



UNIVERSITY OF<sup>TM</sup>  
**KWAZULU-NATAL**

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INYUVESI  
**YAKWAZULU-NATALI**

**The Role of e-Governance in Development:**  
**A case study of the Gauteng Department of e-Government's contribution to the**  
**realisation of the goals of the National Development Plan**

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A dissertation submitted in partial fulfilment  
of the requirement for the degree of Master of Social Sciences  
in Policy and Development Studies

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## DECLARATION

I Harriet Thembaletu Mlotshwa declare that:

- i. The research reported in this dissertation, except where otherwise indicated, is my original research.
- ii. This dissertation has not been submitted for any degree or examination at any other university.
- iii. This dissertation does not contain other persons' data, pictures, graphs or other information, unless specifically acknowledged as being sourced from other persons.
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Signature: 

Date: 05 December 2025

Supervisor's Signature: 

Date: 5 December 2025

## **ACKNOWLEDGEMENTS**

To God and my ancestors: thank you for walking with me, protecting me, and carrying me through moments I did not think I would survive. Every step I take is because of the strength you planted in me. I am honoured to be living the dreams you once whispered into existence. I am truly my ancestors' wildest dreams.

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## ABSTRACT

This study examines how e-governance contributes to South Africa's National Development Plan (NDP) 2030, using the case study of the Gauteng Department of e-Government as a case study. As digital transformation becomes essential for modern public administration, South Africa has made notable progress in strengthening ICT-enabled governance, yet continues to face challenges such as uneven digital access, fragmented systems, skills shortages, and implementation constraints. The study adopts a qualitative desktop research design, drawing on academic literature, policy frameworks, government reports, and provincial media releases to assess how Gauteng's digital initiatives support developmental outcomes. Guided by the 5C Protocol and the EGOV4SD framework, the analysis evaluates policy content, institutional capacity, implementation context, and the extent to which digital programmes generate public value. Findings show that the Gauteng Department of e-Government has implemented initiatives such as the Gauteng Broadband Network, digital skills programmes, e-services platforms, and safety technologies that align with NDP goals relating to building a capable and developmental state. These initiatives enhance administrative efficiency, expand digital access, promote citizen participation, and support socio-economic inclusion. However, persistent barriers including slow infrastructure rollout, limited interoperability, digital literacy gaps, financial constraints, and inconsistent coordination across departments continue to hinder the full realisation of e-governance benefits. The study concludes that while e-governance significantly supports NDP priorities by improving service delivery, governance quality, and developmental impact, stronger institutional capacity, sustainable investment, and inclusive digital strategies remain necessary to maximise long-term developmental outcomes in Gauteng and South Africa more broadly.

**Keywords:** *ICT, e-governance, e-government, National Development Plan, digital transformation*

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## **Chapter 1: Introduction and Background**

### **1.1 Introduction**

E-governance refers to the use of Information and Communication Technologies (ICT) to deliver government services, improve administrative efficiency, and strengthen citizen participation in public affairs (Alzoubi and Mishra, 2025). Globally, governments increasingly adopt e-governance to modernise public service delivery and enhance transparency, accessibility, and responsiveness in line with evolving digital technologies (Department of Communications and Digital Technologies, 2024). In South Africa, digital transformation is central to achieving the long-term development vision outlined in the National Development Plan (NDP) 2030, which emphasises the importance of modernising public institutions, expanding access to information, and building a capable developmental state (National Planning Commission, 2012). The Gauteng Department of e-Government plays a central role in advancing this national vision at provincial level by modernising the public service, expanding digital infrastructure, and driving integrated online service delivery with the Gauteng City Region (Gauteng Department of e-Government, 2020). This study, titled “The Role of e-Governance in Development: A case study of the Gauteng Department of e-Government ’s contribution to the realisation of the goals of the National Development Plan”, examines how digital technologies are reshaping governance and service delivery in South Africa.

This chapter introduces the study by outlining the global, continental, and national evolution of e-governance, with specific attention to South Africa’s policy direction. It presents the background to the study, including the role of ICTs in transforming public administration and service delivery. The chapter then discusses the relevance of NDP to digital transformation, introduces Gauteng Department of e-Government as the case study, and presents the problem statement, research aim, objectives, questions, methodology, and structure of the dissertation.

### **1.2 Background to the study**

Globally, e-governance has become a defining feature of modern public administration, driven by rapid advances of Information and Communication Technologies (ICTs). Since 2001, the

United Nations (UN) has used its biennial e-government Survey to benchmark digital government progress across all 193 member states, emphasising digitalization as a means to strengthen transparency, efficiency, accountability, and citizen participation (Department of Communications and Digital Technologies, 2024). Many developed countries such as the United Kingdom, New Zealand, Japan, Denmark, Estonia, and Netherlands have achieved sophisticated levels of e-governance, offering a wide range of online services including tax payments, licensing, digital identity systems, e-residency, and even online voting (Smart City Expo World Congress, 2025).

The global shift towards digital governance has been driven by the limitations of traditional service delivery models. Manual, paper-based processes often lead to bottlenecks, delays, duplication, corruption risks, and low efficiency (Emukah, 2025). ICT innovations enable real time access, automation, digital record-keeping, and 24/7 availability of government information and services (Emukah, 2025). With the rise of mobile technologies and social media, citizens now engage governments through diverse digital channels, deepening democratic participation and enabling governments to be more responsive to public needs (Emukah, 2025). Overall, global evidence shows that e-governance not only improves the quality of speed of public services but also reduces opportunities for corruption, enhances transparency, and encourages more inclusive decision-making (Emukah, 2025).

The development of e-governance in Africa has been uneven, reflecting vast differences in digital infrastructure, human capital, institutional capacity, and economic development (Alzoubi and Mishra, 2025). While countries such as Mauritius, South Africa, Tunisia, Ghana, and Gabon score relatively high on the e-Government Development Index (EGDI), many others, including South Sudan, Niger, and the Central African Republic continue to lag behind (Alzoubi and Mishra, 2025). Key challenges affecting the continent include limited ICT infrastructure, low digital literacy, cybersecurity risks, weak interoperability across government systems, and inadequate data privacy frameworks (Alzoubi and Mishra, 2025 p. 172).

Despite these barriers, African governments increasingly recognise the value of e-governance in reducing corruption, modernising administrative systems, and enhancing public participation (Emukah, 2025). Empirical studies show that countries such as Uganda, Tanzania, and Kenya have improved service delivery efficiency and reduced opportunities for corruption

by digitising administrative procedures (Emukah, 2025). However, many African government websites remain difficult to use or inaccessible (Muridzi and Dhliwayo, 2025). For instance, a study of 63 Ugandan municipal websites found that none met the minimum accessibility standards, highlighting usability as a persistent barrier (Muridzi and Dhliwayo, 2025 p. 3). African scholars argue that successful e-governance requires context specific strategies rather than imported models designed for developed countries (Emukah, 2025 p. 12).

South Africa is considered one of the leading African countries in digital government development (Department of Communications and Technologies, 2024). South Africa achieved a major milestone by improving from 65<sup>th</sup> position in 2022 to 40<sup>th</sup> in the 2024 UN e-Government Development Index, entering the “very high EGDI” category for the first time (Department of Communications and Technologies, 2024). This progress reflects advancements in the Online Services Index (OSI), Telecommunications Infrastructure Index (TII), and Human Capital Index (HCI), supported by the National e-Government Strategy and Roadmap (Muridzi and Dhliwayo, 2025 p. 6).

The Department of Communications and Technologies (DCDT), supported by the State Information Technology Agency (SITA), developed the National e-Government Portal, which currently hosts 134 online services including licensing applications, exam queries, agro-processing services, and e-recruitment (Department of Communications and Technologies, 2024). This platform aims to create a seamless, 24/7 digital interface between citizens and government, reduce paperwork, eliminate queues, and provide a single view of citizen information (Department of Communications and Technologies, 2024).

At the municipal level, metropolitan areas such as Johannesburg, Ekurhuleni, and Tshwane have adopted various ICT tools to support service delivery, including online billing, e-payment systems, and integrated customer service portals (Muridzi and Dhliwayo, 2025). These initiatives align with national efforts to strengthen local digital governance, although challenges persist (Muridzi and Dhliwayo, 2025). Studies highlight usability problems, digital literacy gaps, and low uptake on online services in some communities (Muridzi and Dhliwayo, 2025). Service delivery protests, often fuelled by frustrations with slow or inefficient municipal services underscore the urgency of improving digital platforms to enhance responsiveness and accountability (Muridzi and Dhliwayo, 2025 p. 3).

ICTs have profoundly transformed public administration by enabling governments to shift from paper-based bureaucratic processes to digitised interconnected systems (Emukah, 2025). According to Emukah (2025 p. 6), ICTs allow government departments to integrate information, improve accuracy, reduce duplication, and enhance operational efficiency across service delivery domains. Digitisation has eliminated several traditional bottlenecks such as long queues, slow manual processing, difficulties in retrieving records, and increased vulnerability to corruption (Emukah, 2025 p. 2).

Through ICTs, governments now offer transactional services such as passport renewals, tax submissions, and visa applications online without requiring in-person visits (Alzoubi and Mishra, 2025 p. 174). Digital platforms also support better coordination across departments, enabling the integration of citizen data and facilitating cross agency collaboration (Alzoubi and Mishra, 2025). Additionally, ICTs enhance democratic governance by promoting e-participation tools, online consultations, and mechanisms for public feedback (Alzoubi and Mishra, 2025 p. 188).

In developing countries, ICT driven digital governance has been especially important for addressing corruption, improving transparency, and streamlining public service delivery (Emukah, 2025 p. 7). Mobile and web applications now provide citizens with real time updates, simplified access to information, and more opportunities to hold government accountable (Emukah, 2025). Overall, ICTs have redefined government-citizen interactions, turning public administration into a more efficient, transparent, responsive, and accessible system suited to the demands of the digital age.

The National Development Plan (NDP) 2030 is South Africa's long-term strategy aimed at eliminating poverty and reducing inequality by building a capable, developmental state supported by active citizenry, inclusive economic growth, and improved public sector performance (National Planning Commission, 2012). Central of the NDP's vision is the transformative of the state and the economy to enable broader opportunity, enhanced service delivery, and improved efficiency (National Planning Commission, 2012). The National Development Plan recognises that South Africa's developmental weaknesses, including uneven public services, poor coordination, skills deficits, and infrastructural backlogs cannot be addressed without modernising state capabilities and building institutions that can respond effectively and innovatively to society's needs (National Planning Commission, 2012). The

NDP therefore situates development within a broader global context of technological change, emphasising that economic competitiveness, social inclusion, and institutional capability increasingly depend on the strategic use of information, knowledge, and innovation (National Planning Commission, 2012).

Digital transformation is explicitly recognised in the NDP as a key enabler of inclusive development (National Planning Commission, 2012). The NDP highlights that advances in science, technology, and ICTs are “revolutionising the way goods and services are produced and traded”, and that South Africa must leverage these technologies to strengthen state performance, improve access to information, and avoid deepening the digital divide (National Planning Commission, 2012 p. 33). Expanding affordable, high-speed broadband, improving ICT infrastructure, and ensuring universal digital access are listed as essential milestones for achieving the 2030 vision of a capable and developmental state (National Planning Commission, 2012). Digital transformation also directly supports the NDP’s goals in education, health, economic participation, and public sector efficiency by enabling e-learning, telemedicine, online service platforms, improved data systems, and more transparent government.

The Gauteng Department of e-Government was formally established on 11 August 2015 as a unique provincial department mandated to modernise government operations and create a connected, technology-enabled public service across the Gauteng City Region (GCR) (Gauteng Department of e-Government, 2020 p. 7). Its origins lie in the province’s commitment to transforming the public sector, guided by Section 125 of the Constitution and the provincial Transformation, Modernisation and Re-Industrialisation (TMR) Programme, particularly Pillar 5: Modernisation of the Public Service (Gauteng Department of e-Government, 2020 p. 7). From inception, the Gauteng Department of e-Government was tasked with creating simpler and more convenient digital government processes, improving access to public services, and enhancing transparency, accountability, and citizen participation (Gauteng Department of e-Government, 2020). Its mandate extends across critical areas such as ICT infrastructure modernisation, broadband expansion, digital platform development, cybersecurity, data governance, and ensuring that Gauteng becomes a hub for Fourth Industrial Revolution (4IR) skills (Gauteng Department of e-Government, 2020).

The policy importance of the Gauteng Department of e-Government is strongly aligned with the National Development Plan 2030, which calls for a capable, ethical, and developmental state built on efficient public institutions, universal access to information, and technology enabled service delivery (National Planning Commission, 2012). The Gauteng Department of e-Government explicitly frames its mandate as supporting the NDP's vision by digitising public services, improving administrative efficiency, expanding access to ICT infrastructure, and promoting digital inclusion across all communities (Gauteng Department of e-Government, 2020). Its programmes such as e-services, interoperable digital platforms, ICT governance frameworks, skills development initiatives, and broadband connectivity directly contribute to NDP goals relating to state capacity, economic competitiveness, youth empowerment, and modernised service delivery systems (Gauteng Department of e-Government, 2020).

### **1.3 Problem Statement**

Despite the significant global progress in digital governance, South Africa continues to face a persistent gap between the potential of e-governance and its actual implementation effectiveness. Nationally, South Africa has demonstrated improvement in the United Nations e-Government Development Index, moving from rank 65 in 2022 to 40 in 2024, indicating strong commitment to digital transformation. However, service delivery challenges, infrastructural inequalities, limited digital literacy, fragmented ICT systems, and inconsistent uptake of online platforms still undermine the full realisation of e-governance benefits. These constraints limit the ability of ICT enabled systems to achieve the levels of efficiency, transparency, integration, and citizen participation envisioned in both national policy frameworks and global e-governance norms.

At provincial level, the Gauteng Department of e-Government plays a pivotal role in advancing digital transformation through broadband expansion, digital platform development, ICT governance, and the digitisation of public services. Although the Department's strategic documents emphasise alignment with the National Development Plan, particularly its goals of a capable state, improved administrative efficiency, and inclusive development, there remains limited empirical evaluation of how these provincial initiatives contribute to the NDP's developmental outcomes. Existing literature on e-governance in South Africa often focuses on national systems or sector specific digital programmes, leaving gap in understanding the

effectiveness of provincial e-governance interventions in supporting national development goals.

This study seeks to critically examine the extent to which the Gauteng Department e-Government's initiatives advance NDP priorities, address persistent governance challenges, and enhance citizen centred service delivery within the Gauteng City Region.

#### **1.4 Research Aim and Objectives**

##### **Aim:**

To examine the role and effectiveness of e-governance in contributing to the National Development Plan through the case of the Gauteng Department of e-Government.

##### **Objectives:**

- To examine the concept of e-governance and its contribution to the NDP.
- To assess the level of adoption and implementation of e-governance in the Gauteng Department of e-Government.
- To identify challenges in implementing e-governance in Gauteng.
- To contribute to knowledge on how e-governance supports development in South Africa.

#### **1.5 Research Questions**

- How has the Gauteng Department of e-Government's adoption of e-governance strategies contributed to the NDP goals?
- How are e-governance strategies implemented in the department?
- What challenges affect implementation?
- How does e-governance contribute to developmental outcomes in South Africa?

## **1.6 Research Methodology**

### **1.6.1 Research Design**

According to the University of Southern California (n.d.), the research design refers to the chosen strategy and analytical approach that aims to coherently and logically integrate various components of the study to ensure comprehensive investigation of the research problem. This study used a qualitative case study design. Qualitative case study methodology offers researchers valuable tools to examine complex phenomena within their specific contexts (Baxter and Jack, 2010, p. 544). Baxter and Jack (2010, p. 544) note that when the qualitative case study design is used appropriately, it serves as an effective method in research for developing theory, assessing programmes and creating interventions.

### **1.6.2 Research Approach**

The study used a qualitative desktop research approach which uses secondary data only. The qualitative desk research approach involves analysing and synthesising existing data from various sources such as books, journals, articles, websites, reports and other published material (Kiely, 2024). Kiely (2024) explains that by examining this data, researchers can explore the context and deeper meaning behind the information, offering a comprehensive understanding of the subject without the need for new data collection.

Similarly, Gupta (2024, p. 1) describes desk research, also referred to as secondary research, as a method that involves analysing existing data and literature to answer research questions and generate insights. The approach is considered cost-effective and time efficient; however, methodological and theoretical rigour is necessary to ensure credibility and reliability of the findings, (Gupta, 2024 p. 1).

Turon and Kubik (2021, p. 4) outline the desktop research process as consisting of several stages: identifying the research topic, identifying relevant research sources, collecting existing data, combining and comparing data, and analysing data. These stages provide a systematic process for working with existing information and support the organisation and interpretation of secondary data.

In this study, the desktop research process involved identifying the research topic and questions, identifying relevant academic and official sources, collecting existing data,

comparing and synthesising information from different sources, and analysing the data in relation to the research questions. The study therefore relied on existing literature, government policies, legislation, departmental reports and other relevant published materials to examine the implementation of e-governance strategies by the Gauteng Department of e-Government and their contribution to the goals of the National Development Plan.

### **1.6.3 Population of the study**

The population for this study consisted of relevant documents rather than individuals since this is a desktop-based study. The data was drawn from a combination of official government publications, policy frameworks, provincial media statements, academic literature, and reputable technology news reports. Core national documents consulted included the National Development Plan 2030, the National Integrated ICT Policy White Paper (2016), and the National e-Government Strategy and Roadmap (2017), which provided the policy context for e-Governance in South Africa. Provincial level sources comprised the Gauteng Digital Strategy (2020-2025) and multiple 2025 media releases issued by the Gauteng Department of e-Government.

### **1.6.4 Sampling Technique**

This study employed a purposive sampling to select documentary sources that were relevant to the research objectives and research questions. The study used purposive sampling because it relies on secondary data, relevant documents and reports that were intentionally selected based on relevance. Purposive case selection allows researchers to gather the most relevant data (Khoiriya, 2016 p. 6). The documents were deliberately selected based on their relevance to e-governance, e-government, ICT-enabled development, policy implementation, the National Development Plan (NDP), and the Gauteng Department of e-Government. The selection process involved identifying potentially relevant documents, assessing their relevance and credibility, and retaining those that provided information directly related to the study.

The inclusion criteria required documents to: (i) address e-governance, e-government, ICT, digital transformation, policy implementation or development; (ii) relate to the South African or Gauteng context where applicable; (iii) provide information relevant to the research questions and objectives; and (iv) originate from credible sources such as government institutions, academic publications, recognised organisations, and reputable media outlets. The

exclusion criteria included documents that were unrelated to the research topic, duplicated information already obtained from other sources, lacked sufficient information for analysis, or originated from sources whose credibility could not be established. This process ensured that the documents selected provided relevant and credible evidence for the study.

### **1.6.5 Sample Size**

The main aim of providing a justification for the sample size is to demonstrate the significance of the collected data in relation to the researcher's inferential objectives (Lakens, 2022). The study employed purposive sampling, and sampling continued until saturation was reached to ensure that the research questions were adequately addressed.

### **1.6.6 Data Analysis**

The study used thematic analysis. According to (Braun and Clarke, 2012 p. 57), thematic analysis is a way of looking for patterns of meaning in a set of data and it helps researchers understand shared meanings and experiences rather than individual ones. Braun and Clark (2006) use a six-phase coding framework to identify themes and patterns in the data. The six phases used by Braun and Clarke (2006) are: familiarisation of data, generation of codes, combining codes into themes, reviewing themes, determining significance of themes and reporting of findings.

The analysis began with familiarisation with the data, which involved reading the selected documents repeatedly to understand their content and identify information relevant to the research questions. Relevant selection of the documents were then identified and assigned initial codes. the codes represented recurring concepts or issues within the data, such as digital service delivery, citizen participation, ICT infrastructure, institutional capacity, policy implementation, digital inclusion, and alignment with the NDP.

The initial codes were subsequently compared and grouped according to similarities and relationships between them. Related codes were combined to develop broader categories and themes. The themes were then reviewed against the original documents to ensure that they accurately reflected the evidence. This coding process enabled the researcher to systematically

organise information from different documentary sources and identify patterns relevant to the study.

### **1.6.7 Justification and Limitations of Documentary Sources**

Documentary sources were appropriate for this study because the research examines existing policies, strategies, programmes and reported activities relating to e-governance and the Gauteng Department of e-Government. Government documents provided important information on official policies, institutional mandates, strategic priorities and reported programmes, while academic literature provided conceptual and theoretical perspectives. Media reports were used as supplementary sources to identify reported developments, announcements and activities relating to e-governance.

However, documentary sources have limitations. Government documents may present policies and programmes from an institutional perspective and may emphasise intended objectives or achievements, while giving less attention to implementation challenges or failures. Media reports may also provide selective coverage and can be influenced by editorial priorities, the timing of reporting, and the information made available to journalists. Therefore, media reports were not relied upon as the sole basis for conclusions. Where possible, information was compared across government documents, academic literature and media reports to strengthen the credibility of the analysis.

## **1.7 Structure of the Dissertation**

This dissertation is organised into six chapters. Chapter one provides the introduction and background to the study, outlines the research problem, aim, objectives, research questions, and significance of investigating the role of e-governance in development within the Gauteng context. Chapter two presents the literature review, examining theoretical and empirical studies on e-governance, ICT for development, the digital divide, and public sector modernisation in Africa and South Africa. Chapter three outlines the conceptual and analytical frameworks that guide the study, including the EGOV4SD framework and the 7C/5C Protocol for analysing policy implementation. Chapter four explains the research methodology, detailing the qualitative desktop research design, data sources, thematic analysis procedure, and ethical considerations. Chapter five presents the findings of the study, organised according to the themes derived from the data: alignment with the NDP, implementation mechanisms, socio-

economic impacts, and key challenges. Chapter six provides the conclusion, summarising the study, discussing key findings in relation to the research questions, outlining the study's contributions, identifying limitations and areas for future research, and offering recommendations for strengthening e-governance in Gauteng.

## **1.8 Conclusion**

This chapter introduced the study by outlining the global, African, and South African context of e-governance, highlighting how ICTs have reshaped public administration and how digital transformation supports the goals of the National Development Plan. It also presented the Gauteng Department of e-Government as the case study, clarified the research problems, and outlined the research aim, objectives, and methodology guiding the dissertation. The next chapter is the literature review chapter.

## **Chapter 2: Literature Review**

### **2.1 Introduction**

This literature review examines how Information and Communication Technologies (ICTs) enhance governance, service delivery and citizen participation. The chapter discusses ICTs and governance, e-governance in Africa, the digital divide, e-governance in South Africa and the Department of Home Affairs and ICT adoption. The purpose of this literature review is to critically analyse scholarly and policy-based perspectives on the role of ICTs in governance and development. It aims to establish an understanding of how digital transformation contributes to improved service delivery and citizen engagement. In doing so, it identifies key debates, emerging trends, and implementation challenges related to e-governance in developing contexts, with a particular focus on African countries and South Africa. The review further highlights the importance of digital inclusion and capacity building in ensuring that ICT driven governance supports equitable access to public services and strengthens participatory democracy.

While the literature demonstrates broad agreement that ICTs have the potential to improve governance, service delivery, transparency and citizen participation, scholars differ in their emphasis on the factors that determine successful implementation. Some authors primarily attribute successful e-governance to technological innovation and digital infrastructure, whereas others argue that institutional capacity, political leadership, interoperability and organisational change are equally important for achieving meaningful governance outcomes. These differing perspectives suggest that digital transformation cannot be understood solely as a technological process, but rather as a governance reform that requires coordinated policy implementation, effective institutions and sustained investment in human and technological resources.

Although considerable research has examined e-governance in South Africa and across the African continent, relatively limited attention has been devoted to assessing the specific contribution of provincial e-government departments to the realisation of national development objectives. Existing studies tend to focus on national policies, municipal initiatives or general digital transformation, with limited analysis of how Gauteng Department of e-Government contributes to achieving the National Development Plan (NDP) 2030. This study seeks to address this gap by examining the Department's digital initiatives, governance practises and

developmental contribution within the broader context of e-governance and public sector transformation. In doing so, the study contributes to the growing body of scholarship on ICT-enabled governance by providing an in-depth provincial perspective on the relationship between digital governance and national development.

## **2.2 ICT and Governance**

The use of Information and Communication Technology (ICT) in governance has its roots in the early history computing, with studies on “IT in government” appearing as early as 1970s (Gronlund and Horan, 2004 p. 714). The modern idea of electronic government or e-government developed in the late 1990s alongside the rapid expansion of the internet, as governments began adopting ICT to reform service delivery and citizen engagement (Gronlund and Horan, 2004 p. 713). The concept emerged during the internet boom, when public institutions sought innovative ways to respond to new digital challenges (Gronlund and Horan, 2004 p. 715). Initially, the field was dominated by practitioners, but by the early 2000s it evolved into a multidisciplinary research area that bridged public administration, political science, and information systems (Gronlund and Horan, 2004). International organisations, including the United Nations, OECD, and the European Union, defined e-government as the strategic use of ICT, particularly the internet, to promote efficient, transparent, and democratic governance (Gronlund and Horan, 2004 p. 719).

Mncwango and Mncwango (2024, p. 77) define e-governance as the application of ICT to governance processes and decision-making in ways that enable citizens and communities to access information about government’s activities and participate in policy making at a relatively low cost. This conceptualisation situates ICTs as mechanisms that enhance participatory democracy and citizen empowerment rather than as mere technical infrastructure.

Homburg (2008, p. 5) explains that ICTs enable governments to reorganise their internal structures, focus more directly on the needs of citizens, and increase their overall performance. The introduction of digital systems in public administration supports the ideals of New Public Management, which promotes accountability, efficiency, and citizen orientation (Homburg, 2008). According to Gianluca, Giuseppe and Gianluigi (2011), ICTs play a crucial role in transforming governance processes through e-governance by supporting integration, transparency, and performance measurement. Their framework, developed under the

EXPGOV project, identifies three public value drivers, namely, performance, openness, and inclusion as central indicators for assessing ICT enabled governance (Gianluca, Giuseppe and Gianluigi, 2011 p. 157). Performance refers to improving administrative effectiveness; openness concerns transparency and accessibility of government and data; and inclusion focuses on ensuring equitable governance across the digital public services (Gianluca, Giuseppe and Gianluigi, 2011 p. 156).

Gianluca, Giuseppe and Gianluigi (2011) highlights interoperability as a cornerstone of effective ICT implementation in governance. Gianluca, Giuseppe and Gianluigi (2011) describe technological, semantic, and organisation interoperability as interdependent and progressive layers that determine how effectively digital systems communicate and align across government departments. Gianluca, Giuseppe and Gianluigi (2011) further argue that interoperability has no inherent value unless it fosters collaboration among institutions and produces tangible benefits in terms of public values. Abrahams and Burke (2022) reinforces this by stating that digital transformation depends on strong leadership, collaboration, and coherent interoperability frameworks to avoid fragmentation and duplication.

Maramura and Thakathi (2016, p. 252-253) note that the use of ICT converts what in a traditional office are paper processes into electronic processes, improving accuracy, speed, and data security. Maramura and Thakathi (2016) further show that ICT enhances a state's ability to measure progress towards national and global developments priorities. In practical administration, ICTs have allowed governments to replace manual procedures with electronic workflows.

Despite these advantages, the literature identifies enduring constraints in both institutional capacity and infrastructure. Mncwango and Mncwango (2024) observe that African governments continue to experience shortages of skilled ICT personnel and inadequate technological infrastructure, factors that limit the scalability and sustainability of digital reform. Mukonavanhu (2024, p. 3) highlights similar problems in South Africa, including limited visionary leadership, fragmented coordination and incompatible systems across departments. Gianluca, Giuseppe and Gianluigi (2011) caution that technological advancement alone cannot ensure improved governance outcomes; it must be accompanied by organisational change, capacity development, and long-term political commitment.

Homburg (2008, p. 8) argues that technology's impact is shaped by institutional norms and practices; when bureaucratic systems remain hierarchical and siloed, digital tools often replicate rather than transform inefficiency. Mncwango and Mncwango (2024) stress that ICT-driven good governance requires committed political leadership, adequate resourcing, and a clear focus on citizen needs. In their view, leadership must ensure that digital reforms serve developmental goals rather than purely technical ambitions.

From a public-sector performance perspective, Malomane (2021, p. 70) suggests that ICT acts as an enhancer of government efficiency, effectiveness, and democratic responsiveness. The technology introduces new ways of communication, decision-making, and service interaction, consistent with global trends towards open and participatory government, Malomane (2021). Abrahams and Burke (2022) add that open-data and co-creation platforms can deepen citizen engagement if institutional capacity and political will are sustained.

Gianluca, Giuseppe and Gianluigi (2011) conclude that assessment of ICT enabled governance should extend beyond technological deployment to include social impact and citizen empowerment. Mncwango and Mncwango (2024) caution that digital transformation must be guided by governance principles that priorities public value, responsiveness, and institutional integrity.

### **2.3 E-Governance in Africa**

Mncwango and Mncwango (2024) note that African states increasingly recognise ICT as an essential enabler of developmental governance and a mechanism for enhancing citizen participation. Early analyses such as Onyacha (2007) observes that African countries have historically lagged behind developed nations in the adoption of e-governance, largely due to limited resources, unreliable connectivity and weak institutional capacity. Yet Onyacha (2007) also points that ICTs present an unparalleled opportunity for African governments to bridge administrative inefficiencies and expand across to public services. Rarhoui (2024) confirms this dual reality, explaining that while several African states have made important strides, the continent still struggles with inconsistent digital policies, lack of infrastructure and inadequate investment in human capital.

Ncamphalala and Vyas-Doorgapersad (2019, p. 208) highlight that African municipalities face rising populations, higher service delivery expectations and increasingly vocal citizen demands. ICT adoption has therefore become a necessary strategy for improving responsiveness and creating what Ncamphalala and Vyas-Doorgapersad (2019, p. 207) call new channels of communication that strengthen collaboration between citizens and urban government. These channels include interactive websites, mobile applications, social-media reporting tools, and digital portals that permit faster feedback loops and greater transparency in municipal management (Ncamphalala and Vyas-Doorgapersad, 2019 p. 208). Such platforms echo the participatory governance ideals promoted by Mncwango and Mncwango (2024), who argue that digitalisation should move beyond service automation to enable genuine citizen involvement in decision- making.

Initiatives in Kenya, Ghana, Rwanda, and South Africa have demonstrated tangible gains in tax collection, information sharing, and administrative coordination (Rarhoui, 2024). Onyacha (2007) warns out that awareness levels and digital literacy remain low across large segments of African societies, resulting in underutilisation of available-government services. Similarly, Mukonavanhu (2024) attributes the uneven uptake of e-governance in Southern Africa to high levels of inequality, rural connectivity challenges and recurrent electricity outages that affect ICT infrastructure.

Nokele and Mukonza (2021) argue that political will and administrative readiness are the most important variables explaining why some African countries progress faster than the others. Abrahams and Burke (2022) reinforces this argument, emphasising that digital transformation requires consistent infrastructure investment, cross departmental coordination and public sector digital skills development.

The City of Johannesburg has rolled out broadband connectivity, wireless hotspots, and smart transport systems to enhance efficiency and digital inclusion; eThekwin Smart Community mobile application enables residents to report faults, access services, and receive alerts; City of Cape Town focuses on e-government initiatives such as public wi-fi, city wide surveillances, an Open Data Portal, and e-Smart Grid to improve access and transparency; City of Tshwane has established an e-government Innovation Hub and an e-Health project to digitalise health records; while City of Ekurhuleni has deployed cloud data centres, wireless networks, and smart systems for transport, buildings, and education to enhance governance and operational

efficiency (Ncamphalala and Vyas-Doorgapersad, 2019 p. 211 and 212). These projects demonstrate how technology can facilitate open data, participatory monitoring and service request systems that improve responsiveness (Ncamphalala and Vyas-Doorgapersad, 2019). Mncwango and Mncwango (2024) observe that even where such systems are operational, inadequate broadband coverage and poor interoperability frequently constrain their impact.

Rarhoui (2024) and Nokele and Mukonza (2021) caution that African e-governance remains fragmented and overly reliant on external donors for technology transfer and funding. As a result, many projects stall without support, underscoring the need for locally owned strategies and sustainable budgets (Rarhoui, 2024 p. 447). Maramura and Thakathi (2016, p. 253) document the Gauteng Shared Services Centre as a high-profile example, the centre “created high expectations, but it is collapsing and the most viable of its core functions have been incorporated into the Gauteng Finance Department”, illustrating the risk that ambitious programme will falter without sustained coordination and political commitment.

Despite these challenges, Malomane (2021) and Mukonavanhu (2024) remain cautiously optimistic. Malomane (2021) and Mukonavanhu (2024) point out that ICT adoption, even when partial, can reduce opportunities for corruption, improve transparency and increase trust in government institutions. Digital systems that automate transactions or publish service delivery data empower citizens to monitor performance and demand accountability (Malomane, 2021). These experiences align with Homburg’s (2008) argument that technology must be accompanied by organisational reform and participator’s culture to generate real governance benefits.

## **2.4 E-Governance in South Africa**

According to Mncwango and Mncwango (2024), South Africa views the integration of ICTs into governance as central to enhancing transparency, improving coordination across departments and expanding citizen access to services. The Batho Pele framework, the Integrated National ICT Policy, and the National Development Plan (NDP 2030) all promote the use of technology to modernise public administration and expand inclusion. Abrahams and Burke (2022) explains that this orientation reflects the state’s aspiration to build an open, collaborative, and data-driven public sector where digital systems enable accountability and citizen engagement.

Mncwango and Mncwango (2024) note that digital systems for revenue collection, civil-service management, visa processing and procurement have significantly reduced bureaucratic delays and improved record keeping. Malomane (2021) finds that such systems have decreased queue times and transaction costs while providing real time data verification, strengthening administrative efficiency. Comparative studies from Rarhoui (2024) and Nokele and Mukonza (2021) confirm that these initiatives contribute to South Africa's consistently high performance on the United Nations E-Government Development Index (EGDI), which ranks the country amongst Africa's top performers alongside Mauritius, Seychelles and Rwanda.

E-governance has also advanced at local government level, where municipalities have adopted smart-city and open-data approaches to improve service delivery (Ncamphalala and Vyas-Doorgapersad, 2019). Ncamphalala and Vyas-Doorgapersad (2019) highlight the City of Cape Town's Open Data Portal, the City of Ekurhuleni's Smart City Strategy, and Tshwane's e-Health initiative as practical examples of how ICTs are being used to modernise urban management. These systems enable communication between citizens and municipal authorities, facilitate fault reporting, and improve transparency through online access to datasets (Ncamphalala and Vyas-Doorgapersad, 2019). As Malomane (2021) observes, such innovations have redefined the relationship between citizens and local governments, encouraging collaboration and real time interaction. Yet, as Ncamphalala and Vyas-Doorgapersad (2019) warn, smaller municipalities remain disadvantaged by limited budgets, a shortage of skilled ICT staff and unreliable connectivity, while Mncwango and Mncwango (2024) note that rural communities are especially excluded due to weak broadband coverage. Abrahams and Burke (2022) reports that fragmented infrastructure investment and the absence of interoperability frameworks hinder data exchange and system integration. Mukonavanhu (2024) stresses that loadshedding and unreliable power supply disrupts online platforms and damage citizen confidence in e-services, while rural and peri-urban areas continue to face poor broadband penetration and scarce public internet access points (Ncamphalala and Vyas-Doorgapersad, 2019). Mncwango and Mncwango (2024) emphasise that without expanding affordable broadband into underserved regions, digital government will deepen inequality instead alleviating it. The cost barrier compounds this divide: Rarhoui (2024) finds that high mobile-data prices and dependency on imported technology slow adaption, while Abrahams and Burke (2022) call for stronger public-private partnerships to expand national connectivity.

Nokele and Mukoma (2021) document the shortage of ICT specialists in the public sector, high staff turnover, and limited training budgets, all of which result in fragmented systems and dependence on external consultants. Mncwango and Mncwango (2024) identify the shortage of skills as one of the biggest obstacles to sustaining e-government implementation, while Malomane (2021) adds that managerial and policy-level digital literacy leads to poor oversight of contractors and unrealistic performance expectations. The literature thus recommends that governance develop a long-term digital skill framework, integrating ICT competencies into public administration curricula and expanding professional training for civil servants (Abrahams and Burke, 2022).

Malomane (2021) reports many digital systems are launched without proper user testing, producing platforms function technically but remain inaccessible to people with limited digital literacy. Mukonavanhu (2024) confirms that affordability, limited language options and inadequate offline support mechanisms exclude large sections of the population. Malomane (2021) therefore advocates multi-channel service delivery that combines online systems with assisted kiosks, call centres and physical service points to promote inclusivity. Where governments have invested in training and community access programmes, uptake has improved significantly and satisfaction levels have risen (Malomane, 2021). Abrahams and Burke (2022) similarly attributes higher engagement rates to participatory design and open-data initiatives that allow citizens and civil society groups to contribute to service innovation.

The Gauteng Provincial Government's Nasi iSpani is a programme announced by Premier Panyaza Lesufi which aims to provide 45 218 training and job placement opportunities for unemployed youth across the province (Jiyane, 2025). Training is decentralised through schools and technical centres, including Bedfordview High and Curtis Nkondo School of Specialisation, ensuring access for township and peri-urban youth (Jiyane, 2025). Participants receive stipends ranging from R1 200 to R6 000 depending on qualification levels, a structure designed to provide financial stability during training (Jiyane, 2025). The initiative aligns with the NDP's vision of building a capable and developmental state by addressing youth unemployment through digital registration, transparent data-driven monitoring, and decentralised governance (National Planning Commission, 2012).

According to Jiyane (2025), past iterations of the programme were criticised for stipend delays, limited absorptions, and short-term contracts, raising doubts about long-term employment

prospects. Analysts caution that without private sector participation and alignment with occupations in high demand such as electrical engineering, energy, and ICT, training alone cannot guarantee job creation (Jiyane, 2025).

## **2.5 The Gauteng Department of e-Government**

A central feature of the Gauteng Department of e-Government's digital transformation efforts is the extensive rollout of the Gauteng Broadband Network (GBN), which serves as the backbone of the provincial ICT structure (Gauteng Department of e-Government, 2020). The GBN provides high-speed connectivity to critical public institutions such as schools, hospitals, clinics, libraries, and government buildings, enabling more efficient delivery of public services (Gauteng Department of e-Government, 2020). According to the Gauteng Department of e-Government's Strategic Plan, more than 1 180 sites have been connected, with the network consistently achieving a 99.97% availability rate, reflecting substantial progress in digital infrastructure expansion (Gauteng Department of e-Government, 2020p. 17 and 18). The Department has further advanced system integration by migrating into a Fully Managed Data Centre, which centralises data storage, enhances cybersecurity, and reduces ICT operational costs across the Gauteng City Region (Gauteng Department of e-Government, 2020, p. 18).

The Gauteng Department of e-Government's strategic approach is anchored in five core pillars: modernised ICT infrastructure, digital platforms and e-services, provincial ICT oversight and governance, ICT solutions advocacy, and the development of Fourth Industrial Revolution (4IR) skills (Gauteng Department of e-Government, 2020 p. 12). Through these pillars, the Department aims to eliminate duplication of ICT systems, promote interoperability, and create a unified digital platform that allows citizens to access multiple government services through a single interface (Gauteng Department of e-Government, 2020). Evaluation findings within the Strategic Plan point to ongoing challenges, including fragmented ICT systems, inconsistent user experiences, siloed departmental operations, and shortages in specialised ICT skills (Gauteng Department of e-Government, 2020 p. 19). In response, the Gauteng Department of e-Government has prioritised strengthened governance and capacity building initiatives (Gauteng Department of e-Government, 2020).

Additionally, the Gauteng Department of e-Government's mandate extends beyond technical modernisation to socio-economic development through digital skills training, youth

empowerment programmes, township ICT entrepreneurship, and initiatives supporting Gauteng's move toward an inclusive digital economy (Gauteng Department of e-Government, 2020 p. 13). The Department works closely with Higher Education Institutions and private sector partners to facilitate smart, modular, industry influenced, and accessible digital skills programmes that can be undertaken from any location and delivered through blended theoretical, practical, project based, and workplace learning models (Gauteng Department of e-Government, 2020 p. 13).

Recent developments in the Gauteng Department of e-Government reveal a dynamic and evolving digital transformation agenda that both advances and complicates the province's contribution to the NDP 2030. One of the hallmark achievements of 2025 was the launch of the Mzansi Digital Learning platform in March, developed in partnership with Afrika Tikkun, Microsoft South Africa, Vodacom, and Maponya Mall (Gauteng Department of e-Government, 2025a). The platform offers more than thirty certified, data-free digital courses in artificial intelligence, cyber security, and business analysis, supported by an AI-driven learning navigator (Gauteng Department of e-Government, 2025a). According to the media release by the Gauteng Department of e-Government (2025a), this initiative aims to equip citizens with future-ready skills. This aligns with the NDP goals of innovation-driven and inclusive growth (National Planning Commission, 2012).

Complementing this educational initiative, the Department launched its Digital Innovation and Public Safety Drive in October 2025 (Gauteng Department of e-Government, 2025b). Through the Gauteng Provincial Network (GPN), over 1300 sites were connected, and more than 830 CCTV cameras were deployed across metropolitan areas to enhance safety and surveillance (Gauteng Department of e-Government, 2025b). The Gauteng e-Panic Button, with over 165 000 downloads, further exemplifies how digital tools can improve community security (Gauteng Department of e-Government, 2025b). Additionally, the same period saw the establishment of e-Waste Management Programme, designed to create Green jobs and promote sustainability in digital infrastructure (Gauteng Department of e-Government, 2025b).

A notable milestone for inclusive engagement was the Winterveldt Youth Tech Expo, held in partnership with Microsoft, FNB, Harambe, Vuma Cam, Fundi Mobile, and Sanca (Chaane, 2025). The Expo introduced township youth to emerging careers in coding, robotics, and

cybersecurity while offering bursaries and mentorship opportunities (Chaane, 2025). According to Chaane (2025), the initiative addressed youth unemployment through digital inclusion. This reinforces the NDP's call for skills-driven development, National Planning Commission, 2012).

However, not all Gauteng's 2025 development reflected smooth progress. According to Lourie (2025), the Department missed several key ICT modernisation targets outlined in its annual performance plan. Challenges included delays in broadband rollout, failure to meet LAN and WAN expansion goals, and insufficient coordination across departments (Lourie, 2025). These setbacks expose the digital divide that persists even within an advanced province. Lourie (2025) further notes that financial constraints, limited capital capacity, and dependence on external service providers hinder sustainable progress.

Mzekandaba (2024) reported that the Department sought assistance from private-sector partners such as Huawei, In2IT Technologies, the University of Johannesburg, and the Council for Scientific and Industrial Research (CSIR) to strengthen its cyber resilience and data protection capacity. This demonstrates an important shift from isolated government-led implementation to a more networked government model. Despite these challenges, Gauteng's government portfolio continues to attract significant fiscal support. A R1.5 billion allocation for digital service upgrades, announced in mid 2025 aims to expand township connectivity, develop 200 township-based ICT entrepreneurs, and train over 12 000 youth in digital skills (Monzon, 2025).

## **2.6 Digital divide**

The concept of digital divide refers to the inequality in access to and use of digital communication technologies (Peyi, 2025 p.1). It reflects disparities in access to tools such as smartphones, laptops, and the internet (Peyi, 2025 p.1), as well as broader inequalities in how individuals use and benefit from ICT for various purposes (Chisango and Marongwe, 2021 p. 150). According to van Wyk-Khosa, Ndumbu and Kronke (2025), the growth of the digital economy in the Global South carries both promise and risk; while it can reduce socioeconomic inequalities by creating new opportunities for participation, it can also widen existing gaps by excluding citizens who lack access to or understanding of digital technologies.

Data from Afrobarometer reveal that only 18% of Africans personally own a computer, while 15% share access within their households, and fewer than half own smartphone (van Wyk-Khosa, Ndumbu and Kronke, 2025 p. 1 &2). Although access to technology is increasing, many people remain excluded from meaningful digital participation due to affordability, literacy, and infrastructure barriers (van Wyk-Khosa, Ndumbu and Kronke, 2025). Across Africa, participation in the digital economy continues to be uneven despite improvements in internet and infrastructure.

In South Africa, technological access is relatively higher than in many other African countries, with about three-quarters of the population having internet access and mobile subscriptions exceeding the population size (Mongae, 2024). As Mongae (2025) cautions, digital systems can improve governance but may also marginalise citizens who depend on traditional forms of civic engagement, particularly in rural areas. Furthermore, Enaifoghe (2025) describes digital literacy as the ability to effectively and critically use technology for social and economic development. Despite several national and provincial strategies, significant literacy gaps persist, especially in under-resourced public institutions and rural areas (Enaifoghe, 2025).

The Gauteng Department of e-Government was created to simplify service delivery through ICT, foster economic growth, and enhance citizen participation (Gauteng Department of e-Government, 2020 p. 7). Its strategy aims to transition the province from basic e-government to a model of e-Governance in which all citizens can easily interact with government and access digital public services (Gauteng Department of e-Government, 2020). This includes the rollout of the Gauteng Broadband Network (GBN), integration of digital platforms across departments, and promotion of efficient, accessible online services (Gauteng Department of e-Government, 2020 p. 15).

Despite these strategic goals, persistent inequalities continue to hinder digital access in Gauteng's communities. Research by Chisango and Marongwe (2021) found that schools in Sedibeng West suffer from inadequate ICT resources, leading to stark differences in access to technology between schools in different quantiles. Chisango and Marongwe (2021) noted that online learning during periods of remote education was largely unfeasible because many learners lacked devices, internet access, and digital skills. A similar pattern is evident in Gauteng's public health sector. Khumalo and Moloi (2025) identified that municipal clinics face multiple barriers to digital transformation, including limited infrastructure, low digital

competence, and insufficient funding. These challenges are interconnected, as weak internet infrastructure, low digital literacy, and economic inequality collectively restrict the adoption of digital health systems (Khumalo and Moloi, 2025). Rural clinics are especially disadvantaged, lacking broadband connectivity and resources to support telemedicine and electronic health records (Khumalo and Moloi, 2025).

Although the Gauteng Department of e-Government envisions an inclusive digital economy that promotes employment, education, and skills development (Gauteng Department of e-Government, 2020). Structural inequalities continue to hinder progress. The persistence of ICT access in schools, clinics, and communities underscores that digital inclusion in Gauteng remains uneven, reflecting the broader digital divide experience across South Africa and the African continent.

## **2.7 Department of Home Affairs and ICT Adoption**

The Department of Home Affairs (DHA) has been at the forefront of South Africa's digital transformation, representing one of the country's most visible example of e-governance in action. Historically, the department was criticised for inefficiency, long queues, document loss, and corruption linked to manual administrative systems (South African Government, 2025). The Department has recently reflected a commitment to a far-reaching digital modernisation process aimed at improving efficiency, security, and service delivery (South African Government, 2025). According to Mncwango and Mncwango (2025), the department's reform efforts reflect the broader state ambition to integrate ICTs across governance functions to enhance transparency and citizen trust.

The shift from paper-based processes to electronic systems represents one of the most significant milestones in this transformation. Ncamphalala (2019, p. 23) describe E-administration as a tool that “convert what in a traditional office are paper processes into electronic processes, with the goal to create a paperless office”, this is done to “improve productivity and performance”. The South African government (2022) reports that the DHA's modernisation programme centres on improving digital identity management, automating key administrative processes, and integrating its data systems to enhance efficiency and security in service delivery.

One of the flagship initiatives of the DHA's digitisation programme is the Smart ID and e-passport system, launched to replace traditional green barcoded IDs and manual passports (South African Government, 2022). According to the South African Government (2022), the Smart ID incorporates biometric and biographic data, stored on an embedded chip, thereby reducing the risk of forgery and identity theft. The initiative aligns with the National Development Plan's (NDP) goals of modernising states services and securing citizen identity data (South African Government, 2022). Mncwango and Mncwango (2024) note that these innovations illustrate South Africa's commitment to developing a digital state that integrates technology in service provision and government. The DHA's collaboration with major banks like Absa, FNB, Nedbank, and Standard Bank has enabled citizens to apply for and collect Smart IDs and passports at selected branches, a partnership that Malomane (2021) identifies as an example of public-private cooperation improving accessibility and convenience.

A second major digital initiative within the DHA is its biometric system infrastructure, which includes the Home Affairs National Identification System (HANIS) and the Automated Biometric Identification System (ABIS) (South African Government, 2022). The South African Government (2022) notes that these systems allow for the storage and retrieval of fingerprint and facial-recognition data, enabling real-time verification and reducing fraud. HANIS currently contains more than 38 million fingerprint records, while the ABIS upgrade integrates multimodal biometrics, including facial and iris recognition (South African Government, 2022). These systems are used not only by Home Affairs but also by the South African Police Service (SAPS), the Department of Justice, and financial institutions, ensuring greater interoperability across government entities (South African Government, 2022). As Mncwango and Mncwango (2024) explain, that the adoption of ICT-based systems enhances government efficiency and transparency by improving information flows, reducing corruption, and strengthening accountability across institutions.

The South African Government (2022) outlines that the Branch Appointment Booking System (BABS) allows citizens to schedule appointments for ID and passport applications online, while the e-Visa platform, introduced in 2019, enables foreign nationals to apply for visas electronically. These systems were developed to improve accessibility, reduce corruption, and enhance administrative transparency (South African Government, 2022). Malomane (2021) observes that South African citizens increasingly expect government services to be convenient,

efficient, and accessible through digital platforms, and public institutions are therefore compelled to modernise their systems to meet these expectations.

Abrahams and Burke (2022) identify the DHA as one of South Africa's most digitally mature departments, citing its success in integrating identity management systems and partnering with the private sector to improve service delivery. Mncwango and Mncwango (2024) also highlight the department's role in demonstrating how technology can enhance transparency and performance management. However, there is literature that points to ongoing challenges that limit the full potential of these systems. Mukonavanhu (2024) argues that despite visible progress, inconsistent connectivity, data-management issues, and staff shortages continue to hinder efficiency. Moreover, Malomane (2021) cautions that many citizens remain excluded from digital access due to affordability barriers and low digital literacy, particularly in rural areas, meaning that the benefits of ICT driven reforms remain unevenly distributed.

Despite persistent challenges, the DHA's digital modernisation is acknowledged as a major success in South Africa's e-governance trajectory. Mncwango and Mncwango (2024) argue that the department's initiatives have transformed how citizens interact with the state, enhancing convenience and accountability. Malomane (2021) concurs, noting that ICT-enabled systems at Home Affairs promotes transparency, participation and accountability in the public sector by reducing opportunities for bribery and improving information access. As Home Affairs summarises, the department's vision is to secure the identity of all persons and to serve citizens efficiently and equitably, a goal that captures both the technical and governance dimensions of its digital transformation (South African Government, 2022).

## **2.8 Conclusion**

This chapter reviewed the literature on ICTs, e-governance, digital transformation and the digital divide within African and South African contexts. The review demonstrated that while scholars generally agree that ICTs can improve efficiency, transparency, accountability and citizen participation, they differ regarding the relative importance of technology, institutional capacity, leadership, interoperability and governance arrangements in determining successful implementation. The literature further highlights that digital transformation remains uneven due to persistent challenges such as inadequate infrastructure, limited digital skills, fragmented governance and socio-economic inequalities.

Despite the growing body of literature on e-governance, limited research specifically examines how provincial departments responsible for digital transformation contribute to the achievement of national development priorities. In particular, there is insufficient scholarly attention on the role of the Gauteng Department of e-Government in advancing the objectives of the National Development Plan 2030 through digital governance initiatives. This study addresses that gap by providing a focused analysis of the Department's contribution to developmental governance within Gauteng. The next chapter presents the theoretical and conceptual frameworks that underpin the study and provide the analytical lens through which the findings are interpreted.

## **Chapter 3: Conceptual and Analytical Framework**

### **3.1 Introduction**

This chapter presents the conceptual and analytical framework that will guide the analysis of how e-government supports the National Development Plan (NDP), focusing on the Gauteng Department of e-Government. It begins by defining what public policy is and how it works through different stages in what is called the policy cycle. The chapter then focuses on implementation and looks at how policies are put into action, the top-down and bottom-up perspectives of implementation and discusses the 5C Protocol that helps to understand the factors that affect implementation. It also discusses constraining and enabling factors of successful policy implementation. Lastly, it introduces the Electronic Governance for Sustainable Development (EGOV4SD) framework, which helps examine how digital tools and technology can help governments deliver better services and support sustainable development.

### **3.2 Public Policy**

This section will provide a conceptual framework of public policy in which it will define public policy, discuss the policy cycle, and focus on implementation,

#### **3.2.1 Defining Public Policy**

Public policy refers to the action that government decides to take- or not take (Dye, 2017 p. 1). The government plays many roles which includes managing internal conflicts within society, coordinating efforts for dealing with external threats, providing both symbolic and practical benefits to citizens, and collecting money from public, usually through taxes (Dye, 2017 p. 2). Additionally, public policies can serve to control behaviour, structure government agencies, allocate resources or services, and raise funds- sometimes during all of these at once (Dye, 2017 p. 2).

Jindal Global University (2023) defines public policy as the system of laws, regulations and actions through which governments pursue social and economic goals. They state that it represents the government's intent to address specific public issues and guides decision-making across institutions. Moreover, public policy influences societal outcomes and reflects the values, ideologies and economic conditions on the time (Jindal Global University, 2023).

Covering areas such as healthcare, education, the environment and social welfare, public policy plays a central role in shaping national development (Jindal Global University, 2023).

Public policy can be defined as the intentional and strategic formulation of decisions, actions, and legal frameworks by governmental institutions to address public issues and advance societal goals (University of the People, 2024). It functions as a roadmap for government by directing the allocation of resources, setting regulatory standards, and delivering essential services aimed at resolving critical social, economic, and environmental challenges (University of the People, 2024).

A public policy may be defined as a structured set of intentionally coherent decisions and actions undertaken by a range of public and occasionally private actors, whose resources, institutional affiliations, and interests may differ, all aimed at addressing a politically defined collective problem (Knoeffel, Larrue, Varone, and Hill, 2024). These decisions and actions culminate in formalised interventions, often regulatory or programmatic in nature, which seek to influence the behaviour of specific target groups either identified as contributing to the problem or positioned to help resolve it (Knoeffel, Larrue, Varone, and Hill, 2024). As Mokhaba (2005, p. 76) notes, public policy influence citizens' lives in multiple ways.

Public policy can be understood as occurring in a cycle called a policy cycle.

### **3.2.2 The Policy Cycle**

Mwije (2013, p.2) defines policy cycle as a structured, step-by-step process that outlines how public or societal problems are recognised and systematically addressed. The policy cycle represents the recurring sequence of actions and procedures that guide the development and formation of public policy (Mwije, 2013 p. 2). Policy cycle encompasses several key phases however, this study will employ a policy cycle with four stages including: agenda setting, policy formulation, policy implementation, and policy evaluation.

#### **3.2.2.1 Agenda-Setting**

Frank, Miller and Sidney (2007, p. 45) explain that this stage begins with identifying a social problem that warrants government action. For a problem to reach the policy agenda, it must be defined publicly and recognised as requiring intervention (Frank, Miller and Sidney, 2007 p. 46). During the agenda-setting stage, the problem has attracted sufficient attention to justify

subsequent policy consideration and response (University of Pretoria, n.d. p. 96). Agenda setting involves both formal and informal processes in which issues are prioritised by governmental official and influential actors outside government (Frank, Miller and Sidney, 2007 p. 46). Factors such as media attention, interest group advocacy and expects framing play key roles in this stage (Frank, Miller and Sidney, 2007).

Agenda-setting is the stage of the policy cycle that involves the process by which certain social conditions are identified and redefined as public problems- no longer perceived as outcomes of natural causes or confined to the private domain, but instead becoming subjects of political and media discourse (Savard, n.d p.1). This stage is pivotal, as its dynamics significantly influence the direction and outcome of the entire policy proves (Savard, n.d. p.1).

Agenda setting is not an automatic process; it requires the deliberate generation of public interest in a particular issue, making it a socially constructed activity (Mwijie, 2013 p. 4). In this process, actors and institutions play a critical role in determining which issues are brought forward for governmental consideration (Mwajie, 2013 p. 4). Mwajie (2013, p. 4) notes that given the vast number of societal problems that require attention, yet the limited capacity of government to act on all of them, only a select few issues can be placed on the formal policy agenda. However, even when an issue reaches the formal agenda, this does not guarantee that a decision will follow (Mwajie, 2013). Mwajie (2013) emphasises that only a small subset of issues receives official attention from legislatures and executives, and it is on these prioritised concerns that policy is eventually formulated.

### **3.2.2.2 Policy Formulation and Decision-Making**

During this stage, recognised problems are translated into actionable policy options (Frank, Miller and Sidney, 2007 p. 48). It involves crafting a range of possible responses, defining policy goals, evaluating alternatives, and considering tools such as regulations, incentives or sanctions (Frank, Miller and Sidney, 2007 p. 48). (Frank, Miller and Sidney, 2007) emphasises that policy formulation and decision-making are often treated together because in practise it is hard to separate them. The final outcome is a formal decision to adopt a specific policy direction (Frank, Miller and Sidney, 2007).

At this stage, specific steps are proposed to address the identified problem, including recommendations on suitable policy tools and instruments, as well as the identification of the

most appropriate institutional actors to implement the proposed solution (University of Pretoria, n.d. p. 96),

Savard (n.d. p. 2) defines policy formulation as the stage that involves the development and assessment of potential solutions to the identified problem, considering their advantages to determine which options should be adopted or discarded.

### **3.2.2.3 Policy Implementation**

Once adopted, policies must be executed by public agencies and institutions (Frank, Miller and Sidney, 2007 p. 51). This stage involves translating policy objectives into practical actions and delivering services and enforcing rules. According to Frank, Miller and Sidney (2007), implementation may follow a top-down or bottom-up approach and often include ongoing adjustments based on real world conditions and stakeholder feedback.

Policy implementation, according to Khan (2016), refers to the process of executing laws, decisions, or policies through coordinated actions involving government agencies, private actors, and other stakeholders. It is about putting policies into effect to achieve the intended outcomes (Khan, 2016). Implementation is not a passive or mechanical process- it involves judgement, discretion, and adaption (Khan, 2016). Khan (2016) argues that the success of policy implementation hinges not only on having a well-designed policy but also on the quality of execution, institutional capacity, and responsiveness to context. Additionally, the lack of a strong theoretical base remains a major obstacle, and further theory building is essential to improve both research and practise in the field (Khan, 2016).

### **3.2.2.4 Policy Evaluation**

Evaluation is the stage in the policy cycle where the success or failure of a policy is assessed by examining whether it achieved its intended goals (Frank, Miller and Sidney, 2007 p. 53). Policy evaluation involves the systematic and critical assessment of public interventions to determine their relevance, effectiveness, efficiency, and overall impact, with the aim of guiding future decision-making (Jacob, 2012). It fulfils various purposes that contribute to improved transparency, accountability, and performance in public administration (Jacob, 2012). These purposes can be broadly categorised under the principles of rational decision-making and public accountability (Jacob, 2012).

Policy evaluation, according to (Varone, Bundi, and Gava, 2018), can serve as a strategic tool used throughout the policy cycle to enhance accountability, guide decision-making, and influence future policy directions. Members of Parliament often request evaluation to support legislative processes and assess government performance (Varone, Bundi, and Gava, 2018). These evaluations may include pre-policy analysis to predict regulatory impacts, ongoing monitoring of implementation progress, or post implementation evaluations measuring actual policy outcomes (Varone, Bundi, and Gava, 2018). Politically, the findings of these evaluations can shape the policy agenda by justifying the continuation, revision, or termination of existing policies (Varone, Bundi, and Gava, 2018). Evaluation does not only inform governance but also functions as a tool for political negotiation and agenda control (Varone, Bundi, and Gava, 2018). The next section will focus on the stage most relevant to the study – policy implementation.

### **3.3 Policy Implementation**

This section will provide a more detailed discussion of implementation by defining the concept and examining both the top-down and bottom-up approaches.

#### **3.3.1 Conceptualising Implementation**

Implementation refers to the process of putting a policy decision into action, typically following its approval (Sabatier and Mazmanian, 1980 p. 540). Ideally, the policy decision outlines the issue to be addressed, sets clear goals, and provides a framework for how implementation should proceed (Sabatier and Mazmanian, 1980 p. 540). Pulzl and Treib (2017, p. 51) broadly define policy implementation as the process that takes place between the government's decision or intention to take a specific action and the actual effects or outcomes of that decision in real world practise. Some scholars, such as O. Toole (2000, p. 266), view this stage as including both the coordination of the policy actors and their actions, as well as the link between those actions and the outcomes achieved.

The recognition of policy implementation stage as a missing link in policymaking marked a conceptual breakthrough in policy research during the 1970s (Pulzl and Treib, 2017 p. 52).

Mthethwa (2012, p. 37) highlights three key reasons why implementation is vital. Firstly, policy implementation supports accountability by ensuring that both policymakers and

implementers are responsible at meeting policy objectives and maintaining their commitment. Secondly, it improves effectiveness by identifying and overcoming obstacles that hinder successful implementation, thereby enhancing service delivery. Thirdly, it promotes fairness and quality by setting baseline standards, improving access, minimising variations across service providers and regions, ultimately raising the overall quality of services.

Mthethwa (2012 p. 37) also describes Policy implementation as involving the tools, resources and connections that translate policies into practical actions. Implementation refers to the process of executing, completing or bringing a specific task or plan into effect (Mthethwa, 2012 p. 37). Mthethwa (2012, p. 37) states that understanding how implementation works is crucial, as global experiences show that policies are often not carried out as planned and may fail to deliver the expected outcomes.

### **3.3.2 The Top-Down and Bottom-Up Perspectives of Implementation**

The literature usually distinguishes between two broad perspectives on policy, the top-down perspective and the bottom-up perspective. Unlike the top-down approach, which sees policy as a directive that guides implementation, the bottom-up approach considers policy to be shaped by the implementation process itself, adapting to the needs of the people it serves (Wang, Crosby, and Casey-Dunn, p. 10)

#### **3.3.2.1 The Top-Down Approach**

The top-down approach emphasises guidance and control from higher levels of authority in the implementation of public policy (Shahi, 2024 p. 29). Scholars argue that policy implementation follows decisions made by the highest levels of government with predefined goals guiding actions (Shahi, 2024 p. 30). In many underdeveloped countries, implementation typically follows a top-down approach where higher level authorities direct lower-level officials, aiming for efficiency in time and cost (Shahi, 2024 p. 30). However, this method often overlooks crucial local contexts, including social, legal, cultural, and economic conditions, leading to challenges in effective implementation (Shahi, 2024 p. 30). Despite its limitations, the top-down approach remains dominant, especially in centralised systems during emergencies where state control intensifies (Shahi, 2024 p. 30).

Top-down theories of policy implementation are based on the idea that the process begins with a decision made by central authorities (Frank, Miller and Sidney, 2007 p. 90). The top-down management approach relies on a structured, hierarchal decision-making system in which high-level leaders and executives develop the organisation's goals, policies and strategies, which are then passed down through various levels (Touro University Worldwide, 2024). Touro University Worldwide (2024) notes that top-down management is guided by strong leadership with the intent of promoting alignment and ensuring that all members work toward common objectives.

Li (2023 p. 158 and 159) supports this view by explaining that the top-down approach to policymaking includes multiple distinct pathways that link decisions from higher to lower levels. While these pathways operate independently and reflect specialised functions of key organisations, they are also interconnected both vertically and horizontally (Li, 2023 p. 158). This allows elite decision-makers to communicate policy choices across various channels simultaneously (Li, 2023 p. 159). The model is marked by centralisation, with policies formulated by top-down elites and carried out through lower levels of the system (Li, 2023 p. 159).

Similarly, Sabatier (1986) defines top-down implementation as a process initiated by central decision makers, where policy goals and instruments are defined clearly at the top and focuses on whether implementers at lower levels adhere to those intentions. The top-down approach is valuable for assessing the alignment between policy objectives and actual outcomes, especially when a dominant programme or legislation is in place (Sabatier, 1986). Kim, Sting and Loch (2014 p. 8) describe the top-down approach as one where top management defines long-term goals and strategies in advance, creating detailed plans that leave little room for individual discretion. (Kim, Sting and Loch (2014, p. 8) argue that while some strategies may not be implemented as originally planned, others might follow the intended course yet still fail due to unexpected external changes. Based on the results, leadership reviews the outcomes and adjusts the plans as needed (Kim, Sting and Loch, 2014 p. 8).

In many developing countries, policy decisions are made by top government officials and implementation follows a top-down approach (Shahi, 2024 p. 30). Senior leaders set clear goals, and lower-level staff are expected to follow instructions (Shahi, 2024 p. 30). According to Shahi (2024, p. 30), this method can reduce time and costs, with strong accountability placed

on top officials. However, the top-down model often ignores local conditions such as community needs, cultural differences, and economic realities (Shahi, 2024 p. 30). Despite these drawbacks (Shahi, 2024 p. 30) says that it remains a dominant strategy, especially in situations that require centralised decision-making and strong state intervention.

### **3.3.2.2 The Bottom-Up Approach**

The bottom-up approach, according to Shahi (2024, p. 30), emerged to address the weaknesses of the top-down model, particularly its failure to consider local context, conditions, and perspectives. By involving street-level bureaucrats and community-based organisations, this method aims to improve the effectiveness of policy implementation (Shahi, 2024 p. 30). The bottom-up approach encourages grassroots participation in both the design and execution of policies, which helps align policies with local needs (Shahi, 2024 p. 31). However, this approach is not without its challenges and while it values local input, it does not completely exclude the involvement of higher authorities (Shahi, 2024 p. 31). The inclusion of multiple interests and pressures from different levels of the organisation can complicate the process, making it harder to move smoothly from policy formulation to implementation (Shahi, 2024 p. 31).

According to Sabatier (1986) the bottom-up approach begins at the local or operational level, recognising the role of multiple actors – such as street level- bureaucrats, service providers, and target groups who influence implementation through their daily practises. It emphasises adaptive strategies, informal networks and actor interaction within policy subsystems (Sabatier, 1986).

Kim, Sting and Loch (2014, p. 24) add that bottom-up action plans often start as independent efforts by lower-level managers with limited resources. These small initiatives grown only if they show early success and gain top management's support (Kim, Sting and Loch, 2014 p. 24). While many efforts are launched, only a few prove valuable enough to be adopted as official strategic projects, and most remain undocumented and do not progress beyond the initial stage (Kim, Sting and Loch, 2014 p. 24). A bottom-up approach to policy implementation focuses on involving local communities, stakeholders, and grassroots actors in decision-makers (Fiveable, 2024). Unlike top-down methods, it allows for more flexible and community-specific solutions (Fiveable, 2024). The bottom-up approach encourages citizen participation, making it more democratic, leads to more relevant locally tailored policies,

increases success through stronger local support, can face coordination challenges due to diverse input, and requires strong communication to align local and broader goals (Fiveable, 2024).

The bottom-up approach is driven by public involvement, with interest groups like labour unions, industry associates, and advocacy organisations acting as key links between citizens and government (Li, 2023 p. 159). This decentralised model encourages participation from grassroots levels, allowing diverse voices to influence policy decisions (Li, 2023 p. 159). These groups engage in lobbying, public hearings, and policy oversight to represent community interests (Li, 2023 p. 159). An example made by Li (2023, p. 159) is that in countries like Sweden, this approach has fostered innovation and entrepreneurship by involving civil society in shaping economic and development policies, making the process more inclusive and responsive.

Lipsky (1969) presents the formational idea that public service workers who interact directly with citizens (street level bureaucrats), such as police officers, teachers, and social workers, play a crucial role in shaping how policies are actually implemented. These street level bureaucrats operate in environments marked by limited resources, ambiguous goals, and high demands, which compel them to exercise discretion and develop coping strategies (Lipsky, 1969). Lipsky (1969) argues that their day-to-day decision effectively translates policy into practise, often shaping outcomes in ways not fully intended by policymakers. This perspective forms the basis of a bottom-up approach to policy implementation, emphasising that real policy is made not only in legislative chambers but also in the interactions between public servants and citizens, where rules are interpreted, adjusted, or even ignored to meet situational needs (Lipsky, 1969).

### **3.3.3 5C Protocol**

The top-down and the bottom-up approach shape how policies are understood, owned, and implemented across different levels of government. The top-down approach aligns with a hierarchical context where commitment is shaped by central authority and directives, while the bottom-up approach highlights the importance of involving local stakeholders (clients and coalitions) and recognising the informal, adaptive context in which street-level actors operate. Implementation is seen as a complex political process rather than a simple administrative task, hence the 5C protocol is offered as a framework to help make sense of the complicated and

changing nature of implementation (Mitchell, 2007 p. 451). Brynard (2005) uses the 5C protocol to understand and analyse the complexity of policy implementation. The five variables include Content, Context, Commitment, Capacity, and Clients and Coalitions.

#### **3.3.3.1 Content**

The content of a policy refers to what the policy actually says- its objectives, design, and chosen methods or instruments (Brynard, 2005 p. 659). Brynard (2005) emphasises that the type of policy (regulatory, distributive, and redistributive) significantly influences how it is implemented. Regulatory policies establish rules of conduct with penalties for non-compliance; distributive policies provide public goods for the general welfare and are non-zero-sum in nature; and redistributive policies aim to shift resources or power between groups, often benefiting at the expense of other (Brynard, 2005 p. 659). The content can enable or constrain implementers depending on how well the goals are defined, how flexible the approach is, and how clearly roles and responsibilities are outlined (Brynard, 2005 p. 659).

Additionally, content must reflect a clear logic that connects the policy's design to a sound understanding of the underlying problem. Without this alignment, implementation may fail to address the root causes or deliver meaningful outcomes. As such, policy content addresses both “what” needs to be achieved and “how” it should be accomplished in order to reach a specific goal (Mkhize and Nel-Sanders, 2023 p. 276). Guiding questions for content may include: what is the policy trying to achieve? (objective), what type of policy is it? (regulatory, distributive, or redistributive?), and how does the policy propose to achieve its objectives?

#### **3.3.3.2 Context**

Context refers to the setting in which policy is implemented, encompassing the political, economic and social institutional environment (Brynard, 2005 p. 659). According to Brynard (2005), the institutional and structural factors such as the capabilities of departments, administrative systems, and legal frameworks have a strong impact on whether implementation succeeds or fails. A supportive context facilitates cooperation and coordination, while a weak or hostile context can lead to resistance or inefficiency (Brynard, 2005 p. 659).

According to Mkhize and Nel-Sanders (2023, p. 276), the institutional context consists of three key elements: first, the stakeholders who either affect or are affected by the implementation

process; second, the interests and power dynamics that exist between institutions; and third, the impact of real-world conditions on how institutions function and are structured.

Guiding questions for context may include: what political, economic, and social factors may support or hinder implementation? Who are the key stakeholders involved or affected by policy implementation?

### **3.3.3.3 Commitment**

Commitment relates to the level of dedication from key individuals and institutions responsible for policy implementation (Brynard, 2005 p. 660). Brynard (2005, p. 660) notes that commitment must exist at all levels, from national leadership down to local-level implementers. A lack of commitment can lead to delays, poor performance, or even policy failure (Brynard, 2005 p. 660). Conversely, strong commitment can overcome certain resource and capacity constraints, especially when implementers are motivated by belief in the policy's goals or strong political backing (Brynard, 2005 p. 660).

Commitment is a crucial aspect of policy implementation, extending beyond just the 'street level actors' to include all levels involved in the policy process (Mkhize and Nel-Sanders, 2023 p. 276). In the case of international agreements, this agreement spans from the regime level to the state level and everything in between (Mkhize and Nel-Sanders, 2023 p. 276). Moreover, it both influences and is influenced by other key implementation variables such as content, capacity, context, clients and coalitions, communication, and coordination (Mkhize and Nel-Sanders, 2023 p. 276). Guiding questions for content may include: How does commitment interact with other variables like content, capacity, context, clients and coalitions, communication, and coordination? Is there consistent support from national, provincial, and local leadership from the policy? Are there individuals or institutions championing or resisting the policy?

### **3.3.3.4 Capacity**

Capacity involves the resources- human, financial, technical, and managerial, available to implement the policy (Brynard, 2005 p. 660). Brynard (2005, p. 660) explains that having adequate capacity is essential but not always sufficient. The ability to apply and adapt these resources effectively, manage operations, and maintain administrative efficiency is equally

important (Brynard, 2005 p, 661). Capacity challenges are particularly acute in developing countries and can seriously limit implementation success (Brynard, 2005 p. 661).

Capacity for policy implementation may consist of both tangible and intangible resources (Mkhize and Nel-Sanders, 2023 p. 276). According to Mkhize and Nel-Sanders (2023, p. 276). Intangible resources include elements such as motivation, leadership, commitment, willingness, courage, and resilience. However, these qualities must be translated into concrete actions to effectively support implementation (Mkhize and Nel-Sanders, 2023 p. 276).

Guiding questions for content may include: are sufficient resources- human, financial, technical, and managerial- available to implement the policy? Are these resources being applied and managed effectively? How are intangible qualities being converted into tangible action?

### **3.3.3.5 Clients and Coalitions**

Clients and coalitions refer to the stakeholders, beneficiaries, interest groups, and alliances that are either affected by or influential in the implementation process (Brynard, 2005 p. 661). Brynard (2005 p. 661) highlights that their support or resistance can greatly shape policy outcomes. Understanding who the key players are, what their interests involve, and how they are mobilised is crucial (Brynard, 2005, p. 661). Positive engagement from these actors can help legitimise and sustain implementation efforts (Brynard, 2005 p. 662).

Clients and coalitions play a crucial role in ensuring the effective implementation of government policies (Mkhize and Nel-Sanders, 2023 p. 276). As such, it is recommended that governments actively align themselves with supportive interest groups, opinion leaders, stakeholders, and political actors who advocate for the successful execution of policy initiatives (Mkhize and Nel-Sanders, 2023 p. 276). Guiding questions for content may include: Who are the key stakeholders, interest groups or beneficiaries involved in or affected by the policy? How are these groups organised or mobilised? Is there a coalition of actors supporting the policy? How can engagement with clients and coalitions improve or sustain implementation efforts?

### **3.3.3.6 7-C Protocol**

Additionally, to the 5-C protocol there are other two Cs, which makes it the 7-C protocol. The main purpose of using the 5-C approach was to strategically navigate and clarify the complex interconnections involved in implementing public policy (Molobela, 2019 p. 213). Recognising the challenges and intricacies of the policy process, Brynard proposed five key variables to better understand and manage this complexity (Molobela, 2019 p. 213). In response to evolving needs, Cloete, de Coning, Wissink, and Rabie (2018) introduced the expanded 7C model in early 2018, placing renewed emphasis on improving policy implementation and service delivery through a more comprehensive approach (Molobela, 2019 p. 213).

#### **3.3.3.6.1 Communication**

Communication plays a vital role in effective policy implementation (Molobela, 2019 p. 216). Communication is essential for ensuring that implementers understand and support policy goals (Molobela, 2019 p. 216). NGOs, civil society, and media platforms such as radio, newspapers, and social media should be part of a comprehensive communication strategy (Molobela, 2019 p. 216). As all implementation variables depend on clear communication, it is central to both policy development and execution.

Communication involves the formal and informal ways organisations share policy information and directives, both internally and externally (Skhosana, 2019 p. 31). Communication can take various forms-top-down, bottom-up, lateral, formal, informal, one time, or ongoing- and must ensure that all implementation actors clearly understand the policy's goals (Skhosana, 2019 p. 31). According to Skhosana (2019), effective communication is especially important in a country like South Africa, where eleven official languages reflect a wide range of cultural backgrounds.

Clear communication fosters transparency, encourages stakeholder participation, strengthens good governance, and can enhance institutional credibility (Skhosana, 2019 p. 32). Additionally, public communication provides an opportunity for leadership to clarify their intentions and promote the positive goals behind a policy (Skhosana, 2019 p. 32). It also ensures consistency across different government departments and private entities, reducing confusion and conflicting actions (Skhosana, 2019 p. 32). Effective communication helps solve both social and technical challenges, legitimises policy efforts, and reduces negative

consequences like resistance, confusion, and speculation among the public (Skhosana, 2019 p. 32). Guiding questions for content may include: Is the policy information being clearly and consistently communicated to all stakeholders? Are multiple forms of communication (top-down and bottom-up) being used effectively? Does communication reinforce policy goals, promote transparency, and build trust?

#### **3.3.3.6.2 Coordination**

Coordination is a critical element in effective public policy implementation, as it facilitates collaboration among all relevant actors across various levels of government sectors (Skhosana, 2019 p. 33). It includes both intra-organisational coordination (among different entities such as government, NGOs, and donors) (Skhosana, 2019 p. 33). Effective coordination ensures that policies and programmes are aligned, complementary, and free from conflict or duplication (Skhosana, 2019 p. 33). It requires identifying key stakeholders, fostering shared goals and norms, and mobilising commitment through structural frameworks (Skhosana, 2019 p. 33). According to Skhosana (2019, p. 33), coordination can occur vertically –between different levels of government- or horizontally –across departments and agencies.

Coordination is the most essential factor in successful policy implementation (Molobela, 2019 p. 216). According to Molobela (2019, p. 216), even if all variables (content, context, communication, client and coalitions, commitment, and capacity) are in place, poor coordination can still lead to failure. Coordination is a tool that can be developed within organisations to guide effective implementation (Molobela, 2019 p. 216). Coordination includes inter-organisational efforts (e.g., partnership between departments or with private entities) and intra-organisational collaboration (e.g., teamwork within a department to improve service delivery) (Molobela, 2019 p. 216). Molobela (2019, p. 216) states that, clear roles, defined responsibilities, and strong communication are vital for enabling coordination. Additionally, a well-designed policy requires a well-designed coordination, acting as a roadmap to guide collaborative action (Molobela, 2019 p. 216). Guiding questions for content may include: Are roles and responsibilities clearly defined among all policy actors? Is there effective collaboration within departments (intra-organisational coordination)? Are there frameworks or systems in place to support shared goals and norms among stakeholders?

### **3.3.4 Factors for Successful Implementation**

According to Brynard (2009, p. 559 and 560), there are key several factors that influence the successful implementation policy and they include: an effective approach, positive attitude, commitment, cooperation, effective planning, effective resourcing, enthusiasm, leadership, location of political responsibility, management style, ownership, management dynamic, role delineation, skills and abilities, stakeholder involvement, trust, use of networks, and values/beliefs. Tereza (2019, p. 093) notes that effective policy execution depends on a range of critical factors and scholars have identified various variables that influence implementation success, each offering unique perspectives or emphasising different priorities. Tereza (2019) explores four fundamental elements that must be considered when implementing education policy and they include policy design, stakeholder engagement, institutional and contextual factors, and implementation strategy.

#### **3.3.4.1 Policy Design**

Policy design concerns how a policy is articulated, the logical link between the identified problem and the proposed solution, and the practical feasibility of implementation (Tereza, 2019 p. 093). A well-crafted design increases the likelihood of successful enactment (Tereza, 2019 p. 093). Tereza (2019, p.093) notes that effective policy begins with a clear justification- a response to a defined need that lends legitimacy and structure to the policy solution. Additionally, policy logic (the internal coherence and clarity of policy objectives) affects how implementing agencies interpret and operationalise the policy (Tereza, 2019 p. 093).

#### **3.3.4.2 Stakeholders and their engagement**

The implementation process involves a diverse range of actors, both individuals and organisations who can play central roles due to their expertise, institutional positions, and influence (Tereza, 2019 p. 093). These stakeholders include political decision-makers, educators, administrators, academic experts, economists, financial analysts, researchers, government officials, planners, civil servants, intergovernmental bodies, and non-governmental and unofficial actors (Tereza, 2019 p. 093). Tereza (2019, p. 093) emphasises that their coordinated engagement is crucial to ensure that policy execution is both inclusive and informed by diverse perspectives and capacities.

### **3.3.4.3 Institutional and Societal Context**

The context in which a policy is implemented greatly influences its success (Tereza, 2019 p. 093). This includes formal structures such as laws and administrative procedures, and informal norms and social dynamics that guide implementation behaviour (Tereza, 2019 p. 093). Other existing policies- both within the education sector and in related fields- can either support or hinder new policy initiatives (Tereza, 2019 p. 093).

### **3.3.4.4 Implementation Strategy**

An effective implementation strategy serves as a practical roadmap for transforming policy intent into action (Tereza, 2019 p. 093). Tereza (2019, p. 093) outlines six criteria for successful implementation from (Frank et al. 2007) and they include: “(1) policy objectives are clear and consistent; (2) the programme is based on a valid casual theory; (3) the implementation process is structured adequately; (4) implementing officials are committed to the programme’s goals; (5) interest groups and (executive and legislative) sovereigns are supportive; (6) there are no detrimental changes in the socioeconomic framework conditions”.

Additionally, Tereza (2019, p. 094) outlines Fullan’s (1991) six elements for curriculum implementation: clear vision, initiative, empowerment, professional development, structural change, and continuous evaluation.

## **3.4 E-Governance and E-Government**

### **3.4.1 E-Governance**

“The first step in defining e-governance is to define governance” (Bannister and Connolly, 2012 p. 5). Governance refers to the way in which local public institutions and partnerships make sure they are making appropriate decisions, in appropriate ways, for the benefit of the right people, while being timely, inclusive, transparent, honest and accountable (Bannister and Connolly, 2012 p. 6). It involves the structures and procedures used to guide and manage local authorities, enabling them to lead, involve, and report back to their communities (Bannister and Connolly, 2012 p. 6).

Electronic governance (e-Governance) enables governments to transform and modernise their operations by leveraging Information and Communication Technologies (ICTs), (Okot-Uma and London, 2000 p. 5). It brings governments closer to citizens and fosters strong partnerships with various stakeholders, including communities of interest, expertise, and practise, all within the framework of national development goals (Okot-Uma and London, 2000 p.5), E-governance aims to develop systems and processes that use ICTs to improve public sector efficiency and promote the principles of good governance (Okot-Uma and London, 2000 p.5). E-governance refers to the application of Information and Communication Technologies (ICTs) in government operations to transform how governance is structured and delivered (Saxena, 2005 p. 500). This includes modifying existing processes in ways that would not be achievable without technology, introducing entirely new systems and methods made possible by ICTs, and putting into practise previously theoretical ideas related to ethical, transparent, and accountable governance (Saxena, 2005 p. 500).

### **3.4.2 E-Government**

The term e-government (e-gov) became prominent in the late 1990s, although the use of computers in government dates back to the early days of computing (Gronlund and Horan, 2005 p. 714). e-government refers to the use of Information Technologies by government institutions to transform how they interact with citizens, businesses, and other government bodies (Gronlund and Horan, 2005 p. 718). These technologies support various goals, such as enhancing service delivery, improving business engagement, empowering citizens through better access to information, and increasing the efficiency of internal government operations (Gronlund and Horan, 2005 p.719). Additionally, the potential outcomes of e-government include reduced corruption, improved transparency, greater convenience, increased revenues, and lower operational costs (Gronlund and Horan, 2005 p. 719).

Jain Palvia and Sharma (2015, p. 1) similarly explain that e-government involves the use of information technology, particularly the internet, to support government operations, engage citizens and provide government operations. Government services can include accessing information, submitting documents, making payments and undertaking other activities through online platforms, (Jain Palvia and Sharma, 2015 p.1). E-government therefore places particular emphasis on the use of technology to improve the accessibility, efficiency and delivery of government services.

### **3.4.3 Distinction between E-Governance and E-Government**

Although e-government and e-governance are closely related, they differ in their scope and focus. E-government primarily focuses on the use of ICTs to support government operations and improve the delivery of public services, including interactions between government, citizens, businesses, and other government institutions, (Gronlund and Horan, 2005 p. 718-719; Jain Palvia and Sharma, 2015 p. 1). E-governance, however, has a broader focus as it involves using ICTs to transform governance processes, strengthen relationships between government and stakeholders, and promote principles such as efficiency, transparency and accountability, (Okot-Uma and London, 2000 p. 5; Saxena, 2005 p. 500). Thus, while e-government is mainly concerned with the digital delivery of government services and administrative operations, e-governance is concerned with the broader transformation of government through ICTs.

The distinction is important for the present study because the Gauteng Department of e-Government's digital initiatives involve both the provision of electronic government services and broader government processes. Therefore, while e-government helps explain the Department's use of ICTs to improve service delivery and government operations, e-governance provides the broader conceptual lens for examining how these strategies are implemented, the challenges affecting implementation, and their contribution to governance and the developmental goals of the NDP.

### **3.5 Electronic Governance for Sustainable Development (EGOV4SD)**

The use of Electronic Governance (EGOV)- which involves applying Information and Communication Technology (ICT) to improve government operations and engagement with citizens- for the purpose of achieving Sustainable Development (SD), is known as Electronic Governance for Sustainable Development (EGOV4SD), (Estevez, Janowski and Dzhusupova, 2013). According to Estevez, Janowski and Dzhusupova (2013), governments play a key role in sustainable development and increasingly share this responsibility with non-state actors through tools like e-participation. In the context of sustainability, EGOV becomes EGOV4SD- using technology to deliver services, involve citizens in decision-making, promote social equity, support economic growth, and protect the environment (Estevez, Janowski and Dzhusupova, 2013).

EGOV4SD, according to Estavez, Janowski and Dzhusupova (2013), is defined as the use of ICT to enhance public services, administration, and engagement between government and citizens, while enabling public participation, promoting social equity and development, and protecting the environment for future generations.

EGOV4SD integrates technological innovation with governance practises to address complex Sustainable Development challenges (Estevez, Janowski and Dzhusupova, 2013). It promotes inclusive development by empowering citizens, improving access to public services, and enabling better decision-making (Estevez, Janowski and Dzhusupova, 2013). Additionally, it helps government improve operational efficiency, reduce footprints, and create more responsive and participatory government structures (Estevez, Janowski and Dzhusupova, 2013). It supports multiple SD goals across social, economic, environmental and institutional dimensions- such as reducing poverty, enhancing education and health, promoting sustainable resource use, and building institutional capacity (Estavez, Janowski and Dzhusupova, 2013). Estevez, Janowski and Dzhusupova (2013), presented ten case studies and they show that EGOV4SD initiatives successfully address key SD problems, with the most frequent being social (citizen empowerment), economic (business opportunity creation), environmental (addressing the impacts of man-made activity), and institutional (capacity building).

The EGOV4SD framework spans three primary domains: Governance (GOV), Sustainable Development (SD), and Information and Communication Technology (ICT)- and three intersecting domains: EGOV (GOV+ICT), ICT4SD (ICT+SD), and GOV4SD (GOV+SD) (Estevez, Janowski and Dzhusupova, 2013). The framework views SD as the problem domain and EGOV as the solution domain, establishing a structural contribution space that matches EGOV solutions to SD challenges across dimensions (Estevez, Janowski and Dzhusupova, 2013).

EGOV4SD according to El-Moffock (2021, p. 527), refers to the use of information and communication technologies (ICT) to guide and support the transition towards sustainable development. EGOV4SD aims to encourage public participation in decision-making, promote social equity and economic development, and protect the environment for future generations (El-Moffock, 2021 p. 527). EGOV4SD differs from the idea of making e-governance initiatives sustainable –it focuses specifically on how ICT can contribute to broader sustainable development goals (El-Moffock, 2021 p. 528). In the context of EGOV4SD, sustainable

development represents the primary challenge, while electronic governance provides the means to address it (El-Moffock, 2021 p. 527).

E-governance can support sustainable development by improving public services, administration, and citizen participation through ICT (Dhaoui, 2021). Dhaoui (2021) argues that without strong governance, digital technologies alone cannot drive sustainable development. Additionally, for e-government to be effective, countries must pair digital transformation with economic reform, inclusive institutions, and strategies focused on transparency, innovation, and citizen empowerment (Dhaoui, 2021).

Advancement in technology has significantly transformed governance worldwide, with e-governance emerging as key driver of sustainable development (Alhassan, 2020 p. 24). By integrating ICT into public administration and citizen engagement, e-governance helps bridge the gap between sustainable development goals and their practical implementation, especially in developing countries like Ghana (Alhassan, 2020 p. 24). EGOV4SD enables inclusive, two-way communication and coordination among diverse stakeholders, promoting equity, economic growth, and environmental protection (Alhassan, 2020 p. 24). To fully support sustainable development, e-government initiatives must balance all three pillars –economic, social, and environmental- within a complex and evolving (Alhassan, 2020 p. 25).

EGOV4SD framework aligns closely with the goals of the National Development Plan, which targets progress across social, economic, environmental, and institutional dimensions. By applying the EGOV4SD approach, this study explores how the department's digital initiatives contribute to development outcomes such as citizen empowerment, economic opportunity, service efficiency, and improved governance. The framework also helps analyse the unique challenges and opportunities of implementing e-government in a developing country context, where factors such as digital divide, resource limitations, and institutional capacity can influence outcomes. Thus, EGOV4SD offers a suitable conceptual and analytical lens to assess how ICT enabled governance supports the realisation of National Development goals in Gauteng.

### **3.6 Integration of the Conceptual and Analytical Frameworks**

The conceptual and analytical frameworks discussed in this chapter are interconnected and collectively provide a basis for answering the research questions of this study. The policy cycle

provides a broader context by explaining how public policies progress from agenda-setting and formulation to implementation and evaluation. Since this study focuses particularly on the implementation of e-government initiatives, the discussion of policy implementation provides the foundation for examining how policy intentions are translated into practical actions by the Gauteng Department of e-Government. The top-down and bottom-up perspectives further contributes to the analysis by providing different perspectives through which implementation can be understood. The top-down perspective will be used to examine the extent to which national and provincial policy objectives and directives guide the implementation of e-government initiatives, while the bottom-up perspective will assist in considering the role of implementers, citizens and other stakeholders in shaping implementation.

The 5C and 7C Protocols will be used primarily to answer the second and third questions, which focus on how e-governance strategies are implemented and the challenges affecting implementation. The 5C variables of content, context, commitment, capacity, and clients and coalitions will guide the assessment of policy design, institutional environment, commitment of implementing actors, availability of resources, and involvement of stakeholders. The additional variables of communication and coordination in the 7C Protocol will assist in examining how information is communicated and how different government institutions and stakeholders coordinate their activities during implementation. These variables will therefore help identify both the factors that facilitate implementation and the constraints that may hinder the effective implementation of e-governance strategies within the department.

The EGOV4SD framework provides the main analytical lens for examining the relationship between e-governance and development and will be particularly relevant to the first and fourth research questions. The framework will be used to assess how the Gauteng Department of e-Government's e-governance strategies contribute to development outcomes and to the goals of the National Development Plan. EGOV4SD will assist in examining the contribution of ICT-enabled governance to areas such as improved service delivery, environmental sustainability, and institutional development. This framework therefore allows the study to move beyond examining the implementation of e-governance strategies to assessing their broader developmental contribution.

The frameworks therefore contribute to the research questions in different but complimentary ways. The policy cycle provides an understanding of the broader policy process; the top-down

and bottom-up perspectives assist in understating how e-governance strategies are translated into practise; the 5C and 7C Protocols provide an analytical basis for examining the implementation process and identifying the challenges and enabling factors affecting implementation; and EGOV4SD provides the overarching lens for assessing the developmental contribution of e-governance and its relationship with the National Development Plan.

Collectively, these frameworks enable the study to examine how e-governance strategies are implemented, what challenges influence their implementation, how they contribute to developmental outcomes, and how the Gauteng Department of e-Government's initiatives contribute to the realisation of the goals of the National Development Plan.

### **3.7 Conclusion**

This chapter has introduced the main ideas that help to understand and analyse this study. It started with public policy and the policy cycle, which shows the steps in creating and carrying out policies. It then explained how policies are implemented and looked at the top-down and bottom-up approaches. The 5C Protocol was used to explore five key factors that influence how well policies are carried out. The chapter also distinguished between e-governance and e-government. Other important factors for successful implementation were also discussed. Finally, the EGOV4SD framework was explained as the main tool to study how e-government can support development goals. This framework will help the study assess how the Gauteng Department of e-Government uses technology to meet the aims of the National Development Plan. The next chapter is the policy and legislative framework chapter.

## **Chapter 4: Policy and Legislative Framework**

### **4.1 Introduction**

This chapter explores the policy and legislative framework that underpins the use of ICTs and the implementation of e-Governance in South Africa. The discussion will cover key instruments including the National Development Plan, the National Integrated ICT Policy White Paper, the Public Service Regulation, the Electronic Communications and Transactions Act, SA Connect, the Promotion of Access to Information Act, Batho Pele White Paper, the Protection of Personal Information Act, The Government Gazette: National e-Government Strategy and Roadmap, The Radical Transformation Modernisation and Re-Industrialisation (TMR) Programme, GCR e-Government Strategy, Gauteng Growth and Development Strategy, Gauteng and Regional Economic Development Plan, and the GCR ICT Policy Framework.

### **4.2 The National Development Plan**

The National Planning Commission (NPC), established in 2010, produced a diagnostic report in 2011 that informed the drafting of the National Development Plan (NDP), which was adopted by the Cabinet in 2012 (Parliamentary Monitoring Group, 2024). The National Development Plan (NDP) 2030 emphasises that by 2030, ICT is expected to serve as a foundation for building dynamic, connected information society and a vibrant, inclusive, and prosperous knowledge economy (National Planning Commission, 2013 p. 190). The NDP 2030 emphasises ICT as a key enabler for the country's economic growth, creating decent employment, promoting nation building and social cohesion, and enhancing local, national, and regional integration (National Planning Commission, 2013 p. 190).

The NDP connects ICT development with broader socio-economic goals, noting that digital technologies can help address inequality, unemployment, and poverty by opening new opportunities for education, entrepreneurship, and service delivery (National Planning Commission, 2013). ICTs are identified as vital for improving state capacity through modernised public administration systems, streamlined communication channels, and automated service platforms that reduce costs and improve accountability (National Planning Commission, 2013). The NDP further argues that digitally empowered society contributes to

nation building and social cohesion by bridging geographical, cultural, and economic divides (National Planning Commission, 2013).

Moreover, the National Development Plan emphasises universal broadband access as a strategic priority for enabling e-governance and digital inclusion (National Planning Commission, 2013). The plan calls for a seamless national information infrastructure that connects government, businesses, and citizens through reliable high-speed networks (National Planning Commission, 2013). According to the National Planning Commission (2013), this is expected to improve government transparency, facilitate citizen participation, and support more integrated planning across national, provincial, and local spheres of government. The NDP also stresses the importance of building digital skills and strengthening institutional coordination to ensure that ICT investments translate into developmental outcomes (National Planning Commission, 2013).

#### **4.3 The National Integrated ICT Policy White Paper**

The development of the ICT White Paper began in 2012 with a Policy Review Panel appointed in 2013, including representatives from multiple sectors like the industry, academia, NGOs, public institutions, and state-owned entities (Department of Telecommunication and Postal Services, 2016 p. 7). Public consultations were held through the Framing Paper (2013), Green Paper (2014), and Discussion Paper (2014), addressing policy goals, achievements, and future options (Department of Telecommunication and Postal Services, 2016 p. 8). Final recommendations were submitted to the Minister in March 2015 (Department of Telecommunication and Postal Services, 2016 p. 7).

The National Integrated ICT Policy White Paper has a vision to transform South Africa into an inclusive, innovative digital and knowledge society aligned with the NDPs 2030 goals (Department of Telecommunication and Postal Services, 2016). Its policy framework is anchored in open access to infrastructure, equitable spectrum management, accelerated rapid development of ICT infrastructure, and the promotion of universal service and digital inclusion through the Digital Development Fund (Department of Telecommunication and Postal Services, 2016). It calls for a technology-neutral, converged regulatory environment, streamlined governance via integrated institution, and strong intergovernmental coordination to harmonise telecommunication, broadcasting, and digital services (Department of

Telecommunication and Postal Services, 2016). Additionally, the strategy prioritises fostering competition, driving innovation, building digital skills, and ensuring affordable quality connection, particularly in underserved communities while positioning ICT as a catalyst for socio-economic growth and national development (Department of Telecommunication and Postal Services, 2016).

#### **4.4 Public Service Regulation**

The Minister of Public Service and Administration, acting under section 41 of the Public Service Act of 1994 (Proclamation No. 103 of 1994), issued the regulation contained in the schedule, which came into effect on 1 August 2016 (Department of Public Services and Administration, 2016).

The Public Service Act together with Chapter 6 of the Public Service Regulations (PSR) on Information Management and Electronic Government, governs the acquisition, management, and use of ICT resources to enhance service delivery, boost developmental productivity, and improve cost efficiency (Gauteng Department of e-Government, Research and Development, 2024 p. 21). The PSR also sets information security standards to promote vigilance, require incident reporting, enforce corrective measures for non-compliance, and establish minimum interoperability standards for connectivity, data integration, and information access (Gauteng Department of e-Government, Research and Development, 2024 p. 21).

According to the Public Service Regulation, 2016, Chapter 6 outlines the responsibilities of heads of departments in managing information and ICT to improve service delivery, productivity, cost efficiency, environmental sustainability, and public participation. It mandate complies with information security standards, vigilance, and incident reporting to relevant authorities (Department of Public Services and Administration, 2016). It also introduces Minimum Interoperability Standards (MIOS) to ensure interconnectivity, data integration, and information access across government systems (Department of Public Services and Administration, 2016). Departments must appoint Government Information Technology Officers (GITO) to support ICT strategies, enhance digitalisation, ensure secure and reliable systems, optimise expenditure, and promote interoperability (Department of Public Services and Administration, 2016).

#### **4.5 Electronic Communications and Transactions Act, 2002**

The act is aimed at supporting and regulating electronic communications and transactions; developing a national e-strategy for the country; promoting universal access to electronic communications and transactions, especially for Small, Medium, and, Micro Enterprises (SMMEs); fostering human resources in the field of electronic transactions; preventing misuse of information systems; encouraging the adoption of e-government services; and addressing related matters (The Presidency, 2002 p.2).

The Electronic Communication and Transactions Act, 2002 (Act No. 25 of 2002) aims to facilitate and regulate electronic communications and transactions in South Africa (Gauteng Department of e-Government, Research and Development, 2024 p. 21). It seeks to develop a national e-strategy, promote widespread access to electronic services, and encourage the adoption of electronic transactions, particularly by Small, Medium and Micro sized Enterprises (SMMEs) (Gauteng Department of e-Government, Research and Development, 2024 p. 21). According to the Gauteng Department of e-Government, Research and Development (2024 p. 21), the Act also focuses on building human capacity in electronic transactions, preventing misuse of information system, supporting the use of e-government services, and addressing related issues.

#### **4.6 SA Connect (Policy and Plan)**

SA Connect is the rollout of South Africa's national broadband policy, approved by Cabinet in 2013 (Department of Communication and Digital Technologies, n.d.). The goal of SA Connect is to support the NDPs vision of an inclusive information society and enable the government to expand broadband access to underserved district municipalities, thereby closing connectivity gaps (Department of Communication and Digital Technologies, n.d.). The initiative aims to achieve this by consolidating public sector demand and procuring high-capacity, future-ready network infrastructure at more affordable rates, meeting public sector broadband needs (Department of Communication and Digital Technologies, n.d.). This approach also encourages network operators to invest in infrastructure by lowering investment risks through guaranteed demand (Department of Communication and Digital Technologies, n.d.).

The national broadband policy, along with its related strategy and plan, is known as South Africa Connect (Gauteng Department of e-Government, Research and Development, 2024 p.

22). This policy aims to establish a clear vision and a long-term strategy that can be put into action right away to accelerate broadband access across South Africa (Gauteng Department of e-Government, Research and Development, 2024 p. 22).

#### **4.7 The Promotion of Access to Information Act, 2000**

The Promotion of Access to Information Act, 2000 (Act No. 2 of 2000) which aligns with Section 32(1)(a) of the Constitution grants everyone the right to access information held by the State, and Section 32(1)(b), which extends this right to information held by another person if it is necessary for exercising or protecting rights (Gauteng Department of e-Government, Research and Development, 2024 p. 23). Additionally, this Act promotes and upholds transparency and accountability (Gauteng Department of e-Government, Research and Development, 2024 p. 23).

The Act is there to uphold the Constitutional right of access to information held by the State or by others when needed to exercise or protect rights; to assign specific powers, duties, and functions under this Act to the Information Regulator established by the Protection of Personal Information Act 2013 (POPI Act); and to address related matters (Department of Justice and Constitutional Development, 2000).

#### **4.8 Batho Pele White Paper**

According to the Batho Pele White Paper (Department of Public Service and Administration, 1997 p. 9), the White Paper on the Transformation of Public Service, which was published on the 24<sup>th</sup> of November 1995 outlines eight priorities, with service delivery as the central focus.

The Batho Pele White Paper is founded on eight principles aimed at improving public service delivery (Gauteng Department of e-Government, Research and Development, 2024 p. 23). According to Jakoet-Salie (2020, p. 7), the Batho Pele Gateway portal expands access to essential public services, positioning ICT not as a privilege for select communities but as a tool for social development and cohesion. The Batho Pele principles link directly to e-government by promoting a proactive, transparent, and citizen focused approach to service delivery underpinned by eight core service delivery principles (Jakoet-Salie, 2020 p. 7). The Batho Pele

Principles include consultation, service standards, access, courtesy, information, openness and transparency, redress and handling of complaints, and value for money (Jakoet-Salie, 2020 p.8).

#### **4.9 The Protection of Personal Information Act**

The Protection of Personal Information Act (POPI Act), Act 4 of 2013 sets out legal requirements for processing citizens' personal information, ensuring that data is handled lawfully and securely (Gauteng Department of e-Government, Research and Development, 2024 p. 23). According to Gauteng Department of e-Government, Research and Development (2024 p. 23), this Act's purpose is to safeguard individuals' personal data.

The POPI Act protects the Constitutional right to privacy by regulating how personal information is processed, balancing it with rights like access to information and the free flow of data (The Presidency, 2013 p. 16). It sets out minimum standards for lawful processing, gives individuals rights and remedies, and establishes information Regulator to promote and enforce compliance (The Presidency, 2013 p.16).

The POPI Act establishes the legal framework for handling citizens' data securely and lawfully. Since e-Governance initiatives rely heavily on digital services and collection, storage, and processing of personal information, compliance with the POPI Act ensures that the Gauteng Department of e-Government can deliver services while safeguarding privacy. The POPI Act underpins responsible e-governance, enabling Gauteng's digital initiatives to contribute to national development by promoting transparency, accountability, and citizen confidence in government digital services.

#### **4.10 The Government Gazette: National E-Government Strategy and Roadmap (2017)**

This framework promotes a unified, holistic programme with a shared vision to guide South Africa's diverse e-government initiatives (Jakoet-Salie, 2020 p.7). Its goal is to transform the country into a fully digital society, enabling all citizens to benefit from ICT opportunities that enhance quality of life (Jakoet-Salie, 2020 p.7). Drawing on global best practices, the strategy emphasises collaborative service delivery between citizens and the public sector (Jakoet-Salie, 2020 p.7). According to Jakoet-Salie (2020 p.7), internet technologies can greatly improve

government-citizen relations and strengthen civil society. Additionally, this strategy aligns the Batho Pele principles, calling for accountability and a stronger focus on delivery by public officials (Jakoet-Salie, 2020 p.7).

The Department of Telecommunication and Portal Services (DPTS) led the development of the National e-Government Strategy and Roadmap (Department of Telecommunication and Portal Services, 2017 p. 5). A situational analysis assessed the state of e-government nationwide, reviewing past plans, challenges, and lessons learned (Department of Telecommunication and Portal Services, 2017 p. 5). The strategy aims to guide South Africa's digital society where citizens can benefit from ICT to improve service delivery, reduce costs, and enhance transparency (Department of Telecommunication and Portal Services, 2017 p. 5). South Africa's NDP aims for extensive use of ICT by 2030 through a coordinated e-Strategy across all government's departments (Department of Telecommunication and Portal Services, 2017 p. 5). Therefore, the National e-Strategy guides the country's digital economy and the e-Government Roadmap, setting the framework and strategies for using ICT to create an inclusive digital society and internet economy (Department of Telecommunication and Portal Services, 2017, p. 6).

The National e-Governance Strategy and Roadmap aims to guide South Africa's public service towards an inclusive digital society, where citizens can use digital technologies to improve their lives (Department of Telecommunication and Portal Services, 2017, p. 6). According to Minister Dr. Siyabonga Cwele (2014/15), the focus will be on infrastructure rollout, expanding e-government services, and developing platforms for departments to deliver services online (Department of Telecommunication and Portal Services, 2017, p.6). the department will work with other departments, SITA, and the ICT industry to address policy, institutional, and technical challenges, ensuring the skills, technology, and investments needed for implementation (Department of Telecommunication and Portal Services, 2017 p.6).

In South Africa government uses ICT to automate internal processes (Government to Government) and external processes (Government to Citizens and Government to Business) (Department of Telecommunication and Portal Services, 2017 p. 7). Example of Government to Government (G2G) systems include Basic Accounting System, Logistic Management Information System, National Population Register, Social Pension Fund, Police Crime Administration System, and electronic National Transport Information System (Department of

Telecommunication and Portal Services, 2017, p.7). Government to Citizens (G2C) systems help citizens access services, such as government websites, Batho Pele Gateway, SARS e-Filing, DoL u-Filing, and DHA “Trace and Track” (Department of Telecommunication and Portal Services, 2017 p. 7). Overall, e-government focuses on making government more citizen-centred, using technology as a tool to improve service delivery (Department of Telecommunication and Portal Services, 2017 p. 7).

The National e-Government Strategy and Roadmap aims to make government services accessible to all South Africans while reducing administrative costs (Department of Telecommunication and Portal Services, 2017 p. 17). It seeks to harmonise policies, enhance coordination, and deliver integrated, one-stop electronic services (Department of Telecommunication and Portal Services, 2017 p. 17). The strategy focuses on developing skills and capacity, improving transparency, and transforming government-citizen interactions (Department of Telecommunication and Portal Services, 2017 p. 18). It leverages technological innovations such as Internet of Things (IoT), big data, and mobile technologies, expands citizen and business participation in decision-making, and ensures administration aligns with international standards and best practices (Department of Telecommunication and Portal Services, 2017 p. 18).

According to the Department of Telecommunication and Portal Services (2017, p. 18)

The guiding principles for e-government in South Africa focus on interoperability, ensuring systems can communicate seamlessly while users work in familiar environments; ICT security, protecting data and systems at all levels (p. 19); and economies of scale, leveraging government purchasing power to support local industry, skills development, and research. The Department of Telecommunication and Portal Services (2017 p. 20) also emphasise eliminating duplication of ICT functions, using indigenous languages in platforms to increase accessibility, and promoting digital inclusion, ensuring all citizens, including previously disadvantaged communities, have equal access to ICT services and can benefit from e-government initiatives.

#### **4.11 The Radical Transformation, Modernisation and Re-Industrialisation (TMR) Programme**

The Gauteng Provincial Government’s sixth administration adopted the Radical Transformation, Modernisation and Re-Industrialisation (TMR) Programme as a ten-pillar

framework to build a socially cohesive and economically inclusive city region (Gauteng Department of e-Government, 2020 p. 9). Within this approach, the Gauteng Department of e-Government's five strategic pillars are aligned with broader provincial priorities, particularly Pillar 5: Modernisation of the Public Service (Gauteng Department of e-Government, 2020 p. 9). These departmental pillars focus on upgrading provincial ICT structure, expanding digital platforms and e-services, strengthening ICT oversight, promoting ICT advocacy, and positioning Gauteng as a centre for Fourth Industrial Revolution capabilities (Gauteng Department of e-Government, 2020 p. 9).

#### **4.12 GCR e-Government Strategy**

The GCR e-Government Strategy aims to shift the province from traditional e-government practises toward a more integrated model of e-governance, where seamless interaction between citizens and government is more prioritised (Gauteng Department of e-Government, 2020 p. 9). The strategy emphasises widespread connectivity and the modernisation of service delivery so that residents can access services more easily and at a reduced cost (Gauteng Department of e-Government, 2020 p. 9). Its implementation is reflected in the Department's strategic commitments, which include expanding the Gauteng Broadband Network across the City Region, increasing the availability and uptake of e-services, ensuring interoperability to remove duplicated systems, and strengthening the provincial ICT sector (Gauteng Department of e-Government, 2020 p. 9).

#### **4.13 Gauteng Growth and Development Strategy**

Under the Gauteng Growth and Development Strategy, the Department of e-Government is directed to contribute to building an inclusive, sustainable Gauteng City Region (Gauteng Department of e-Government, 2020 p. 9). This requires supporting a transition toward innovation driven and equitable growth (Gauteng Department of e-Government, 2020 p. 9). Central to this vision is the enhancement of connectivity, accessibility, and digital interaction through key infrastructure such as broadband and e-services (Gauteng Department of e-Government, 2020 p. 9).

#### **4.14 Gauteng Regional Economic Development Plan (2015-2020)**

The Regional Economic Development Plan identifies ICT as a catalyst for SMME expansion and township economic renewal (Gauteng Department of e-Government, 2020 p. 10). In line with this mandate, the Department supports the strategy by extending connectivity across government sites, thereby enabling a favourable environment for digital driven economic participation (Gauteng Department of e-Government, 2020 p. 10).

#### **4.15 Governance of ICT Policy Framework**

The Governance of ICT Policy Framework outlines how ICT oversight must be structured and implemented across provincial government entities to ensure consistent and accountable ICT management practises (Gauteng Department of e-Government, 2020 p. 10).

##### **4.15.1 GCR ICT Norms and Standards**

The Norms and Standards address the fragmentation of ICT systems and processes across the GCR (Gauteng Department of e-Government, 2020 p. 10). Their implementation supports the standardisation of ICT projects and solutions, reducing duplication of technologies and enabling the province to benefit from economies of scale, as further detailed in the Master System Plan (Gauteng Department of e-Government, 2020 p. 10).

##### **4.15.2 GCR ICT Continuity Management Framework**

This framework ensures that all GCR entities maintain aligned and robust ICT continuity plans (Gauteng Department of e-Government, 2020 p. 10). Its purpose is to enhance institutional resilience so that ICT services can be fully restored during or after operational disruptions or disasters (Gauteng Department of e-Government, 2020 p. 10).

#### **4. 16 Conclusion**

In South Africa, ICTs and e-governance are guided by a robust framework of policies, legislation, and strategies aimed at promoting inclusive, transparent, and efficient public service delivery. Anchored in the National Development Plan 2030, National Integrated ICT Policy White Paper, and initiatives like SA Connect, these efforts leverage technology to drive socio-economic growth and digital inclusion. It is laws such as the Public Service Act,

Electronic Communication and Transactions Act, Protection of Personal Information Act, and the Batho Pele White Paper that ensure accountability, security, and citizen-centred services. The National E-Government Strategy and Roadmap unifies these measures, reinforcing constitutional rights and bridging the digital divide to create an innovative and sustainable digital society. Together, these policies and pieces of legislation provide the foundation for e-Governance in South Africa and directly shape the role of the Gauteng Department of e-Government in contributing to the broader objectives of the National Development Plan.

## **Chapter 5: Findings**

### **5.1 Introduction**

This chapter presents the research results of the study “The Role of e-Governance in Development: A case study of the Gauteng Department of e-Government’s contribution to the realisation of the goals of the National Development Plan (NDP)”. The findings are based on qualitative desktop research that examined how the Gauteng Department of e-Government (GDEG) contributes to developmental goals through the design and implementation of digital initiatives. The analysis is guided by the Electronic Governance for Sustainable Development (EGOV4SD) framework and the 7C Protocol, an expanded model of Brynard’s (2005) 5C Protocol that includes Communication and Coordination as additional dimensions (Molobela, 2019; and Skhosana, 2019). Together, these frameworks explain how technology, governance, and social inclusion intersect to influence sustainable development outcomes.

### **5.2 Data sources and Analytical Framework**

This research relied on secondary data drawn from policy frameworks, government reports, media releases, and academic literature. Core national documents include the National Development Plan (2030), National Integrated ICT Policy White Paper (2016), and the National e-Government Strategy and Roadmap (2017).

Provincial sources included the Gauteng Digital Transformation Strategy (2020-2025) and multiple 2025 communications by the Gauteng Department of e-Government, such as:

1. Media Alert: Mzansi Digital Learning Initiative (March 2025)
2. Media Statement: Digital Innovation and Public Safety Drive (October 2025), and
3. Rekord Feature: Winterveldt Youth Tech Expo (October 2025).

Additional corroboration came from Tech Finance (2025), ITWeb (2024), and Hypertext (2025) articles, which highlighted infrastructure performance gaps, cyber security collaboration, and digital funding allocations.

Thematic analysis was conducted using the EGOV4SD framework, focusing on the technological, social, economic, and governance dimensions of sustainability. The 7C Protocol

was also used to examine the influence of content, context, commitment, capacity, clients and coalitions, communication, and coordination on the implementation.

### **5.3 Application of Thematic Analyses**

Braun and Clarke's (2006) six-phase thematic analysis framework was applied as follows:

1. Familiarisation: All documents were read repeatedly to identify initial impressions and potential patterns.
2. Coding: Data was coded for recurrent ideas such as alignment with policy, implementation mechanisms, governance impacts, and digital inequalities.
3. Theme Development: Codes were clustered to form preliminary themes, ensuring they reflected the questions.
4. Review of Themes: Themes were refined, merged, and separated to ensure robustness.
5. Defining Themes: Clear descriptions were developed for each theme.
6. Producing the Report: Themes were synthesised into a coherent narrative forming this chapter.

### **5.4 Presentation of research results**

#### **5.4.1.1 Theme 1: Contribution of E-Governance to the NDP goals**

The findings reveal strong conceptual and strategic alignment between provincial e-governance initiatives and the NDP's goals of building a capable, ethical, and developmental state. The NDP emphasises institutional transformation, improved service delivery, technological innovation, and inclusive economic participation. Likewise, the GDEG's digital transformation agenda centres on modernising the public service, strengthening ICT governance, and expanding digital access, all of which map directly onto NDP priorities.

The Gauteng Department of E-Government's five strategic pillars (modernised ICT infrastructure, digital platforms, ICT oversight, ICT advocacy, and 4IR skills development) represent a deliberate provincial translation of national priorities. This alignment demonstrates policy coherence and confirms that Gauteng's e-governance agenda is embedded in the broader national developmental trajectory.

#### **5.4.1.2 Technological Dimension**

The Gauteng Provincial Network (GPN) expanded connectivity to over 1 300 government sites, linking schools, hospitals, and service centres through high-speed broadband (Gauteng Department of e-Government, 2025b). Smart surveillance projects such as the VumaCam network of more than 7 000 CCTV cameras enhanced urban safety, while the e-Panic Button mobile app improved citizen access to emergency services (Gauteng Department of e-Government, 2025b). These advancement demonstrates alignment with the NDP emphasis on modern and efficient service delivery. The advancements also align directly with EGOV4SD's emphasis on ICT-enabled service efficiency and institutional effectiveness, showing how digital systems can improve governmental responsiveness and resource management. However, Lourie (2025) from Tech Financials noted that several infrastructure targets, including WAN and LAN expansions were missed, reinforcing the persistence of infrastructural inequalities and the urban-rural digital divide.

Gauteng Department of e-Government (2025c) reported that 1 321 Wide Area Network (WAN) sites and 737 Local Area Network (LAN) sites had been completed, together with 119 Wi-Fi hotspots across 26 priority townships and 423 Voice over Internet Protocol (VoIP) sites. These developments demonstrate progress in expanding digital connectivity across government institutions and underserved communities. The Department specifically identified townships, informal settlements and hostels as priority areas for connectivity, indicating attempt to address unequal access to digital infrastructure.

The findings also demonstrate the use of digital technologies to improve public safety. More than 90 000 mobile e-Panic Button applications had been downloaded, generating more than 51 000 emergency callouts involving incidents such as accidents, shootings and gender-based violence, (Gauteng Department of e-Government, 2025c). this provides stronger evidence of actual utilisation of a digital government service rather than simply demonstrating that the technology exists.

#### **5.4.1.3 Social Dimension**

E-Governance has had significant social impacts through digital literacy, accessibility, and inclusion. The Mzansi Digital Learning (2025) and Winterveldt Youth Tech Expo (Chaane, 2025) have expanded opportunities for youth participation in the digital economy. The Department of e-Government's partnerships with Microsoft, Vodacom, FNB, Harambe, and

Afrika Tikkun have facilitated access to certified online training and mentorship. Similarly, the Nasi iSpani Relaunch 2025 (Jiyane, 2025) demonstrates the use of digital platforms for large-scale public employment, connecting 45 218 youth to training and job placement through transparent online systems. These illustrate EGOV4SD's principle of citizen empowerment and social inclusion.

The social dimension of e-governance is reflected through digital skills development and initiatives targeting young people. For the 2025/26 financial year, the Department reported plans to provide ICT skills training to 12 000 young people, particularly those living in townships, informal settlements and hostels, while provide ng 70 ICT bursaries, (Gauteng Department of e-Government, 2025c). The Department further planned to train 7 700 public servants, (Gauteng Department of e-Government, 2025c), demonstrating that digital transformation was directed not only at citizens but also at strengthening the digital capabilities of government employees.

#### **5.4.1.4 Economic Dimension**

Economically, the Department's e-Waste Management Programme (2025) links sustainability and entrepreneurship, promoting green innovation and job creation. The R1.5 billion digital services upgrade (Monzon, 2025) supports ICT entrepreneurship for over 200 township-based firms and the training of 12 000 youth, demonstrating e-Governance's contribution to inclusive growth. These interventions advance NDP targets for economic diversification and sustainable development, but their success depends on continuity, leadership stability, and private sector collaboration. The interventions also correspond with EGOV4SD's economic sustainability dimension, which highlights the importance of linking ICT innovation with entrepreneurship, job creation, and green economic development.

The economic contribution of e-governance is evident in the Department's use of digital transformation to support youth skills development and township-based enterprises. In the 2025/26 financial year, the Department reported that 200 township-based ICT entrepreneurs would receive business support, while 12 000 young people would receive ICT training skills, (Gauteng Department of e-Government, 2025c). These interventions indicate an attempt to connect digital transformation with employment creation, entrepreneurship and economic inclusion.

#### **5.4.1.5 Governance Dimension**

Governance within the Gauteng Department of e-Government reflects a growing commitment to a transparency, institutional accountability, and technological alignment with the National Development Plan (NDP) 2030 (National Planning Commission, 2012). Strategic partnerships with the private sector and research institutions, Huawei, In2IT Technologies, the University of Johannesburg, and the Council for Scientific and Industrial Research (CSIR), have been instrumental in building cyber security capacity and safeguarding provincial information systems (Mzekandaba, 2024).

The Gauteng Department of e-Government's governance is also shaped by its five strategic pillars, which include modernising ICT infrastructure, expanding digital platforms and e-services, strengthening provincial ICT oversight, promoting ICT advocacy, and developing 4IR skills (Gauteng Department of e-Government, 2020 p. 12). These pillars provide a structured roadmap for reducing duplication, enhancing interoperability, and enabling a coherent whole e-government digital ecosystem. Evaluation reports presented in the Strategic Plan underscore persistent governance issues such as fragmented ICT systems, inconsistent citizen experiences, and insufficient internal ICT capacity that the Department aims to address through improved oversight structures and standardised digital governance frameworks (Gauteng Department of e-Government, 2020 p. 19).

Governance progress has been accompanied by ongoing implementation challenges. Lourie (2025) report notes that the Gauteng Department of e-Government missed several ICT modernisations targets due to procurement and coordination delays, highlighting weakness in interdepartmental synchronisation. Nonetheless, continued investment such as the R1.5 billion digital upgrade programme supporting broadband expansion and township ICT entrepreneurship (Monzon, 2025), demonstrates strong policy alignment with the NDP's vision for a capable, efficient, and inclusive state (National Planning Commission, 2012). While coordination gaps persist, Gauteng's governance trajectory shows measurable improvement in innovation, collaboration, and digital resilience.

## **5.4.2 Theme 2: Implementation of E-Governance Strategies in Gauteng**

Implementation of e-Governance strategies in Gauteng reflects a complex interplay of institutional strengths and systemic constraints. The 7C Protocol provides a robust lens for understanding these dynamics, highlighting how content, context, capacity, commitment, clients and coalitions, communication, and coordination interact to influence implementation outcomes.

### **5.4.2.1 Content**

The content of Gauteng's e-governance initiatives is framed by national directives such as the NDP 2030, which calls for a capable, ethical, and developmental state driven by technology. The National e-Government Strategy (2017) further guides content development by outlining principles of citizen centricity, service integration, and digital inclusion. Gauteng Department of e-Government's Strategic Plan (2020-2025) aligns with these policy instruments to define interventions such as broadband expansion, digital literacy, data governance, cyber security, and public-private partnerships.

Gauteng's policy and content align with national e-Governance priorities, promoting inclusion, efficiency, and open data. However, Lourie (2025) from Tech Finance report indicates weak performance indicators and vague timelines, undermining monitoring and evaluation. Embedding clear metrics and evidence-based evaluation frameworks remains essential for improving accountability.

### **5.4.2.2 Context**

Context is influenced by laws such as the Electronic Communications Act (2005), which regulates ICT infrastructure, and POPIA (2013), which shapes privacy, data protection, and information handling. These provide a legal environment that encourages responsible digital transformation. Gauteng's economic and technological context supports digital expansion, yet socio-economic inequality, vandalism, and loadshedding threaten continuity (Monzon, 2025). The spatial divide between urban and township areas continues to shape unequal access to ICT infrastructure and digital skills. The Gauteng Department of e-Government's resilience, illustrated by the continuation of initiatives amid these obstacles reflects the contextual tension between progress and constraint.

#### **5.4.2.3 Commitment**

Political commitment remains a defining strength, supported by policy mandates that prioritise ICT development. The NDP 2030 explicitly commits government to expanding digital infrastructure and improving digital capability. This is reflected in Gauteng's policy commitments through initiatives such as the R1.5 billion digital upgrade. The Public Administration Management Act (2014) also obliges government departments to modernise operations and improve service delivery, reinforcing e-governance commitment. Leadership advocacy by the MEC for e-Government and consistent clean audits demonstrate executive dedication (Gauteng Department of e-Government, 2025b). Sustaining commitment requires institutionalising performance accountability and stable leadership structures.

#### **5.4.2.4 Capacity**

Capacity is shaped by policy tools such as the National ICT Policy White Paper (2016) which emphasises skills development, digital literacy, and institutional readiness. Gauteng's partnerships with Huawei, CSIR, UJ, and In2IT Technologies (ITWeb, 2024) reflects attempts to build capacity within the constraints of limited internal ICT skills. POPIA also imposes capacity requirements for data protection and cyber security, which the province still struggles to meet consistently. Institutional and human capacity gaps persist despite training initiatives for officials and youth (Monzon, 2025). Dependence on external consultants limits internal learning, particularly in cyber security and ICT integration (Mzekandaba, 2024). Addressing this requires not only technical upskilling but also reforming bureaucratic structures to attract and retain digital professionals in the public sector.

#### **5.4.2.5 Clients and Coalitions**

The Gauteng Department of e-Government's partnerships exemplify effective coalition building. Collaborations with Microsoft SA, Vodacom, Huawei, FNB, UJ, and CSIR strengthen the Department's ability to deliver complex programmes such as Mzansi Digital Learning and the Youth Tech Expo (ITWeb, 2024 and Gauteng Department of e-Government, 2025a). However, citizen participation remains limited to programme enrolment rather than co-design. Expanding bottom-up feedback mechanisms would promote shared ownership and responsiveness in e-Governance.

#### **5.4.2.6 Communication**

The additional Communication in the 7C Protocol highlights the importance of internal and external information flow. Communication is regulated by the Promotion of Access to Information Act (2000) and strengthened by digital transparency obligations in the National e-Government Strategy. These require government departments to communicate clearly and provide accessible public information. The Gauteng Department of e-Government's digital platforms (e.g. websites, social media, and online portals) have improved transparency and citizen outreach (Gauteng Department of e-Government, 2025a). Yet communication gaps persist, particularly in rural areas with low internet penetration, (Louri, 2025). Weak digital awareness campaigns and inconsistent updates hinder citizens' understanding of available services, reducing engagement and trust.

#### **5.4.2.7 Coordination**

Effective coordination across departments remains one of Gauteng's most critical challenges. Intergovernmental coordination is required by the Public Administration Management Act (2014), which calls for harmonised systems, shared services, and integrated planning. The National E-Government Strategy (2017) reinforces this by promoting system interoperability and whole of government digital platforms. Despite these mandates, Tech Finance found that Gauteng missed several infrastructure targets due to poor coordination between departments, procurement units, and technical teams.

E-government projects often operate in silos, with limited data sharing between health, education, and local government systems (Lourie, 2025). Lack of interoperability leads to duplication and inefficiency. Strengthening coordination through integrated planning, shared platforms, and cross-departmental committees is essential for maximising impact. The 7C Protocol underscores that coordination is not only administrative but also political, requiring unified leadership across all spheres of government.

#### **5.4.2.8 Synthesis of Implementation Findings**

The 7C analysis reveals that while Gauteng demonstrates innovative policy content, strong commitment, and robust coalitions, it continues to struggle with insufficient capacity, uneven communication, and weak coordination. These factors collectively explain why

implementation progress is substantial but uneven. The interplay between technology, leadership, and participation therefore defines the province's e-Governance trajectory.

### **5.4.3 Theme 3: Challenges affecting Implementation**

Despite extensive progress, Gauteng's e-Governance implementation faces multiple interlinked challenges that inhibit sustainability and inclusivity.

1. Digital divide: Unequal access to broadband, devices, and data remains pervasive (Louri, 2025). Urban communities benefit most from digital services, while township and rural areas lag behind, reinforcing spatial inequality.
2. Institutional Capacity: Shortages of ICT professionals and dependence on consultants continue to limit internal sustainability (Mzekandaba, 2024; Monzon, 2025).
3. Financial Constraints: Budget delays, under-expenditure, and procurement bottlenecks slow implementation (Monzon, 2025).
4. Cyber security risks: Growing threats to data protection necessitates ongoing partnerships with private sector experts (Mzekandaba, 2024).
5. Leadership turnover: Frequent management reshuffles disrupt implementation continuity (Gauteng Department of e-Government, 2025b).
6. Limited Citizen Participation: Engagement remains one directional, with few mechanisms for co-creation or citizen oversight (Chaane, 2025).
7. System Fragmentation: Weak coordination and non-interoperable databases hinder service integration across departments (Lourie, 2025).
8. Communication gaps: Insufficient public communication about digital programmes reduces uptake and awareness, particularly among marginalized population (Jiyane, 2025).

These findings align with the 7C Protocol's finding that capacity, coordination, and communication deficiencies remain key obstacles to effective e-Governance. The EGOV4SD framework further shows that while Gauteng performs strongly in technological and economic dimensions, social and governance dimensions remain underdeveloped. Bridging these divides requires an integrated approach that strengthens institutional coherence, community engagement, and digital literacy.

## **5.5 Conclusion**

This chapter has presented the research results showing that the Gauteng Department of e-Government continues to be a provincial leader in digital transformation and public sector innovation. Programmes such as Mzansi Digital Learning, Winterveldt Youth Tech Expo, e-Waste Management Programme, and Nasi iSpani demonstrates tangible progress towards the NDP's goals. However, persistent challenges ranging from limited capacity to fragmented coordination underscore the importance of communication, collaboration, and inclusivity in sustaining these gains.

The 7C Protocol proved especially useful in capturing the complex, multidimensional nature of implementation. It revealed that while the Gauteng Department of e-Government has achieved success in content design, leadership commitment, and stakeholder coalitions, ongoing weaknesses in communication, capacity, and coordination continue to hinder full scale transformation. The next chapter is chapter is the Conclusion.

## **Chapter 6: Conclusion**

### **6.1 Introduction**

This chapter presents the overall conclusion of the study and brings together the key findings, contributions, limitations, and recommendations. The chapter summarises the entire research process, revisits the research questions, highlights the key results, and reflects on how the findings contribute to the understanding of e-governance and development in the context of the Gauteng Department of e-Government. The chapter also outlines the limitations encountered during the study, proposes areas requiring further research, and concludes by reinforcing the significant of the study's outcomes.

### **6.2 Summary of the Study**

This study examined the role of e-governance in contributing to the National Development Plan (NDP) 2030, using the Gauteng Department of e-Government as a case study. The dissertation was structured into five chapters leading up to the conclusion.

- Chapter 1 introduced the study by outlining the background, research problem, aim, objectives, and research questions. It established the importance of e-governance in South Africa's developmental context and presented the rationale for focusing on Gauteng.
- Chapter 2 reviewed literature on ICTs, e-governance, digital divide, and public sector transformation in Africa and South Africa. It identified conceptual debates, highlighted gaps in implementation, and situated the Gauteng case within broader digital governance trends.
- Chapter 3 presented the conceptual and analytical frameworks guiding the study. These included the policy cycle, top-down and bottom-up approaches to policy implementation, the 7C Protocol, and the EGOV4SD framework, which provided a foundation for analysing institutional capacity, governance, and developmental outcomes.
- Chapter 4 outlined the research methodology. The study adopted a qualitative desktop research design and used thematic analysis as the analytic approach. The chapter also explained the data sources, sampling technique, and data analysis procedures.

- Chapter 5 presented the findings of the study, organised around four themes: strategic alignment with the NDP, implementation mechanisms, socio-economic and governance impact, and challenges facing implementation.

- Chapter 6 now concludes the dissertation by summarising the key findings, contributions, limitations, recommendations, and areas for future exploration.

### **6.3 Key Findings**

The study aimed to answer four research questions. The key findings are summarised below.

6.3.1 Question 1: How has the Gauteng Department of e-Government's adoption of e-governance strategies contributed to the NDP goals?

The findings demonstrate that the Gauteng Department of e-Government is strongly aligned with the NDP's priorities for building a capable, efficient, and development-oriented state. This alignment is demonstrated through the Department's strategic pillars and its focus on modernising ICT infrastructure, expanding digital platforms, strengthening ICT oversight, promoting ICT advocacy, and developing 4IR skills, as discussed in Section 5.4.1.1.

The technological findings further demonstrate this contribution through the expansion of the Gauteng Provincial Network, which included 1 321 WAN sites, 737 LAN sites, 119 Wi-Fi hotspots and 423 VoIP sites, as well as the use of digital technologies such as the e-Panic Button. The e-Panic Button had recorded more than 90 000 downloads and over 51000 emergency callouts, providing evidence of actual utilisation of a digital government service (Section 5.4.1.2). these findings indicate that e-governance has contributed to the NDP objectives relating to improved service delivery, technological development and public safety.

The social and economic dimension further demonstrates the developmental contribution of e-governance. The Department planned to provide ICT skills training to 12 000 young people, train 7 700 public servants, and support 200 township-based ICT entrepreneurs during the 2025/26 financial year (Section 5.3.1.3 and 5.4.1.4). These initiatives demonstrate how e-governance extends beyond technological modernisation to include digital skills development, economic participation and inclusion.

However, the findings also demonstrate that this contribution remains uneven. Infrastructure gaps, missed ICT targets, limited institutional capacity and digital inequalities continue to constrain implementation (Section 5.4.1.2, 5.4.1.5 and 5.4.3). Therefore, while e-governance has contributed to the NDP goals, the extent of its developmental impact remains dependent on the Department's ability to address these implementation challenges.

### 6.3.2 Question 2: How are e-governance strategies implemented in the Gauteng Department of e-Government?

The study found that e-governance strategies are implemented through a combination of policy direction, institutional planning, technological programmes and partnerships with external stakeholders. The 7C Protocol analysis in Section 5.4.2 demonstrates that implementation is influenced by content, context, commitment, capacity, clients and coalitions, communication, and coordination.

At the policy level, implementation is guided by the NDP 2030, the National e-Government Strategy and the Gauteng Department of e-Government's Strategic Plan (Section 5.4.2.1). The findings further indicate strong political and institutional commitment to digital transformation (Section 5.4.2.3).

Partnerships with organisations such as Microsoft SA, Vodacom, Huawei, FNB, the University of Johannesburg and the CSIR have also strengthened implementation capacity and supported digital programmes (Section 5.4.2.5). However, implementation remains constrained by skills shortages, reliance on external expertise, fragmented systems and weak interdepartmental coordination (Sections 5.4.2.4 and 5.4.2.7).

Therefore, the study concludes that Gauteng's e-governance implementation model demonstrates significant institutional commitment and stakeholder collaboration, but implementation effectiveness is reduced by weakness in capacity, communication and coordination. This conclusion is directly supported by the synthesis of the 7C analysis in Section 5.4.2.8.

### 6.3.3 Question 3: What challenges affect the implementation of e-governance in Gauteng?

The study identified several interconnected challenges affecting e-governance implementation. These include the digital divide, institutional capacity constraints, financial and procurement challenges, cybersecurity risks, leadership changes, limited citizen participation, fragmented systems and communication gaps (Section 5.4.3).

The digital divide remains particularly important because unequal access to broadband, devices and digital skills limits the extent to which citizens can benefit equally from e-governance services (Section 5.4.3). Similarly, shortages of ICT professionals and dependence on external consultants create challenges for institutional sustainability (Section 5.4.2.4).

The findings also demonstrate that coordination and interoperability remain significant barriers. Limited data sharing and fragmented systems across government departments reduce the potential for integrated service delivery (Section 5.4.2.7). These challenges demonstrate that technological investment alone is insufficient to guarantee successful e-governance implementation.

Overall, the findings suggest that major barriers of e-governance in Gauteng are not exclusively technological. They are also institutional, socio-economic and governance related, particularly in relation to capacity, communication and coordination as demonstrated through the 7C analysis in Sections 5.4.2.4, 5.4.2.6 and 5.4.2.7.

### 6.3.4 Question 4: How does e-governance contribute to developmental outcomes in South Africa?

The findings indicate that e-governance contributes to development through improvements in digital connectivity, public safety, skills development, economic participation and institutional governance. The technological evidence is presented in Section 5.4.1.2, including the expansion of WAN and LAN infrastructure and the utilisation of the e-Panic Button, demonstrates the contribution of digital technologies to public service access and responsiveness.

The social findings in 5.4.1.3 demonstrates that digital inclusion through skills training, bursaries and partnerships. Similarly, the economic findings in Section 5.4.1.4 show that e-governance can support township-based enterprises and youth participation in the digital economy.

The governance findings further indicate that digital transformation can strengthen institutional capacity, cybersecurity and collaboration through partnerships with public and private institutions (Section 5.4.1.5). However, these developmental benefits remain uneven because of the digital divide, institutional capacity constraints, financial limitations, communication gaps and weak coordination (Section 5.4.3).

Therefore, the Gauteng case demonstrates e-governance has the potential to contribute significantly to developmental objectives, but its developmental impact depends on the existence of the institutional, infrastructural and social conditions necessary for citizens and government institutions to benefit from digital transformation.

## **6.4 Contribution of the study**

This study makes several important contributions to the field of public administration, digital governance, and developmental state discourse. It contributes to empirical insights into how a provincial department operationalises national digital transformation goals within a real-world governance context. While existing research focuses on national level ICT initiatives, this study illuminates the provincial dynamics, institutional challenges, and developmental outcomes associated with e-governance.

The study also contributes conceptually by applying the 5C Protocol, top-down and bottom-up models, and the EGOV4SD framework to the context of Gauteng's digital transformation. This analytical application demonstrates how theoretical models can explain policy alignment, institutional behaviour, systemic challenges, and capacity dynamics within a provincial e-governance environment.

Additionally, the study enhances understanding of the relationship between e-governance and development. It shows that digital transformation is not only a technical process but a developmental one, influencing youth empowerment, digital inclusion, public safety, service

delivery efficiency, and economic participation. It reinforces the view that e-governance is central to building a capable developmental state. Collectively, these contributions add value to academic literature and provide insights for policymakers on strengthening provincial e-governance systems.

### **6.5 Limitations of the study**

- The reliance on secondary data restricted the study's ability to capture lived experiences, internal departmental perspectives, or real-time implementation realities.
- Document-based data may not fully reflect recent operational challenges or progress that may not have been publicly reported.
- No primary interviews means findings rely entirely on published information, which could exclude nuance or internal governance challenges.
- Provincial focus limits generalisation to national or municipal contexts, although many insights remain applicable more broadly.

### **6.6 Gaps that further research can fill**

Future studies could address the following gaps:

- Primary empirical research, including interviews with policymakers, ICT practitioners, and frontline implementers to deepen understanding of implementation challenges.
- Citizen-focused studies examining user experiences, digital literacy, and the social acceptance of digital platforms.
- Comparative provincial studies to assess how digital governance differs between provinces and what contextual factors shape outcomes.
- Impact evaluation studies that measure long-term socio-economic outcomes of digital interventions such as employment, digital inclusion, and public participation.

### **6.7 Recommendations**

Strengthening ICT skills and capacity is essential for enhancing the Gauteng Department of e-Government's ability to independently manage and sustain its digital transformation agenda. This requires the development of comprehensive and continuous training programmes for public servants, ensuring they acquire the technical competencies necessary for implementing and maintaining ICT systems. By building strong internal capacity, the Department can

gradually reduce its reliance on external vendors and consultants, thereby improving efficiency, ownership, and long-term sustainability. Establishing clear ICT competency frameworks will further guide skills development and help institutionalise knowledge the public service.

Improving interoperability and coordination across government departments is equally critical to the success of e-governance initiatives. Stronger cross-departmental governance structures should be established to address the fragmentation that currently weakens digital integration. Enhanced coordination will support seamless data sharing, reduce duplication of systems, and encourage collaborative planning and implementation this will contribute to a more cohesive, efficient, and integrated provincial digital ecosystem.

There is also a need to accelerate broadband expansion in underserved communities, particularly in townships and peri-urban areas. Addressing spatial inequalities in digital infrastructure is central to reducing the digital divide and ensuring that all residents have equitable access to digital services and opportunities. Prioritising connectivity in historically marginalised communities will improve access to education, employment opportunities, government services, and digital participation.

Enhancing public digital literacy is another fundamental requirement for effective e-governance. Community based digital literacy programmes should be expanded through schools, libraries, community centres, and youth development hubs to ensure that citizens have the necessary skills to navigate digital platforms. Such programmes will help bridge usage inequalities and empower citizens to effectively participate in an increasingly digital society.

To ensure reliability and continuity of digital services, the Gauteng Department of e-Government should strengthen infrastructure resilience. This includes investing in alternative energy sources and backup systems to mitigate the impact of loadshedding and other disruptions on ICT operations. Improving infrastructure will help protect online services from downtime and ensure consistent access to critical digital platform.

Finally, expanding public-private partnerships will further support innovation, funding, and capacity building. Collaborations with private sector organisations offer valuable opportunities for technological expertise, training, and resource mobilisation. However, these partnerships must be accompanied by strong governance oversight to ensure accountability, alignment with

public policy objectives, and the protection of citizens' digital rights. Robust partnerships can accelerate digital transformation while maintaining transparency and public trust.

## **6.8 Conclusion**

This chapter has summarised the study, revisited its research questions, and presented the key findings and their implications. The study concludes that the Gauteng Department of e-Government plays a crucial role in advancing the NDP 2030 objectives through digital inclusion, ICT infrastructure expansion, and innovative socio-economic programmes. However, persistent systemic challenges including the digital divide, capacity shortages, financial constraints, and poor coordination continue to limit the full potential of e-governance. Addressing these constraints is essential for building a capable and digitally empowered developmental state.

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