infrastructure is required for this to become a reality. The Eastern Cape Provincial Government has set itself on a path to develop the province into becoming a knowledge society. Thus, it is investing in both comprehensive skills development and broadband infrastructure in the province.

4.3.3 Provincial Development Plan Vision 2030 (2015-2020)

Vision 2030 is an initiative of the Eastern Cape Planning Commission (ECPC) to engage with all sectors of society, including previously marginalised groups such as rural women and the youth, to identify development priorities for the province over the next two decades. Constituted in 2012, the ECPC is a statutory body aligned to and complimenting the National Planning Commission (NPC), which was established in May 2009 to develop a long-term vision and strategic plan for South Africa (Provincial Planning Commission, 2014).

There are five related goals set out for the PDP, all accommodating a rural development bias that is intended to address the spatial and structural imbalances highlighted as a critical challenge for the Eastern Cape. For each goal, there is a summarised vision, key objectives as well as strategic actions. The five goals and the logic of their relationship are summarised in the figure below:

Figure 4.3 Logical relationship of the five goals



Source: Eastern Cape Provincial Development Plan (2015).

As can be seen in this figure, the first three goals are set as the core, with education and knowledge empowerment at the centre. All the goals also cross-enable each other. For instance, across the first three, economic well-being and an enlightened disposition are important to purchasing good health, while good health is important for effective learning and productive economic activity, and so forth.

The first three goals also feed to the realisation of the fourth goal, even as there are actions in the development of the fourth goal, such as infrastructure development, that also enable the first three goals. The fifth goal enables all the first four, while it is also influenced by them – e.g. education and training being important for the development of capabilities for robust institutions (Provincial Planning Commission, 2015:18).

The Broadband Project is captured in goal 1 (A growing, inclusive and equitable economy). This includes a larger and more efficient provincial economy that optimally exploits the competitive advantages of the Eastern Cape, increased

employment and reduced inequalities of income and wealth. The objective and strategic actions for this goal are:

- ***Improved economic infrastructure that promotes new economic activity across all regions of the Eastern Cape***. This will be achieved by improving provincial infrastructure planning; ensuring close collaboration with the Presidential Infrastructure Coordinating Committee (PICC); improving infrastructure maintenance; building new, and reviving old, irrigation infrastructure; establishing strategic freight and passenger corridors; positioning the Eastern Cape as a key investment hub in the energy sector and ensuring reliable energy supplies to high potential sectors; and working towards universal and cheap broadband access.

The objective of goal 1 is focusing on the improved economic infrastructure which led to the development of a Provincial Infrastructure Plan and it is the focus of the next sub-section.

4.3.4 Provincial Infrastructure Plan

The Eastern Cape Socio-Economic Consultative Council (ECSECC) has been mandated by the Office of the Premier to develop the plan that will be "comprehensive and integrated, covering the entire span for social and economic infrastructure". The terms of reference for the project state that the plan will be "a response to the socio-economic imperatives and vision of the Eastern Cape and will provide a basis for integrated infrastructure delivery as well as resource prioritisation and allocation".

The main purpose of the Eastern Cape Provincial Infrastructure Plan (ECIP), flowing from the Provincial Development Plan (2014), is to derive more value from the large public expenditures on infrastructure assets. This is to be achieved through improved infrastructure planning combined with complementary and simultaneous efforts to improve infrastructure delivery management. Provincial infrastructure delivery is being improved through the implementation of National Treasury's Infrastructure Delivery Management System (IDMS) and the subsequent Standard for

Infrastructure Procurement and Delivery Management (SIPDM), using PT's "Strategic Framework to Improve Infrastructure Delivery" and a new OTP/PT interim Rapid Response Team that is presently being assembled.

ECIP is an attempt (the first in the Eastern Cape) at macro-level infrastructure planning, to identify key strategic priorities and actions that are necessary to achieve defined long-term goals. ECIP is partly based on existing sector-level infrastructure planning, which is of very variable quality: some good, and others still almost non-existent (such as Eastern Cape Department of Education).

ECIP sets four high-level goals for 2030:

a) Infrastructure investment responds to spatial aspects of future infrastructure demand and progressively undoes apartheid geography.
b) The provision of infrastructure is accelerated to achieve universal access to social services.
c) Infrastructure investment helps to unlock economic potential.
d) Infrastructure planning, delivery, operation and maintenance are improved.

These goals are to be achieved through the implementation of ten Provincial Strategic Projects (PSP's):
1. Strategic catalytic projects; 2. Small town development; 3. Urban settlements infrastructure; 4. Water and sanitation; 5. Energy and electricity; 6. Agro-logistics; 7. Education and health; 8. Roads; 9. ICT and broadband; and 10. Enabling interventions.

4.3.5 Provincial Broadband Master Plan

The Eastern Cape Broadband Master Plan is a "plan of plans" whose main objective is to ensure that the Eastern Cape has broadband infrastructure covering all priority areas and this infrastructure is effectively utilised for socio-economic development and is accordingly maintained and enhanced as needs evolve. Further and more specific plans have to be developed within the guidance of this master plan. This master plan seeks to build on the provincial ICT strategy and establish some detail to

achieve the goals of "connect the Eastern Cape" as established in Programme 6 of the provincial ICT strategy. The interdependence between the broadband infrastructure development and its use, its affordability and skills to use and develop applications is recognised.

This Broadband Master Plan takes cognisance of national and other efforts affecting broadband penetration in the Eastern Cape and seeks to complement and guide these efforts to foster economic, social and developmental advantage for the province. This provincial broadband master plan builds upon the National Broadband Policy (South Africa Connect), as gazetted in Gazette No 37119, and is therefore intended to complement it to create an actionable plan for the Eastern Cape (Eastern Cape Broadband Master Plan, 2015).

The essence of the master plan intends to improve broadband infrastructure reach, and the skills to operate and use broadband and drive the use of broadband for the following:

- Government operations and services.
- Utilities and infrastructure development projects associated with the SIPs and development corridors to make this smart and green infrastructure.
- Improve the economy (including agriculture, renewable energy supply and tourism).
- Improve citizen access and well-being (which includes households, education, hospitals, and security).

It should be noted that the master plan excludes the two metropolitan municipalities, namely Nelson Mandela Bay and Buffalo City, as they have the capacity to develop their own plans and manage the roll-out of broadband. In so doing, , however, the metros have to ensure alignment with a national broadband policy framework and provincial policy imperatives.

4.3.6 National Development Plan: Vision 2030

In Chapter 3 (section 3.4.8) the NDP was briefly contextualised as a long-term plan to eliminate poverty and reduce inequality by 2030 and acknowledges ICT as a critical enabler for economic activity (NPC, 2013:195).

4.3.7 Provincial Telecommunications Position Paper

A Telecommunications Position Paper (2016) was developed by the OTP Broadband Task Team (BTT) and presented to the executive authority (EA) of the province. The position paper was officially endorsed by the executive authority with recommendations focusing on the funding model of the project. This paper aims to illustrate the importance of this telecommunications infrastructure in achieving the objectives of the province and presents a case for the need for government intervention in this space. The idea is to use this document to foreground the development of a more comprehensive Provincial Telecommunications Infrastructure Strategy that will be used to drive telecommunications infrastructure development in the province.

This position paper, therefore, argues that:

a) The development of a robust and affordable high-speed telecommunications infrastructure must be recognised as a priority initiative for Eastern Cape Provincial Government (ECPG) intervention. This intervention must consider the entire telecommunications ecosystem (networks, services, applications, and users); and
b) The role of the ECPG as a driver for the development of this infrastructure must be recognised. The way that ECPG uses ICT has to radically change from being a passive recipient of what the current market and players have to offer to be a driver (pump) for the creation of a new telecommunications landscape in the Eastern Cape.

The previous sections give a socio-economic overview of the Eastern Cape and how the Broadband Project fits into the strategic objectives of the province for the

improvement of its socio-economic status and what positive role it can play as the priority of government. The next section will focus on the current implementation approach of the Broadband Project as it is being rolled out within the province.

4.4 CURRENT BROADBAND IMPLEMENTATION APPROACH

This section will focus on the origins of the project, host department and other relevant stakeholders, governance and funding model including structures for design and execution of the deliverables, monitoring and evaluation. It will also pay particular attention to the challenges being faced by the province in the current Broadband Project. This Broadband Project takes cognisance of national and other efforts impacting broadband penetration in the Eastern Cape and seeks to complement and guide these efforts to foster economic, social, and developmental advantage for the province.

4.4.1 Origins of the Broadband Project

The Broadband Project is a priority project by the Eastern Cape Provincial Government to ensure that the Eastern Cape has broadband infrastructure covering all priority areas and this infrastructure is effectively utilised for socio-economic development and is accordingly maintained and enhanced as needs evolve.

There are three tiers of government (national, provincial, and local) that are distinctive, interconnected and mutually dependent. Essentially, the three spheres are autonomous, yet they all operate according to the constitution and laws and policies made by national parliament. The national government is presently embarking on SIPs and one that is most relevant to the Eastern Cape Broadband Project is the SIP 15 project on expanding access to communication technology. Furthermore, the national broadband policy (South Africa Connect) provides a key context to this Broadband Project.

For the Eastern Cape, the provincial government is responsible for tourism, health, education, housing, transport, public works, etc. but many of this can only be implemented through a shared responsibility with the local government. All of these

areas of responsibility by local government can benefit from ICT systems and services and would, therefore, benefit from access to broadband. The provincial Broadband Project, therefore, seeks to provide an ecosystem and guidance to the local government in implementing their own broadband plans, and provide coherence and coordination across the local governments and opportunities to leverage provincial efforts to meet their service delivery objectives. It also transpired during engagements with the Department of Telecommunications and Postal Services (DTPS) that they have already prioritised the OR Tambo District Municipality (ORTDM) as part of the eight districts identified under the National Broadband Policy framework. This was due to ORTDM designated as the National Health Insurance (NHI) Pilot Site. Therefore, the Broadband Project for the Eastern Cape is intended to fulfil the role of the provincial and local governments under the national SA Connect policy as well as to ensure that the Eastern Cape can exploit the opportunities for the socio-economic advantage that broadband will enable in the province (Provincial Broadband Master Plan, 2015).

4.4.2 Host department and other relevant stakeholders

The Eastern Cape Broadband Project is sponsored by the Premier of the province, the Honourable Phumulo Masualle, and coordinated through the Office of the Provincial Director-General. The Office of the Premier then nominated the Eastern Cape Socio-Economic Consultative Council (ECSECC) to represent the Provincial Administration within the Presidential Infrastructure Coordinating Commission that guides the National Infrastructure Plan through the Strategic Infrastructure Projects (SIPs), including SIP 15: *Access to Communication Technology*. The ECSECC, through the Provincial ICT Working Group, tasked the Eastern Cape Development Corporation (ECDC) with developing a Provincial Broadband Master Plan (2015) as explained earlier in the chapter.

The development of the Provincial Broadband Master Plan included a provincial assessment of the current connectivity infrastructure that spans from Dinaledi School's project by TELKOM, Vodacom, MTN and other mobile telecommunications players in the province to donor projects by Microsoft, IBM, and so forth as part of

the social responsibility. The CSIR was contracted by the ECDC to prepare this broadband master plan with the following summarised scope:

- Provide an as-is report on the current broadband situation in the Eastern Cape.
- Provide a to-be report on the envisaged future of broadband in the Eastern Cape.
- Provide a broadband master plan for the Eastern Cape based on the first two reports.

The first two reports were accepted by the ECDC in March 2014 and the final Provincial Broadband Master Plan was submitted in August 2015 and presented to both the Governance and Administration (G&A) and Economic Development Clusters headed by Heads of Departments for Corporative Governance and Traditional Affairs (Cogta) and the Department of Economic Development, Environmental Affairs and Tourism (DEDEAT) respectively.

4.4.3 Governance framework and structures

To ensure effective and efficient implementation, it would be practical for the province to establish a “formal” coordination structure which, amongst others, will put together all relevant players to ensure alignment of priorities and activities, resource mobilization, and accountability by all players, and act as a central repository for all relevant information on broadband roll-out in the province. This is referred to as the Broadband Implementation and Coordination Support (BICS) Office. The political control should vest directly in the premier’s office and BICS should be driven under the premier’s authority. The governance of BICS should be headed by a chief director.

Formal governance structures have also been established at a national level to manage the rollout of the National Broadband Policy. One of the existing governance structures is the Strategic Integrated Project (SIP) 15 Coordinating Committee. The framework for SIP 15 and the other strategic integrated projects has been formalised

through the passing of the Infrastructure Development Act 23 of 2014. The Act established the Presidential Infrastructure Co-ordinating Commission (PICC) and its supporting structures as described in the previous sub-section. The Minister for the DTPS chairs the SIP 15 Coordinating Committee (Provincial Broadband Steering Committee, 2015).

There was also a need to establish governance structures at the provincial level to coordinate and facilitate the Broadband Project across all the role players in the province and to ensure that the benefits of broadband are achieved in the provinces. The Minister of DTPS has requested that Provincial Broadband Steering Committees should be established in each province. The Provincial Broadband Steering Committee will not play an active role within the broadband delivery chain but will sit outside of the actual delivery chain as an independent oversight and coordinating body within the province.

To fulfil the intended purpose of the steering committee, i.e. to coordinate and facilitate the Broadband Project across all the role players in the province and to ensure that the benefits of broadband are achieved, the composition of the Provincial Broadband Steering Committee should be representative of the broadband stakeholders within the province. The steering committee should, therefore, have representation from senior members of those departments that are actively involved in the implementation of the infrastructure rollout as well as departments that will benefit from the connectivity that will be provided. The Office of the Premier is responsible for the secretariat functions to the Provincial Broadband Steering Committee.

There is also a Provincial Government Information Technology Officers Council (PGITOC) with the purpose of providing leadership within the ECPG in the use of technology that enables departments to deliver quality services. Its main focus is to maximise the value of Provincial ICT investment by setting standards for the implementation of applications in the province; eliminating duplication in ICT functions, projects, resources and information; and aligning ICT strategies with government priorities and business strategies. The duties of the PGITOC are: to make recommendations for government information and ICT resources

management, policy, procedures, norms, standards, guidelines, and best practices; and to share experiences, knowledge, ideas, plans, resources and best practices, including work process redesign and the development of performance measures.

There is also a bigger forum called the Provincial ICT Working Group, which is constituted by all 13 provincial government departments, all district municipalities including the two metropolitan municipalities and the four tertiary institutions (Walter Sisulu University, Fort Hare, Rhodes University, and Nelson Mandela Metropolitan University). This is chaired by the Provincial Chief Information Officer (CIO), Mr Ayanda Madyibi, and coordinated by Mr Chris Motsilili of Eastern Cape Socio-Economic Consultative Council. The main functions of the Provincial ICT Working Group is to coordinate stakeholder engagement, economic opportunities, facility infrastructure, district task team, site data verification, wayleave application support, infrastructure sharing support, provincial e-awareness broadband campaigns, and broadband provincial funding strategy.

Lastly, a project management office (PMO) co-sourced between the BICS Team and the State Information Technology Agency (SITA) was to be formed to report directly to the Director-General. A PMO framework was also developed, outlining a PMO driven by the province's strategic objectives, business needs, and mission. In addition, the framework is driven by the functions expected of the PMO to ensure alignment with the province's strategic objectives. Consequently, these functions drive the type of PMO to be established, as well as its criteria to determine success. The framework outlines and defines the steps needed to establish a PMO. In addition, it emphasises best practices necessary to ensure a more effective PMO. With the information presented in this framework, PMO managers are in a better position to re-engineer their provision of services and support to execute a province's portfolio of projects and strategic initiatives.

4.4.4 Funding model for the Broadband Project

To connect all facilities of interest with fibre throughout the Eastern Cape (except the metros) will cost about R8.8 billion (including all the mesozone interconnect facilities and point-of-presence) over the 2015/2020 timeframe. This excludes an investment

by active infrastructure operators estimated to be about R2.6 billion (estimate calculated as 30% of the fibre costs) and bandwidth purchased from virtual backbone operators.

According to the research conducted by the ECDC and the CSIR, the phased budget for the full rollout of the Broadband Project to the entire Eastern Cape over years is estimated at R 19 billion (Table 18, Eastern Cape Broadband Master Plan, 2015). This R 19 Billion includes access to all households and free wireless saturation at all facilities in the province. Three funding model options were researched and analysed:

- **Public Private Partnership (PPP)** - the use of a public private partnership is not recommended as the total cost of ownership over the period of the PPP will most likely result in inflated costs for the Broadband Project. The PPP may also result in a scenario where the government is the owner of a network with no means to maintain and support it.
- **Establishment of Passive Infrastructure Operator (PIO) Company** – the effort and cost of setting up a PIO Company on both the financial and human resources does not present the best case and advocacy for this model. The government is already burdened with too many state-owned enterprises. The attraction and retention of the specialised ICT skills to deploy and maintain a broadband network of this magnitude is beyond the scope of a government entity.
- **Procure a Service from the State Information Technology Agency** (SITA) – this is the recommended manner as SITA is the legislated ICT partner of government and the deployment of a telecommunications network for government is a mandated “Must” service as per the SITA Act.

The priority approach followed by the funding model creates the flexibility to easily adjust tactically for the evolving implementation plans of South Africa Connect or any funding constraints that may arise from time to time during implementation.

4.4.5 Roles and responsibilities (Broadband Project Design and Execution)

The PMO, co-sourced between SITA and the BICS from the Office of the Premier, will be responsible for the scoping of the required infrastructure that will include a project governance framework, and request for quotation. It will also be responsible for the issuing of the tender documents, bidding procurement process and the awarding of the preferred bidder for the project design and execution.

4.4.6 Monitoring and evaluation processes

There are several monitoring and evaluation requirements for this Broadband Project that the BICS should provide. The chief director should set up monitoring and evaluation functions to see that the targets of this Broadband Project are being met. Monitoring capabilities include the setting up of a provincial broadband map portal for the Eastern Cape where end-user operator access networks are indicated and can be filtered to GPS coordinates or local place names. This should allow anybody anywhere to analyse the availability of broadband coverage and fibre-optic networks with extensive geographic data sets. Infrastructure providers should also be able to easily update their broadband coverage and fibre-optic networks at any time. If the claimed mapped coverage does not reflect users' experience, they should be able to pinpoint their complaints in the portal. An example can be found online at http://www.broadbandmap.gov.

4.4.7 Challenges of the Broadband Project

Because of financial constraints, The Broadband Implementation Coordination Support (BICS) currently does not exist. The coordinating role is being fulfilled by the Provincial Broadband Steering Committee. The non-existence of the BICS has led to the following challenges:

- Lack of a dedicated, in-house Broadband Business Unit (BBU) within the Office of the Premier that is accountable to the premier, including skills and human resources to deliver the broadband project.

- Lack of dedicated funding for the Broadband Project because of the non-existence of the Business Unit and alignment of cost-centre.
- Lack of dedicated support from strategic partners – e.g. the State Information Technology Agency (SITA).
- Lack of buy-in from stakeholders – all Eastern Cape Provincial Government Departments (ECPGD), ECPG Local Government, and affected state-owned entities.
- Lack of practical buy-in from the Executive Management.
- Lack of awareness from the communities and businesses regarding the Broadband Project.

4.5 CONCLUSION

The Broadband Project is not only about high-speed internet connectivity and accessing more data faster. Broadband is a set of transformative technologies that are fundamentally changing the way we live, and have a crucial role to play in sustainable economic development and social growth. This chapter has explored and analysed the project governance approach for the current Broadband Project and concludes that for effective project governance of the Broadband Project in the Eastern Cape a clear model has to be developed and must cover all the essential processes that include accountability, leadership buy-in from the Executive Authority Council, a proper funding model, and a detailed monitoring and evaluation plan for effective project deliverables. This should be accompanied by a clear communication plan that will reach every corner of the Eastern Cape citizenry.

The next chapter will discuss the empirical findings based on the data collected by means of interviews focusing on the leadership (i.e. governance) of various strategic departments responsible for the Broadband Project in the province.

CHAPTER 5
PROJECT GOVERNANCE CHALLENGES OF THE BROADBAND PROJECT: EMPIRICAL FINDINGS

5.1 INTRODUCTION

This chapter outlines the empirical findings based on data collected by means of interviews focusing on the managerial echelons of various strategic departments responsible for the design and implementation of the Broadband Project in the province.

As stated, the focus of this study is to develop a project governance model for the Broadband Project in the Eastern Cape. Therefore, only role-players directly involved in project governance of the Broadband Project were interviewed. The research was conducted in terms of a qualitative approach, case study design, and semi-structured interviews as data collection method to develop a project governance model for the effective implementation of the Broadband Project. This design was selected due to the nature of engagement with the participants, grasp of literature, and choice of conceptual framework and issues of ethical compliance. Also, because interviews were interactive, it was relatively simple to obtain additional information from the participants.

The interviews were recorded using a digital voice recorder, transcribed, and reviewed by the researcher. A confidentiality and non-disclosure agreement was entered into before conducting the interviews with the participants. The results showed a range of project governance processes and challenges ranging from strategic alignment issues to monitoring and evaluation of project deliverables.

5.2 RESEARCH METHODOLOGY

For purposes of operationalising the stated research objectives, this case study followed a qualitative research design in an explanatory way to eventually develop a project governance model for the broadband implementation in the Eastern Cape.

The research design and methodology were extensively described in Chapter 1 of this study.

5.2.1 Sampling

The first target group was comprised of accounting officers (AO) from the following provincial departments:

- Office of the Premier;
- Cooperative Governance and Traditional Affairs (CoGTA);
- Provincial Treasury;
- Education;
- Health;
- Economic Development;
- Environmental Affairs and Tourism;
- Public Works;
- Provincial South African Police Services; and
- The State Information Technology Agency (SITA).

The second group consisted of Heads of ICT directorates or units from the same departments. These members also participate in the Provincial Broadband Steering Committee. The third and the last group was sampled from the Provincial ICT Working Group, which comprises representatives from the four universities in the province (i.e. Walter Sisulu, Rhodes, Fort Hare, and Nelson Mandela Metropolitan University), nine district municipalities, and the two metropolitan municipalities, namely the Nelson Mandela Metropolitan Municipality and Buffalo City Municipality. The participants were, therefore, purposively selected as follows:

- Twelve Heads of Department, including the Premier and the Provincial Director-General;
- Ten Provincial Broadband Steering Committee members;
- Fifteen Provincial ICT Working Group members;
- Nine district municipalities;
- Four provincial universities; and

- Two metros.

5.2.2 Semi-structured interviews

Face-to-face, semi-structured interviews were the main research method used for purposes of collecting data. In some cases, however, personal contact with the participants was not possible and therefore telephonic or e-mail interviews were conducted (with the piloted interview schedule as a basis). All the interviews were held in the offices of the participants, which made the interviewees feel more comfortable to provide their perspectives confidently. The duration of the interviews was between 15 to 30 minutes, depending on the interest of interviewees in the study and their busy schedules. Sixteen (16) participants were interviewed using face-to-face interviews, fourteen (14) through telephone interviews and the last eleven (11) were conducted through e-mail communication.

5.2.3 Details of the participants' responses

Table 5.1 Details of the participants' responses

Category	Projected number	Responded number	Response rate (%)
Premier and Director-General	2	0	0%
Heads of Departments (Accounting Officers)	10	6	60%
Provincial Broadband Steering Committee Members	10	7	70%
Provincial ICT Working Group members	15	13	86.6%
District Municipalities	9	9	100%
Provincial Universities	4	4	100%
Metros	2	2	100%
TOTAL	**52**	**41**	**78.8%**

5.2.4 Interview questions

The research questions were designed to get maximum input from the interviewees. Additionally, open-ended questions were specifically formulated and used to acquire additional contextual information from the participants. Based on the theoretical orientation (see Chapters 2 and 3) and in reference to the principles of data triangulation, the interview questions and responses were clustered to cover all the relevant project governance domains. This enabled the researcher to further probe the elements and dimensions associated with the design of a project governance model. These clusters and associated interview questions are as follows:

- *General understanding of nature and scope of project governance* – e.g. "As a manager in the department, what does governance in relation to projects mean to you?"
- *Project governance structures* – e.g. "How would you describe the current project governance structure (i.e. Steering Committee and PMO) and project methodology used in your department/organisation? What does it entail? Please elaborate."
- *Project governance effectiveness* – e.g. "Has project governance been effective in your department/organisation? Please substantiate your answer – why are you saying so?"
- *Project governance performance measures* – e.g. "How does the department measure the performance (i.e. effectiveness, efficiency and economy) of projects? How successful are these measures? Please elaborate."
- *Project governance oversight mechanisms* – e.g. "What kind of monitoring, evaluation, control and oversight mechanisms are currently in place to oversee project processes? In your opinion, how effective are these mechanisms? What can you recommend/suggest to further improve project deliverables (i.e. completed on time, within budget and according to specifications)?"

- *Project governance improvement* – e.g. “What strategies should your department/organisation adopt to make project governance more effective?”
- *Stakeholder engagement* – e.g. “Which mechanisms and processes are currently in place to facilitate project stakeholder engagement? What do you suggest should be done to further improve stakeholder involvement on broadband-related projects?”
- *Accountability* – e.g. “What kind of accountability instruments and arrangements are currently in place to hold people accountable for their decisions or actions in your department/organisation? How would you rate the effectiveness of these instruments and arrangements? What do you suggest should be done to further improve accountability?”

Interview questions were formulated per cluster to understand project governance in various departments and organisations in the province.

5.3 RESEARCH RESULTS AND DATA ANALYSIS

This section summarises the participants’ responses based on their understanding of project governance with specific reference to the Broadband Project in their respective departments or organisations. The responses are grouped based on the identified clusters as explained above.

5.3.1 General understanding of project governance

Various definitions of project governance were submitted by all the participants with a common understanding as:

> “A set of rules to manage, govern and control effective project delivery within an organisation including project management methodology, accountability, monitoring and reporting.”

All nine participants from the district municipalities had a notably different view on governance in relation to projects and highlighted the following reasons:

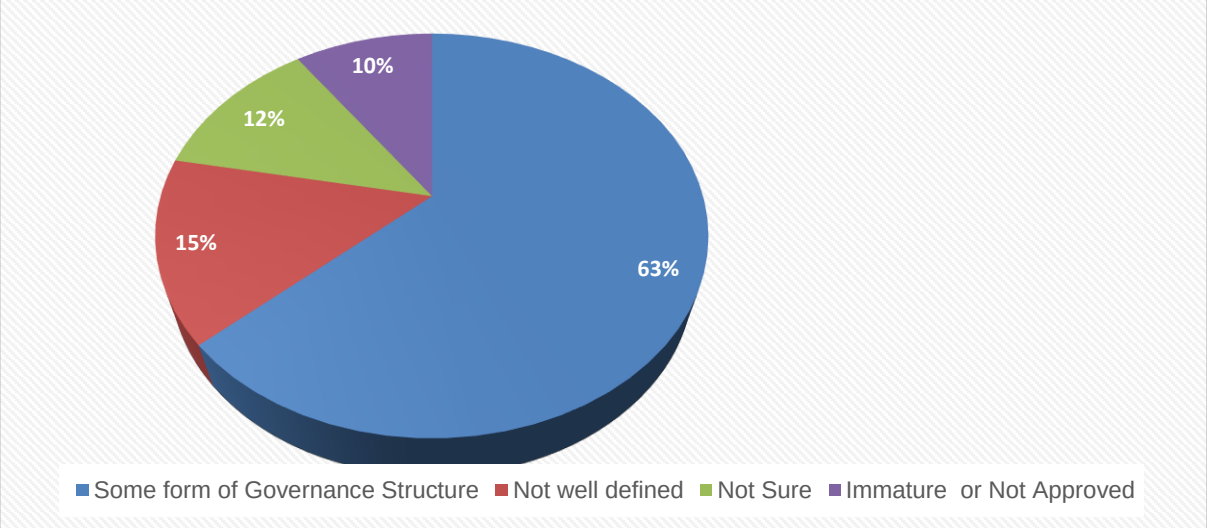
- They cited that governance of projects is discussed only within the top layers of management and ICT projects within their municipalities are only classified on an operational or support level with no buy-in from the senior executive.
- Not all the ICT managers are part of the strategic echelon within the municipalities, hence the decisions to implement ICT projects are at a very low level within the organisations.
- Policy documents such as the DPSA Corporate Governance of ICT Policy Framework (CGICTPF) discussed in Chapter 3 (3.4.6) regarding the institutionalisation of the governance of ICT as an integral part of corporate governance within government institutions are not properly followed or implemented by these municipalities.

Sixty percent of the accounting officers who participated understood the governance of projects as a top-down approach where departmental executives initiate provincial priorities guided by the National Government Programme of Action. This top-down approach tends to affect the project deliverables as not everyone within the departments really understands what must be performed for project outcomes including accountability. This implies that participants do not fully understand the difference and/or the linkage between corporate and project governance. In contrast, all participants from the two metros and the four tertiary institutions had a clear understanding of project governance in that they emphasised the set of rules that govern and control effective project delivery within their institutions, including alignment to the strategic objectives and the aspect of accountability.

5.3.2 Project governance structures

All participants responded that they had some form of project governance structures and methodologies in practice. However, these structures and methodologies vary in terms of level of maturity and practical implementation. Figure 5.1 shows that 63% of participants have a form of governance structure and approved methodology, while 15% do have project governance, but it is not well defined or understood. Twelve percent are unsure whether there is an existing governance structure, while 10% have an immature or non-approved methodology.

Figure 5.1 Existing governance structures and methodology



It is evident that most of the participants (63%) who responded that they have some form of governance structure or approved methodology in place are focusing more on organisational control and management structures such as Risk Management Committee, Audit Committee, ICT Governance Steering Committee, and Budget Committee, and not on structures or methodologies of particular projects. This again confirms the finding that there is limited or no understanding of the difference and/or the linkage between corporate and project governance.

Participants from the two metros and the four tertiary institutions do have project management offices (PMOs) that are operational and have developed PMO Charters and Project Frameworks, but both institutions generally lack the adequate human resource capacity to fully utilise the PMOs.

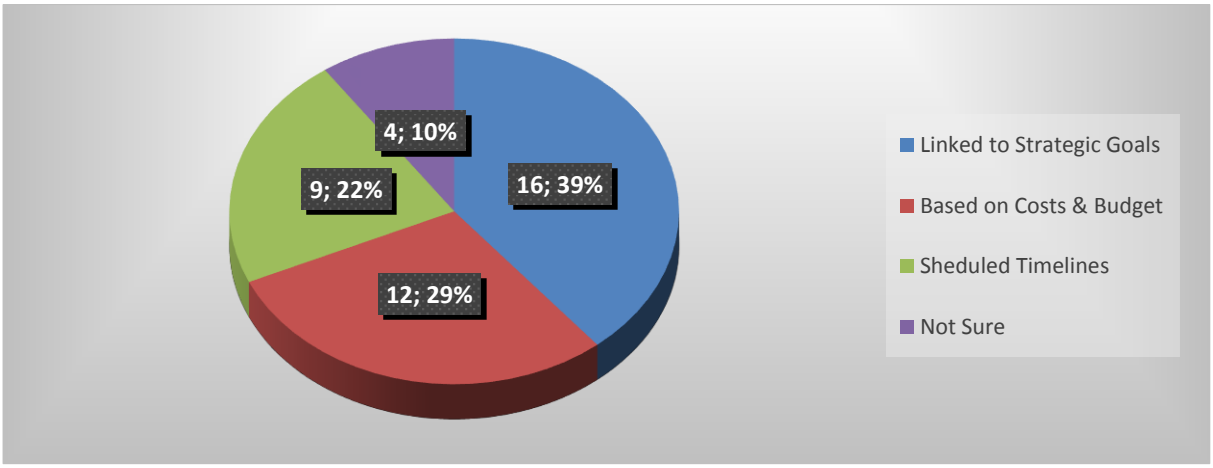
All Provincial Broadband Steering Committee members, who are also Heads of ICT in Departments, responded as having formal ICT Governance Steering Committees that are fully operational and report directly to the Department's Governance Champions (a member of Executive Management) on a quarterly basis. However, these reports are of an operational nature and do not adequately address strategic dimensions. The Department of Economic Development, Environmental Affairs and Tourism (DEDEAT) does have an operational PMO, but not all projects are

registered within this structure due to the limited capacity of the project teams, especially for highly-specialised areas such as ICT.

5.3.3 Project governance effectiveness

All the responses reflected a form of project governance effectiveness that vary among participants from the respective institutions. Some institutions utilise measures such as costs and scheduled timelines, while others focus only on strategic objectives as derived from the overall mandates and goals of the institution. Figure 5.2 illustrates that 16.4% of the participants are adequately aligning project governance to the strategic objectives, while 12.3% base their project governance on costs and budget allocation controls only. Nine percent base project governance on the monitoring and adherence to scheduled timelines, while 4.1% are not sure about the overall effectiveness of their project governance arrangements.

Figure 5.2 Project governance effectiveness



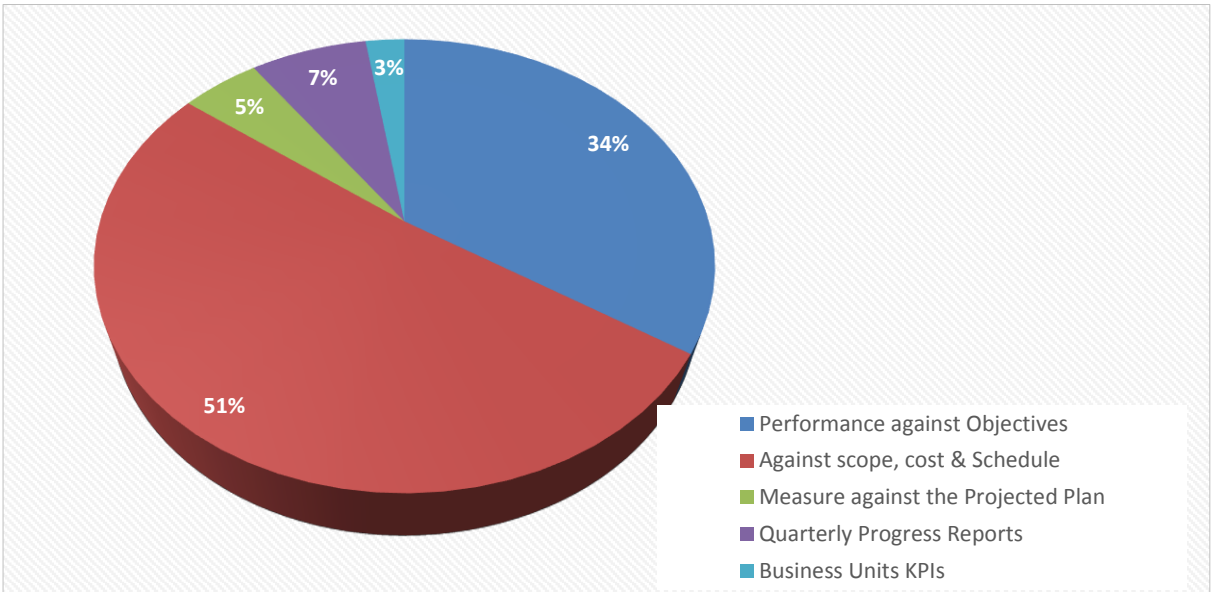
Most of the participants value the effectiveness of project governance through various aspects such as linkage to the strategic objectives, budget implications and scheduled timelines. This finding implies that governance of projects is a critical variable of successful project delivery that demands serious attention to facilitate the overall effectiveness and efficiency of projects. However, it is evident that project governance should shift from simply managing operational dimensions such as time, cost, schedule, and quality (i.e. delivery focus) to a more strategic focus (i.e. alignment with corporate strategy and delivering expected value).

Four percent of participants from the district municipalities are not sure about the effectiveness of project governance or what role they should play within their organisations to achieve project outcomes. This finding confirms the relatively poor governance measures that exist in the district municipalities within the province. This opens the door for further research on corporate governance with the linkage to project governance and recommendations to be applied across the entire local government sector within the province.

5.3.4 Project governance performance measurement

Responses to the measurement of project governance performance vary widely. Figure 5.3 below illustrates that 51% of the participants are measuring project governance against the scope, costs, and schedule (operational dimensions), while 34% measured it based on performance against strategic objectives. Seven percent of participants indicated that they base project governance on quarterly reports; 5% is measured against a projected plan and 3% are based on business units' key performance indicators (KPIs).

Figure 5.3 Project governance measure



As was established in the literature review (Chapter 2), measuring performance is a critical factor in optimising the effectiveness of project governance. On the surface, it

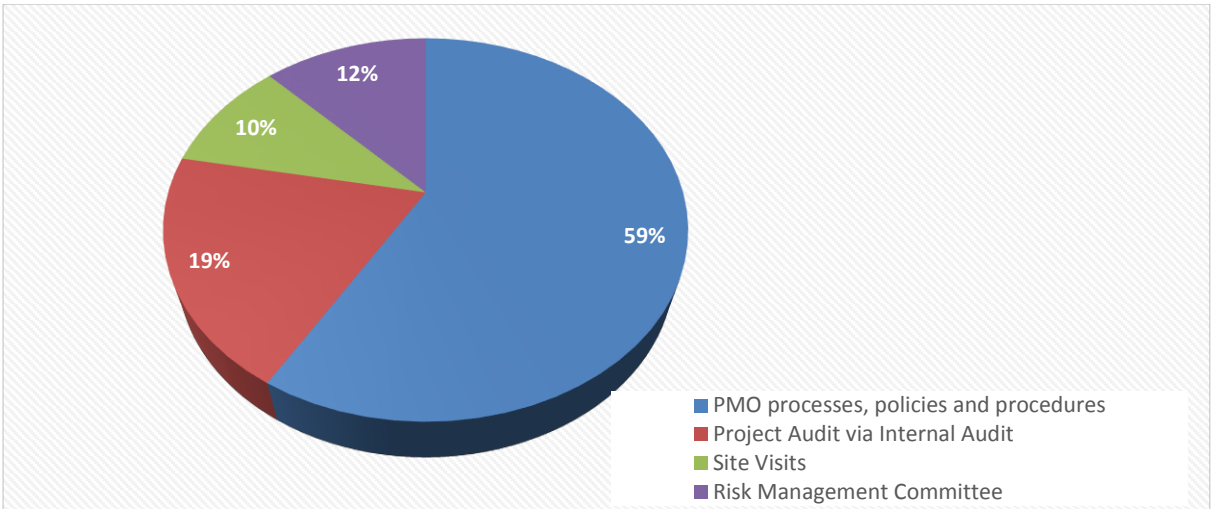
seems relatively simple to measure. Measures such as tracking the scope, time, and cost parameters and metrics are relatively simple to utilise. However, it is more important to measure the overall strategic significance of project governance. The distinction or linkage between project governance at a strategic level and/or delivery aspect of projects seems to be the main cause of confusion. Based on this analysis and referring to Figure 5.3, most of the participants (51%), mainly from the provincial departments and the four tertiary institutions, focus on tracking the scope, time, cost, and schedule of the project as decisive factors of measurement of the effectiveness of project governance. This finding confirms the fact that successes are limited to single projects.

Furthermore, it is evident that most institutions focus only on the lifecycle of projects and do not consider the general results or strategic outcomes of projects. This is possibly the reason these institutions generally struggle to operationalise their key performance areas (KPA). The success metrics per KPA are dependent on KPIs. These KPIs are instruments to determine the levels of success per project and enable a project manager to assess performance towards the achievement of the business objectives. As an example, for the Broadband Project, KPIs such as *"upload and download throughput"*, and *"latency to local and international internet sites and servers"* may be utilised to determine the level of access to information that citizens have. This will thus illustrate the impact that the Broadband Project has in the province. However, Figure 5.3 shows that only 3% of the participants regard strategic alignment between projects and KPA and KPI as critical for overall institutional success.

5.3.5 Governance oversight mechanisms and processes

Most participants linked the project governance processes to PMO in a set of standards, policies, procedures, and monitoring and control mechanisms during project implementation. Figure 5.4 indicates that 59% of participants rely on PMO operational measures; 19% focus on project audits undertaken by Internal Audit Units; 12% use risk management committees; and 10% conduct site visits for purposes of project oversight.

Figure 5.4 Project governance oversight mechanisms



The 59% (see the Figure 5.4) of participants that rely on the PMO are primarily from the two metros, four tertiary institutions, and the rest of the Provincial Broadband Steering Committee. However, the majority of the Provincial Broadband Steering Committee members are not using in-house PMOs but rather rely on outsourced PMO functions from various service providers. These service providers are contracted for various projects other than ICT-related projects within provincial departments. The participants cited the following benefits associated with outsourcing the PMO function:

- It frees capacity for the project host institution to focus more on project management methodology, performance metrics, process development, and overall organisational improvement.
- It allows the host institution to concentrate on overall programme delivery management, including resource management, project portfolio management, integration management, overall risk assessments, as well as stakeholder engagement.
- It assists the project host institution to focus on its project governance and performance management functions.
- It allows host institutions to concentrate on strategic alignment, business goals, and the setting of strategic priorities.

Most accounting officers from provincial departments rely on their internal audit units and risk management committees as oversight mechanisms for purposes of project governance. This again illustrates the disjuncture between overall corporate governance and project governance. It is evident that the significant role that PMOs can play in project governance is not fully realised. The strategic importance of a PMO was explored in Chapter 2 (2.4), as it provides coordination support for all projects within the strategic plan (Renz, 2007).

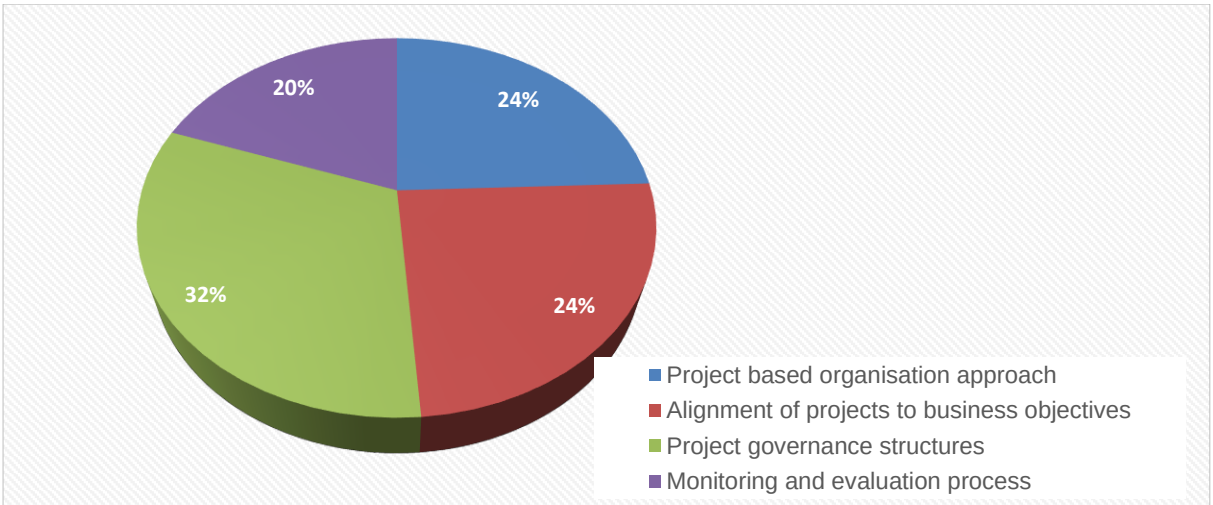
The PMO's governance function also plays a significant role by providing decision support for project sponsors and stakeholders involved in a project. Chapter 2 (2.4) outlined the oversight and coordination function of the PMO to deliver projects on time and on a budget, including managing and reporting on schedules, risk, cost, quality, scope, and resources across all projects. Hobday (2000:874) also emphasised that the PMO takes care of the cross-functional activities on a temporary basis to deliver the service.

The Department of Roads and Public Works (DRPW) and three district municipalities (Amathole, Chris Hani and OR Tambo) preferred the use of site visits as the main oversight mechanisms for the governance of their projects. This may be due to the particular nature of the type of projects they are responsible for (i.e. infrastructure construction) within the province.

5.3.6 Project governance improvement

As far as project governance improvement frameworks are concerned, it is evident that participants utilise a variety of governance structures (Figure 5.5). This includes the use of PMOs (32%), strategic project alignment arrangements (24%), and following a project-based organisational approach (24%). The final 20% opted to enforce a monitoring and evaluation process approach.

Figure 5.5 Project governance improvement



All participants from all sampled institutions agreed that improving both the theoretical understanding and the practical implementation of project governance within the public sector require serious attention. The participants also highlighted the following issues that need to be urgently addressed:

- buy-in from key stakeholders such as municipal managers, heads of department, and the executive authority;
- ability to secure the committed allocation of required financial and people resources to deliver the project scope on time;
- ability to get those issues, actions and risks addressed that escalated beyond the authority level of the project team;
- sufficient visibility of the project's importance at executive levels to secure sustained funding and perceived priority; and
- establish clear terms of reference for each governance body detailing the types and level of activities each is responsible for as well as the overall mandate of the group.

In Chapter 2 (2.2.3) it was established that organisations that are committed to the project-oriented philosophy generally categorise all activity as "projects" of either "change" or "operational" categories (Pollack, 2007:268). The managing-by-projects approach affects all aspects of an organisation, including the development of corporate strategy and strategic and operational planning cycles (In't Veld, 1999;

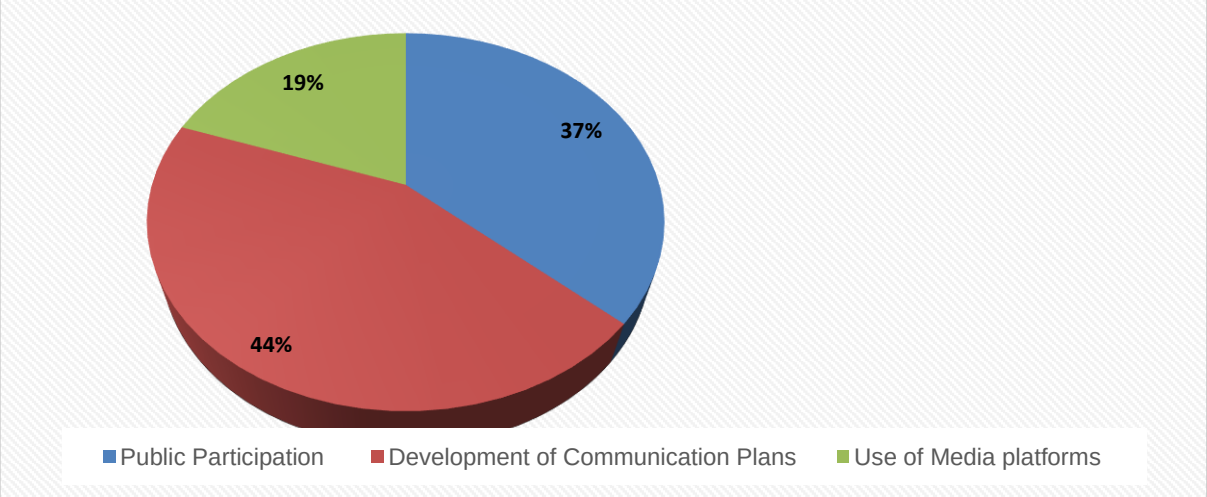
Bresnen, 2007:366). From the findings, it is evident that sampled institutions are on relatively low maturity levels as far as a managing-by-project approach is concerned. The fact that limited project governance improvement frameworks are in place confirms this point.

One participant from Nelson Mandela Metropolitan University emphasised the importance of a project-based approach since this approach would improve the overall monitoring and evaluation of projects. He stated that "…monitoring of projects gives information on where a programme or project is at any given time (or over time) relative to respective targets and outcomes and it focuses in particular on efficiency and the use of resources whilst evaluation looks at the relevance, effectiveness, efficiency and sustainability of an intervention." The participant also indicated that monitoring and evidence measures will provide evidence of why targets and outcomes are not being achieved.

5.3.7 Stakeholder engagement

Figure 5.6 illustrates that stakeholder engagement is a significant consideration for participants. Forty-four percent indicated that the development of communication plans to facilitate engagement is critical; 37% preferred general public participation mechanisms, and 19% favour the use of media platforms such as the government press to foster stakeholder engagement in projects.

Figure 5.6 Stakeholder engagement



Most respondents from government departments (5 from the accounting officers, 7 from Provincial Broadband Steering Committees, and 6 from Provincial ICT Working Group) opted for the development of communication plans as a viable solution for stakeholder engagement for the Broadband Project. In this regard they suggested the following to improve communication:

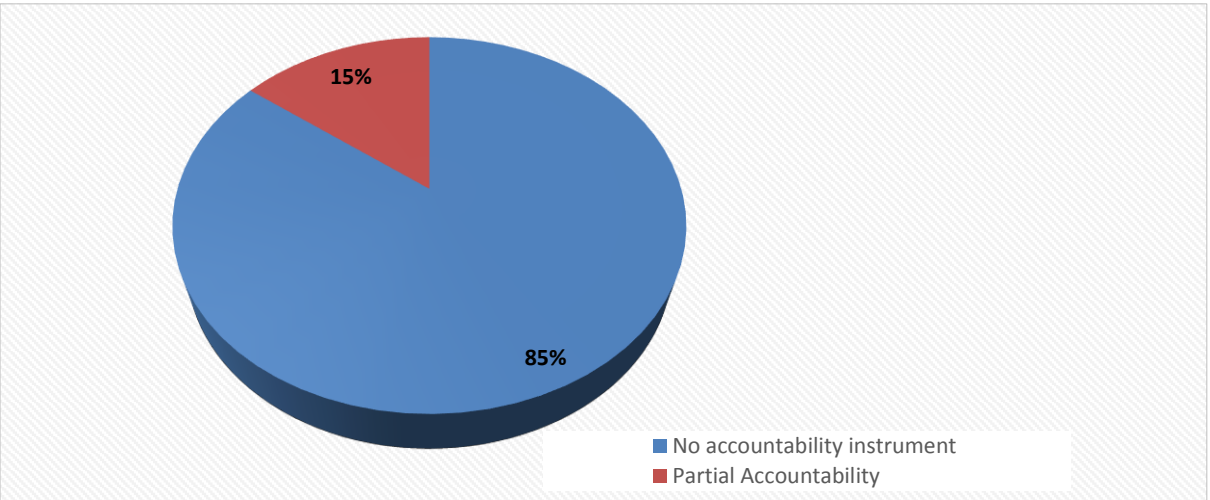
- stakeholder mapping and identification processes;
- identification of the most appropriate engagement methods for each individual stakeholder;
- setting clear objectives of the communication plan;
- employing a combination of engagement processes, both formal and informal, that will encourage particular stakeholder groups to engage in ways that are conducive to both the project and the group needs;
- utilise social data and baseline surveying in developing the engagement activities as this will enhance knowledge of cultural relevance as well as other demographical considerations and factors that may affect the communities; and
- evaluate and monitor the effectiveness of the communication plan to provide the opportunity to adjust the engagement goals and campaign strategy.

Thirty-seven percent of the participants from the targeted institutions (i.e. municipalities, provincial government departments and tertiary institutions), suggested the use of a formal public participation approach. This participation approach should encourage members of the public to provide input to the PMO regarding their concerns and recommendations for their communities. This will bring them closer to the project and they will accept it as their own. They further suggested that such input could be gained through the establishment of stakeholder forums, and that project decision-making offices should not be overburdened with this responsibility. The functions of stakeholder engagement and project decision-making should thus be separated.

5.3.8 Accountability

Most participants (85%) stated that they do not have any accountability mechanism in use since most departments do not follow a project-based approach. As reflected in Figure 5.7 below, only 15% have few or partial measures to improve overall accountability as far as project governance is concerned.

Figure 5.7 Accountability



Most participants (85%) concur that the general absence of accountability measures amongst project owners is the main cause of project failures in the province. They cited the following accountability issues as the main causes for such failures:

- ***No clear roles and responsibilities, limited team leadership and individual ownership*** – People struggle to be accountable when roles and processes are ambiguous. Removing as much confusion as possible about who is doing what and how they will proceed is an important first step. If a team is truly accountable, members will identify gaps, learn new roles and processes, and ultimately build a more capable team.
- ***No sense of ownership for team results*** – How does team accountability work? Focus on *team processes*. How is the team working toward goals and outcomes? Are team members effective? Do they feel 100 percent accountable for improving the process? Each member should

have the obligation to seek information, give and receive feedback, and point out the need for corrective action at any time.

- ***Less room for improvement –*** Accountability is the foundation for creating a learning environment. As one participant observed: “If you want sustainable high-quality processes, you need to be able to see what is working and what is not – and analyse the cause”.
- No commitment from project team members to complete their assignments.
- Not accepting responsibility and disclosing the results in a transparent manner.

It is therefore clear that accountability is critical in project governance and without it projects cannot be effectively controlled and managed, nor can performance be improved. An effective project manager should make accountability an issue at the earliest possible time in the Broadband Project's life cycle. It should become a topic for discussion at project inception (i.e. “kick-off”) and should be incorporated into the project's communication and control plans.

5.4 GENERAL RESEARCH FINDINGS

From the responses obtained it is evident that all three spheres of government, organisations and academic institutions develop policies, and provide guidelines for project management teams to improve project results. Furthermore, significant gaps have been identified between international best practice, as per the literature survey (Chapter 2) and the way the Broadband Project is designed and implemented. In this regard, the following gaps have been pinpointed:

- In Chapter 2 (2.5) the literature identified a single point of accountability as crucial to identifying the person accountable for the success of the project, whereas in practice based on evidence collected this is not the case, as seen in Figure 5.8 above.

- Project-oriented organisations have project teams with project managers having more control on projects. Data collected shows only 24% (see Figure 5.5) of the participants believe it is critical for project success.
- There is a form of understanding of project governance from the participants but they lack strategies to effectively implement it.
- Sixty-three percent (Figure 5.1) responded positively on the existence of governance structures within their organisations but they lack accountability or ownership of these projects, as shown in Figure 5.8.
- There seems to be misalignment between strategic objectives and measurements of projects through the scope, costs, and schedule as shown from Figures 5.3 and 5.5.
- Public participation as a communication tool is vital and has a direct effect on the organisational effectiveness and project governance, as shown in Figure 5.6.
- The literature emphasises reporting as a monitoring mechanism whereas collected data shows that only 7% of the respondents see this as crucial.
- Most organisations partially implement project governance with some form of measure on its effectiveness, as shown by Figures 5.1 – 5.4.

5.5 CONCLUSION

Chapter 5 outlined and analysed the data submitted by the participants, focusing on their general understanding of the nature and scope of project governance, project governance structures, project governance effectiveness, and project governance performance measures. It further reflected on perceptions and practices regarding project governance oversight mechanisms, including monitoring, evaluation, control and oversight mechanisms that are currently in place to oversee projects processes, project governance improvement, stakeholder engagement, what kind of accountability instruments and arrangements are currently in place to hold people accountable for their decisions or actions in these organisations, and suggestions for further improving accountability.

The overall analysis indicates that there are diverse perceptions of project governance in general, including processes that need to be performed in order to achieve certain milestones within a project. Most of the participants focused more on project controls to monitor costs and budget rather than on a holistic approach to project governance. There is also little focus on project quality dimensions to reduce re-work and implement a change control system to control the project scope, costs and schedule. There seems to be a duplication of efforts since institutions generally do not capture best practice and lessons learnt as a form of a learning curve for others to follow in designing and executing similar projects.

It is clear that project governance, the process by which project decisions are made and issues resolved, should be separated from normal organisational governance arrangements. Separating these two functions could reduce the number of project decision nodes since the decision path will not follow the ordinary organisational chain of command.

The empirical findings, as reported in this chapter, guided the researcher to design a project governance model as the main contribution of the study as described in the final chapter.

CHAPTER 6
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS: A PROJECT GOVERNANCE MODEL

6.1 INTRODUCTION

The previous chapter reported and analysed the findings from empirical data collected from various stakeholders in the Eastern Cape Province regarding project governance as derived from the literature review chapter. The main objective of Chapter 5 was to gather input from participants on project governance principles and practices with the view to designing a project governance model for the Provincial Broadband Project in the Eastern Cape Province. The chapter further provided a broad overview of the methodology used and highlighted the categories of the participants.

The purpose of this chapter is to draw conclusions from the findings by triangulation of the data, project governance best practice, and the literature review to design a comprehensive project governance model for the Provincial Broadband Project in the Eastern Cape Province. The chapter will furthermore provide a synoptic overview of the overall study by explaining the extent to which the research findings operationalised the research objectives, as stipulated in Chapter 1.

6.2 SUMMARY: RESEARCH SYNOPSIS AND REVIEW OF THE RESEARCH AIM AND OBJECTIVES

In Chapter 1 the research problem was formulated on the basis that, currently, the capacity to govern the implementation of the Broadband Project, or even ICT projects in general, is fragmented within various departments of the Eastern Cape Provincial Government. There is also no guiding project governance model that has been formally approved by the leadership of the Provincial Administration. Five of these project governance concerns are that there is

- no alignment between the Broadband project agreed measures of success and the provincial government key strategic objectives.

- no buy-in from the provincial executive in relation to the project.
- an absence of engagement with critical stakeholders and contact with the supply industry at executive levels
- a lack of resources and skills to effectively deliver the overall Broadband Project successfully.

It is, therefore, necessary to develop a project governance model that should detail the key roles and responsibilities to oversee, monitor, deliver, evaluate, control and approve of responsibilities, including:

- A steering committee with a clearly defined and communicated role and terms of reference to oversee the implementation of the Broadband Project;
- A central project management office (PMO) to monitor the progress of the Broadband Project; and
- Workgroups led by workgroup champions (key stakeholders) who are responsible for implementing and delivering the assigned project tasks. This includes project charters to govern the implementation of the assigned tasks with clear milestones and key performance indicators.

The research problem was formulated in a form of a statement as follows: *"To design a project governance model for the effective implementation of the Broadband Project in the Eastern Cape."* All the research objectives were derived from this statement and were formulated to reflect the importance of the design of a project governance model for the Provincial Broadband Project in the Eastern Cape Province in addressing the research problem as mentioned above. The research objectives of the research were to:

- uncover the theories, principles, and approaches associated with project governance.
- investigate the interface between e-Governance and the need for the Broadband Project.
- analyse the statutory and regulatory frameworks that govern the Broadband Project in South Africa.

- obtain empirical evidence regarding the successes, challenges and failures of project governance of the Broadband Project in the Eastern Cape Provincial Administration.
- design a project governance model for the effective implementation of the Broadband Project in the Eastern Cape.

The following research questions were derived from these objectives:

- What are the theories, principles, and approaches associated with project governance?
- What is the interface between e-Governance and the need for the Broadband Project?
- What are the statutory and regulatory frameworks that govern the Broadband Project in South Africa?
- What is the empirical evidence for the successes, challenges, and failures of project governance for the Broadband Project in the Eastern Cape Provincial Administration?
- What should be incorporated in a project governance model for the effective implementation of the Broadband Project in the Eastern Cape?

Table 6.1 below outlines the relationship between the research objectives and research questions and the relevant chapters associated with this relationship.

Table 6.1 Relationship between research objectives and research questions

Research Objective (RO)	Research Question (RQ)	Chapter(-s)
To uncover the theories, principles, and approaches associated with project governance. ***(RO1)***	*What are the theories, principles, and approaches associated with project governance?* ***(RQ1)***	Chapter 2
To investigate the interface between e-Governance and the need for the Broadband Project. ***(RO2)***	*What is the interface between e-Governance and the need for the Broadband Project?* ***(RQ2)***	Chapter 3

To analyse the statutory and regulatory frameworks that govern the Broadband Project in South Africa. ***(RO3)***	*What are the statutory and regulatory frameworks that govern the Broadband Project in South Africa?* ***(RQ3)***	Chapter 3
To obtain empirical evidence regarding the successes, challenges, and failures of project governance of the Broadband Project in the Eastern Cape Provincial Administration. ***(RO4)***	*What is the empirical evidence for the successes, challenges, and failures of project governance for the Broadband Project in the Eastern Cape Provincial Administration?* ***(RQ4)***	Chapters 4 & 5
To design a project governance model for the effective implementation of the Broadband Project in the Eastern Cape. ***(RO5)***	*What should be incorporated in a project governance model for the effective implementation of the Broadband Project in the Eastern Cape?* ***(RQ5)***	Chapter 6

6.2.1 Summary of each chapter

In ***Chapter 1*** the researcher introduced the importance of broadband in general, then outlined the research problem, followed by the research aim and objectives, including research questions emanating from these objectives; then formulating the research statement. This chapter also provided the research methodology and data analysis used and considered ethical implications of the study. The last two sections of the chapter focused on the significance of this study and the overall chapter layout.

Chapter 2 focused on the first research objective (***RO1)*** in answering the first research question ***(RQ1)*** on the theories, principles, and approaches associated with project governance. Projects and programmes are outlined and then the programme

is split up into smaller projects or "sub-projects". However, a portfolio has a broader meaning than a programme.

The four terms were compared and contrasted in this chapter when viewed from the perspective of PPM and the nature of the project as a temporary organisation was analysed from the perspective of project-oriented organisation, including the role of a PMO; and finally, the project governance was defined, including its structures and framework.

Theoretical backgrounds from Clarke (2004), Mosaic (2005), Van Der Waldt (2007), the Association of Project Management [APM] (2006), Turner (2006, 2009), PMI (2008), Garland (2009), Klakegg (2009), Müller (2009), Narayanan and DeFillippi (2012), O'Leary (2012), and others have all defined project governance in their own terms but generally confirm that good project governance is based on four key principles:

- identify a single point of accountability;
- ensure project governance is focused on service delivery;
- separate project and organisational governance; and
- separate stakeholder management and project decision-making.

Chapter 3 addressed the second and third objective ***(RO2 & RO3)*** of the research by exploring the application of ICT in the South African Government and focused on the existing strategic statutory and regulatory frameworks in South Africa that govern ICT initiatives, such as e-Governance (or electronic Governance) and the need for the Broadband Project.

In ***Chapter 4*** the researcher operationalised the fourth research objective ***(RO4)*** by firstly exploring the profile of the Eastern Cape Province, which includes the socio-economic outlook of the province and broadband penetration. The chapter also focused on the alignment of the State of the Province Address, the MEC for Finance's Policy Address, and other provincial strategic frameworks related to the Broadband Project. Secondly, the chapter outlined the Broadband Project in the

Eastern Cape by focusing on its origins, its host department, and other stakeholders involved. Lastly, the chapter explored the Broadband Project's current governance and funding model with specific reference to the actors involved as far as the design, execution, and monitoring of the implementation plan are concerned. The chapter concluded that, for effective project governance of the Broadband Project in the Eastern Cape, a clear model must be developed and must cover all the essential processes that include accountability, leadership buy-in from the Executive Authority Council, a proper funding model, and a detailed monitoring and evaluation plan for effective project deliverables.

Chapter 5 also focused on the fourth research objective ***(RO4)*** and answered the research question ***(RQ4)*** by analysing and reporting on the empirical findings of the data collected from the provincial stakeholders. Data collected ranges from the definition and understanding of project governance, structures, effectiveness, measures, processes, improvement framework, stakeholder engagement and accountability. The data input guided the researcher in the design of the project governance model for the Provincial Broadband Project in the Eastern Cape that will be presented in this chapter ***(Chapter 6).***

6.2.2 Central theoretical statements linked to chapters

Table 6.2 below presents the central theoretical statements linked to the research chapters.

Table 6.2 Central theoretical statements linked to chapters

Central Theoretical Statement (CTS)	Chapter
What differentiates an organisational structure from a project governance structure is the definition of accountability for strategic decision-making for each project. (Van der Waldt, 2009:3).	Chapter 2
Project governance deals with best practices issues for managing projects through resource allocation, enforcing of policies, procedures, assigning of roles and responsibilities, performance standards for monitoring, oversight and control that are utilised and	

aligned to strategic objectives (Partington, 1996:15; Chien, 2004:429; Bresnen, Goussevskaia & Swan, 2004:1538).	Chapter 2

6.3 RECOMMENDATIONS: CONSTRUCTING A PROJECT GOVERNANCE MODEL

The construction of the project governance model was based on the comprehensive theory gained from the literature review (Chapter 2) and data collected from the participants. The researcher went through the following steps and process:

1) In Chapter 3 (3.4.6) the purpose of the Corporate Governance of ICT Policy Framework (CGICTPF) was outlined to institutionalise the governance of ICT as an integral part of corporate governance within government institutions. It provides the Political and Executive Leadership with a set of principles and practices that must be complied with, together with an implementation approach to be utilised for Corporate Governance of ICT within departments. It also places accountability for governance of ICT fully in the hands of political leadership and executive management. *(See Figure 6.2: (A) Government Oversight and Decision-making).*
2) In Chapter 2 (2.2.3) the researcher outlined that projects are created to accomplish an organisation's strategy. Gareis and Huemann (2000) further emphasise that a POO considers projects not only as tools to perform complex processes but as strategic options for organisational design. *(See Figure 6.2: (B) Corporate and Organisational Governance)*
3) Also in Chapter 2 (2.3.1), Oakwood (2010) states that in order for PPM to be successful, project management, resource management, reporting, and organisational processes must be well established. *(See Figure 6.2: Project Portfolio).*
4) Hurt and Thomas (2009) emphasise that the growth in popularity of the Enterprise Portfolio Management Office (EPMO) has been identified as recognition by organisations that their strategies and initiatives are essentially achieved via projects and hence project management is a critical competence that should be developed. The Enterprise PMO assumes a governance process that involves the project office in all projects, regardless of size,

allowing it to assess the scope, allocate resources, and verify time, budget, risk and impact assumptions before the project is undertaken *(see Chapter 2, section 2.4). (See Figure 6.2: (B1) Enterprise Portfolio Management Office).*

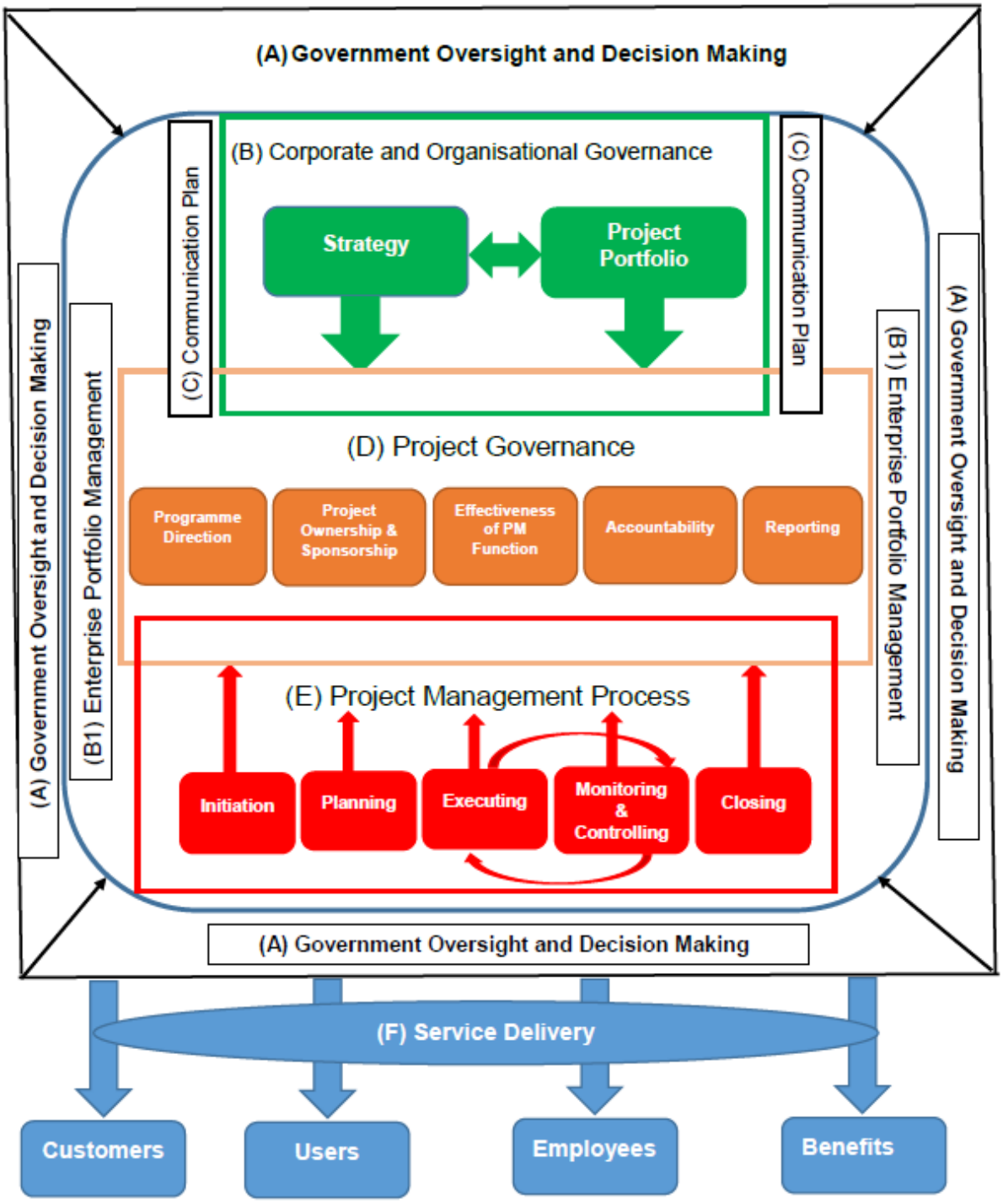
5) In Chapter 5 (5.3.7) participants suggested a communication plan in dealing with stakeholder management. *(See Figure 6.2: (C) Communication Plan)*
6) In Chapter 2 (2.5) the researcher outlined project governance through various theorists such as Jia *et al.* (2008), Garland (2009), Bekker and Steyn (2009) and Khan (2012) as "an oversight function that encompasses the project lifecycle, and provides the project team with structure, processes, decision-making model and tools for managing the project, while supporting and controlling the project, in order to ensure that the project meets its objectives and delivers business value to all stakeholders". *(See Figure 6.2: (D) Project Governance).*
7) Chapter 2 (2.2.3) outlined that the project management process includes the evaluation and assessment of the milestones to determine the continuation of each phase and correct any errors that may affect the project success. All the approval sign-offs and resource allocations are the responsibility of management interventions (Thiry & Deguire, 2007), and each phase normally includes the desired level of management control (Ching, Holsapple & Whinston, 1991). The project phases are known as the project life cycle. *(See Figure 6.2: (E) Project Management Process).*
8) In Chapter 2 (2.2) the researcher outlined that in the context of policy-making Van der Waldt (2007:251) emphasises that management of projects should be translated from a particular policy into the desired outcomes as an end-to-end process. He further states that this "end-to-end" policy-making process is important to consider implementation and delivery (i.e. via projects) from the start. By incorporating the issues and perspectives from operational systems and structures, policy implementation is simplified. The involvement of project managers, for example, throughout the policy-making process can strengthen the "deliverability" of the outcomes and commitment to the policy objectives. *(See Figure 6.2: (F) Service Delivery).* Also in Chapter 2 (2.2.1) the researcher further outlined that traditional organisations adopt projects as a vehicle (or agency) for change. They create the temporary organisation (i.e. project team) to deliver a coherent set of change objectives because projects

are usually better suited for managing change than the functional organisation (Turner & Muller, 2003:3). *(See Figure 6.2: customers, users, employees, and benefits).*

6.3.1 Comprehensive Project Governance Model

Figure 6.2 details the project governance model for the implementation of the Provincial Broadband Project for the Eastern Cape Province as defined by the process steps illustrated in section 6.3 above.

Figure 6.2 A project governance model



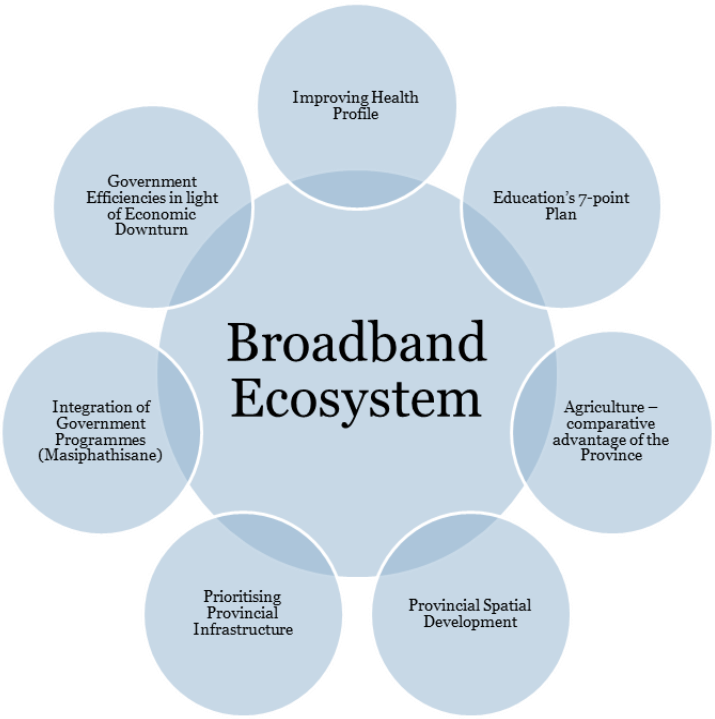
6.4 IMPLEMENTATION OF THE PROJECT GOVERNANCE MODEL

The Provincial Government of the Eastern Cape has an overarching accountability for governance of the resource management of the state. The government's role includes:

- setting policy priorities that drive resource investments;
- understanding the context and drivers for those investments;
- reviewing analysis of investment proposals – the value proposition and feasibility;
- prioritising and funding investments; and
- monitoring the effective procurement and benefit delivery from the portfolio of investments and resource allocation more broadly.

In Chapter 4 (4.3.3), the Provincial Development Plan (PDP): Vision 2030 was outlined as an initiative of the Eastern Cape Provincial Government in engaging with all sectors of society, including previously marginalised groups such as rural women and the youth, to identify development priorities for the province over the next two decades. Subsequent to this plan, certain priorities have been identified as Provincial Strategic Projects (PSPs) and are defined as follows:

Figure 6.3 Provincial strategic projects



Source: Provincial Development Plan: Vision 2030

Regarding Figure 6.3 above, the Broadband Project is the core pillar for these initiatives, hence its importance and the criticality of developing a project governance model for the effective implementation of the project.

In the South African context, oversight is a constitutionally mandated function of legislative organs of state to scrutinise and oversee executive action and any organ of state. It follows that oversight entails the informal and formal, watchful, strategic, and structured scrutiny exercised by legislatures in respect of the implementation of laws, the application of the budget, and the strict observance of statutes and the Constitution. In addition, and most importantly, it entails overseeing the effective management of government departments by individual members of Cabinet in pursuit of improved service delivery for the achievement of a better quality of life for all citizens (Parliament, 1994). Applying this to the Provincial Broadband Project, this role of ***(A) Government Oversight and Decision-making*** is being assumed by the Provincial Portfolio Committee for the Office of the Premier (OTP) under Vote 1.

The Office of the Premier is a department created in terms of the Constitution, 1996 and the Public Service Act 103 of 1994 to enable the Premier to lead the Eastern Cape government in the service of the public. It is thus mandated to ensure that:

- The Constitution, national and provincial laws, rules and regulations as well as policies are faithfully and effectively executed;
- Through the Executive Council, the premier drives the transformation process in the province;
- Government is effectively coordinated, and
- The Office of the Premier strives to be an exemplary and effective centre of the Provincial Administration.

The Strategy Plan 2015-2020 of the Office of the Premier has five strategic objectives and one that directly links to the Provincial Broadband Project is as follows:

"Lead socio-economic transformation by accelerating implementation (through improved integration and coordination) of government programmes to ensure access to quality services".

The strategic planning and project portfolio alignment outlined above relates directly to ***(B) Corporate and Organisational Governance*** of the model. The Provincial Broadband Project will be registered at a centralised business function under the ***B1) Enterprise Portfolio Management Office (EPMO),*** which operates at a strategic level with the Office of the Premier Executives and provides enterprise-wide support on governance, PPM best practices, mentoring, tools, and standardised processes.

Once the strategic alignment has been completed, the next step is to develop a Strategic (***C) Communication Plan*** for reaching the target audience using marketing communication channels such as advertising, public relations, experiences, or direct mail. It is concerned with deciding who to target, when, with what message and how. In execution, the communication plan serves as a guide to the communication and sponsorship efforts throughout the duration of the Broadband Project. It is a living and working document and is updated periodically as audience needs change. It explains how to convey the right message, from the right communicator to the right audience, through the right channel, at the right time. It addresses the six basic elements of communications: communicator, message, communication channel, a feedback mechanism (monitoring and evaluation), receiver/audience, and time frame. This document should be endorsed and approved by the project sponsor, in this case the Premier.

(D) Project governance is a critical element for the Broadband Project since while the accountabilities and responsibilities associated with OTP's usual business activities are laid down in their organisational governance arrangements, seldom does an equivalent model exist to govern the development of its projects. ***Programme direction*** is for identifying the needs of policymakers, shaping objectives and plans to meet those needs, and implementing the department's programmes either through their own professional efforts or by guiding or directing the work of others. Currently, at the Office of the Premier, there are three existing Programme Structures (Programme 1 – Administration, Programme 2 – Planning,

Policy Coordination, Monitoring and Evaluation, and Programme 3 – Institutional Development and Organisational Support (IDOS)).

The purpose of Programme 3 (IDOS) is to manage and administer the public service system and promote accountable governance by providing institutional development and organisational support services to ensure that the Provincial Government has sufficient skills capacity to efficiently and effectively deliver on its mandate. The Provincial Broadband Project is administered within this programme under Sub-Programme 3.5: Transversal / Provincial ICT – with the purpose of providing integrated information and communication technology services across the Provincial Administration.

The proven mechanism for ensuring that the Broadband Project meets customer and stakeholder needs, while optimising value for money, is to allocate ***project ownership*** to the PMO that is co-sourced between SITA and the Provincial Broadband Task Team (BBTT) headed by the Chief Director: Broadband from the OTP and the ***project sponsor*** to be the Premier of the Province.

The Broadband Project consumes resources such as budget, people, and technology. It only produces a return on investment when successfully and effectively implemented; therefore, the goal of any ***project management function*** is to transfer projects into stable operations that will eventually generate fluidity. This will entail project planning, scope, scheduling and controlling in achieving the established goal objectives of the Broadband Project. Time and cost management will play two key roles in the project management function as the success factor in the Broadband Project. In the orientation chapter, it was outlined that the cost will be around R19.4 billion over a 10-year period.

The most fundamental project governance aspect for the Broadband Project is the effective ***accountability*** for the success of the project. If there is no clear understanding of who assumes accountability for the project success then it has no clear leadership and this will affect the project lifecycle, hence the concept of a single point of accountability is the first principle of effective project governance. For the

Provincial Broadband Project, the accountability lies with the Provincial Director-General.

The last aspect of project governance for the Broadband Project concerns the information that informs decision makers and consists of regular ***reporting*** on the project, issues and risks that have been escalated by the Project Manager and certain key documents that describe the project, foremost of which is the business case. The reporting should be done on a weekly, monthly and quarterly basis with matters of escalation to the Executive done monthly.

Every ***(E) Project Management Process*** lifecycle contains five steps: ***Initiation, Planning, Executing, Monitoring and Controlling, and Closing.*** No one step is more important than the other and each step plays a crucial role in getting the Broadband Project off the ground, through the entire lifecycle.

In the ***initiation*** stage, the first step is to provide an overview of the project in addition to the strategy plan to be used in order to achieve the desired results. During the initiation phase, a project manager will be appointed who in turn – based on his or her experience and skills – will select the required team members. ***Planning*** will include a detailed breakdown and assignment of each task of the project from beginning to end. The planning phase will also include a risk assessment in addition to defining the criteria needed for the successful completion of each task. In short, the working process is defined, stakeholders are identified and reporting frequency and channels explained. ***Execution*** will ensure project activities are properly executed and the planned solution is implemented to solve the problem specified in the project's requirements. ***Monitoring and controlling*** are sometimes combined with execution, hence the arrows linking the two phases (see Figure 6.2) because they often occur at the same time. As teams execute their project plan, they must constantly monitor their own progress. The project manager should be tweaking the little things to ensure that the project is brought to its proper conclusion. The ***Closure*** phase is typically highlighted by a written formal project review report which contains the following elements: a formal acceptance of the final product (by the client), Weighted Critical Measurements (a match between the initial requirements laid out by the client against the final delivered product), lessons

learned, project resources, and a formal project closure notification to the Premier as the project sponsor.

(F) Service delivery as a component of business impact that defines the interaction between government and citizens where the state offers basic resources such as water, electricity, land and housing will be greatly improved by the effective implementation of the Broadband Project. The beneficiaries will be users, government employees, and other customers. In Chapter 1 the Broadband ecosystem was defined and can be seen in a similar way to the development of roads, railways, electricity and the way that these networks have transformed economic activities for individuals, companies and governments and have also profoundly changed the social environment in which we live, work and interact.

The application of the project governance model to the Provincial Broadband Project as outlined above clearly shows that the Provincial Government is ultimately responsible for all public-sector resource investments. Its governance role, therefore, spans all public-sector activities, including project delivery and investment benefit realisation, which is usually through ongoing services. Appropriate and timely project reporting is an important contribution to the government's governance monitoring role.

Broader public sector issues in the Eastern Cape should utilise the project governance model to manage projects effectively and efficiently, taking into consideration issues such as transparency and accountability. The benefit of managing these through a project governance model is to avoid conflicts of stakeholder interests and to follow a best practices approach, hence minimising the potential delays in project deliverables.

6.5 RECOMMENDATIONS FOR FURTHER RESEARCH

Undertaking this study has opened many avenues for further research initiatives regarding project governance models, and some of them are the following:

- Researchers can investigate short-term and long-term strategies for the public-sector organisations to reach the higher maturity level in project governance.
- Researchers can also study the project governance models in other public-sector institutions to have an overall picture of project governance practices.
- Researchers can further develop and refine the existing model based on the study.

6.6 CONCLUSION

The main objective of this study was to develop a project governance model for the implementation of the Provincial Broadband Project in the Eastern Cape. This process of development has been achieved by outlining the orientation and the problem statement as an introduction, the research objectives and problem statement. The methodology used in gathering the data, including ethical considerations, were highlighted as part of Chapter 1.

Chapter 2 focused on the theoretical exposition of project governance as part of the literature review followed in Chapter 3 by discussing and outlining the statutory and regulatory frameworks that govern ICT initiatives such as e-Governance and the need for a Broadband Project in South Africa. Chapter 4 addressed the knowledge gap by exploring broadband's role in socio-economic development with specific reference to the Broadband Project in the Eastern Cape Province. Chapter 5 discussed the empirical findings based on the data collected by means of interviews focusing on the leadership (i.e. governance) of various strategic departments responsible for the Broadband Project in the province. The data collected from Chapter 5 thus helped to refine the project governance model presented in Chapter 6.

Chapter 6 presented the final comprehensive project governance model for the implementation of the provincial Broadband Project for the Eastern Cape which addressed the concerns specified in Chapter 1, namely:

- Lack of a clear link between the Broadband Project and the provincial administration key strategic priorities, including agreed measures of success;
- Absence of clear senior management and ministerial ownership and leadership;
- Need for effective engagement with stakeholders;
- Lack of understanding of and contact with the supply industry at senior levels; and
- Inadequate resources and skills to deliver the overall Broadband Project.

Also, recommendations for further research studies were outlined as the possibility of improving on the proposed project governance model.

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