Factors Affecting Public Trust in Government Digital Services in Developing Countries: A Case of South Africa

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by

Nomfezeko Ntika

Supervisor: Professor Wallace Chigona

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Acknowledgments

For I know the plans I have for you", declares the LORD, "plans to prosper you and not to harm you, plans to give you hope and a future (Jeremiah 29:11).

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I would like to express my gratitude to my mother and my siblings for always cheering me on from the sidelines. I am blessed to come from a family that believes that one's win is the family's win. This achievement is for the family!

Lastly, I am grateful to Western Cape Department of Education and the parents who participated in this study, without which I would not have completed my master's degree.

Dedication

This thesis is dedicated to my daughter, Malwande Ndalontle Ntika. Her understanding, moral support and sense of humour strengthened me throughout this journey. She is twelve years old, but her wisdom amazes me every time.

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Abstract

Problem Statement: The government in developing countries has been grappling with poor service delivery often evidenced by perpetual destructive service delivery protests. Slow economic growth has further eroded the government capacity to deliver public services effectively and efficiently. The advent of government digital services was intended to address these challenges, hence substantial investment in such initiatives. However, the return on such investment is low due to low uptake of digital services in developing countries. Public trust is the most cited reason for the low uptake of Government digital services. The personal, institutional and technological contextual factors play a pivotal role in building public trust in government digital services.

Objective: The objective of the study was to examine and explain how contextual factors affect public trust in Government digital services in developing countries. To achieve this objective, the study analysed how personal, institutional, and technological factors influence public trust in government digital services.

Methods This study was of qualitative nature and adopted an interpretive philosophy, a descriptive purpose, and a deductive approach. A conceptual framework was developed based on the literature review. A single case study was adopted. Data were collected through semi-structured interviews. Purposive and snowball sampling techniques were used to select participants. Thematic analysis was used to analyse data.

Findings The results of this study show that personal, institutional, and technological contextual factors affect public trust in government digital services. People with low socio-economic status and limited digital efficacy often struggle to access and use these services. Government digital services that are deployed by institutions that lack transparency, accountability and good governance tend to be mistrusted by the public. Additionally, digital services that are not user-friendly, with poor quality of information, and lack adequate data security and privacy further erode public trust.

Originality/Contribution: This study made a practical contribution by providing the government with research-based findings that can be used as input in legislation and policies aimed at improving public trust in government digital services. This study also made a theoretical contribution by providing an in-depth analysis of how personal, institutional and technological factors affect public trust in government digital services in developing countries.

Keywords: Public trust, digital services, government, developing countries, South Africa

List of abbreviations and acronyms

e-Government	Electronic Government
ICT	Information and Communication Technology
SA	South Africa
SMS	Short Message Service
UN	United Nations
WCED	Western Cape Education Department
WCG	Western Cape Government
Wi-Fi	Wireless Fidelity

1. Introduction

Public trust is the cornerstone of public value that strengthens the relationship between government and citizens. As governments accelerate their efforts to transform traditional public services into digital services, public trust has become increasingly vital (Abdulkareem, 2022). Digital services are considered the powerful tool to improve government efficiency, quality of service delivery, citizen engagement, and public trust in government (Janssen, 2021).

The digital services are defined as Information and Communication Technology enabled public services that are delivered over the Internet and accessed through websites, portals and mobile applications (Mergel, 2019). Therefore, governments are increasingly investing in ICT Infrastructure projects to deliver quality and equitable digital services to the public (Nurdin, 2021).

The beneficiaries of digital services are government stakeholders, including citizens, businesses, government employees, and other government entities. The perceived benefits of digital services include improved effectiveness, efficiency, accountability, transparency and responsiveness (Alkraiji & Ameen, 2022). The critical success factors for digital services include the development of digital policies and strategies that regulate the use of technology in government, the creation of safe and secure communication systems and data storage facilities, the training and upskilling of government employees on ICT's (Palma et al., 2023).

Despite the potential benefits of government digital services, adoption in developing countries remains low and incoherent (Mayedwa, 2023). The low levels of public trust in Government digital services have contributed to the low uptake of such services (Pérez-Morote et al., 2020).

Using the case of the Western Cape Education Department (WCED) Online Admissions system, this study investigated factors that affect public trust in government digital services in developing countries. This chapter is organised as follows: Section 1.1. Background of the Study. Section 1.2.

Overview of the case study. 1.3. Conceptual clarification of government digital services. 1.4. Research problem. 1.5. Research questions and objectives. 1.6. Overview of the Research Methodology. 1.7. Significance of the study. 1.8. Delimitation of the study. 1.9. Organisation of the thesis.

1.1 Background of the study

Public trust in government has declined substantially in the past few years due to corruption, poor service delivery, and inefficiency of government (Janssen et al., 2018). Public trust is the expectation that government will act responsibly and ethically as it allocates and manages public resources to serve the needs of the citizens(Beshi & Kaur, 2020). Public services have not met the needs and solved the problems of citizens. Furthermore, the lack of accountability, transparency, and responsiveness of government have further eroded public trust in government (Beeri et al., 2019; Mansoor, 2021). Public trust refers to the perception that government will implement laws, policies, and services to protect, serve and empower citizens (Kumar et al., 2021).

The advent of Government digital services, as an extension of public services, was meant to overcome service delivery challenges by improving the efficiency and effectiveness of public services. However, instead, digital services have inherited existing challenges in government services (Lee-Geiller & Lee, 2019). Furthermore, digital services tend to reflect the assumptions and worldviews of decision makers, resulting in a failure to meet the needs and solve the problems of the citizens (Demirdoven et al., 2020; Khan & Krishnan, 2021).

1.2 Overview of the Case Study

Although there is a plethora of research and evidence of the benefits associated with digital services, there are challenges in developing countries that affect public trust and uptake of these services (Hazineh et al., 2022). Development countries are countries with low levels of development due to slow economic development (Sabir et al., 2019).

In addition, South Africa was chosen as the context of this study, as it is a developing country situated on the African continent. South Africa is a middle-income developing country with a

young democracy that was attained in 1994 (Swilling et al., 2016). South Africa is a powerful country on the African continent with the services sector contributing 73% to GDP (Trading Economics, 2023). South Africa is one of the technologically advanced countries in Africa, with advanced mobile infrastructure and more than 50% internet users, as a percentage of the population (Donati, 2023).

The South African constitution of 1996 demands the equal right to knowledge and information. To this end, the South African government has developed progressive regulatory policy frameworks to ensure digital inclusion, of all citizens regardless of their backgrounds and limitations (Adedokun & Zulu, 2022). Such policy frameworks include the following:

- *Electronic Communications Act 36 of 2005*: aims to ensure universal access to electronic communications services and supports the development of the information and communication technology sector.
- *The Electronic Transaction Act of 2005* aims to protect consumers and promote trust in electronic transactions by addressing issues like cybersecurity and data protection.
- *SA Connect* seeks to create an inclusive information society and enable the government to provide broadband to the underserved communities, thereby bridging the digital divide in the country.
- *Thusong Service Center Framework*: enables the government to offer public services in a citizen-centric approach.

The implementation of the frameworks mentioned above has enabled the government to make commendable strides in developing digital services to improve the efficiency and effectiveness of the government. Such digital services include e-filing, e-Natis, e-recruitment, eHome Affairs (Blom & Uwizeyimana, 2020).

Despite the global view of the progress made by the UN member states in providing online public services as reported by the UN e-Government survey report, the report has its flaws. The report does not include the evaluation of public services on-line provided at the local level where public services are delivered directly to the citizens (Mayedwa, 2023). Against this backdrop, the e-Government Survey report is not a reliable source of data to determine whether the government

will achieve the Sustainable Development Goal (SDG) 2030 of ensuring that "no one is left behind and offline in the digital age" (United Nations E-Government Survey, 2022, p. iv).

Despite South Africa's progressive frameworks and influence on the African continent, the South African government has struggled to improve the socio-economic conditions of its citizens. As such, the living conditions of citizens have not improved much since the dawn of democracy. This is due to the high unemployment rate and heavy dependence on government for basic services (Pasara & Garidzirai, 2020; Swilling et al., 2016). Furthermore, the digital divide further perpetuates the inequality in the country (Manda & Backhouse, 2017).

The WCED online admission system was selected as the single case study for this study. The WCED Online Admissions System is an online system that is used for student application and admission to Grade 1 and Grade 8 public schools in the Western Cape province. The development of the WCED Online Admissions system was based on the WCED policy for the management of admission and registration of learners in ordinary public schools.

The WCED policy for the management of admission and registration of learners in ordinary public schools aimed to achieve, among other things, the following objectives:

- Support schools in developing admission policies within the prescripts of national and provincial legislation, including public and private law.
- Facilitate the admission of learners to ordinary public schools in the western Cape province in a timely and efficient manner.
- Enable effective teaching and learning to begin on the first day of the school year and the first day of successive school terms.
- Ensure the legal administration of the admission and registration of students in schools.
- Align admission processes with WCED CEMIS.

Parents who plan to enrol their children in public schools in the province have the following options:

- Apply for themselves on the WCED Online Admissions system
- apply manually at the WCED Head Office (also known as Walk-in Centre), public schools, or district offices of the department of education.

The longevity and coverage of usage of the WCED Online Admissions system has motivated the choice of this system over other government digital services.

1.3 Conceptual Clarification of Government Digital Services

Although government digital services have been studied extensively, the concept still suffers from conceptual inconsistency as there is no universally accepted definition in the literature (Alzahrani et al., 2017). Digital government refers to the modern way of leadership, decision-making process, service organization, and delivery which is mediated by ICT (Gil-Garcia et al., (2018); e-Services are services and applications provided to users over the Internet, using ICT (Panayiotou and Stavrou, 2021); Smart government services are public services rendered by government to citizens through digital technologies (Hartanti et al., (2021) and E-government is the employment of ICT to improve the efficiency and effectiveness of public services provided to government stakeholders (Alkraiji and Ameen, 2022)

Drawing on the above definitions, this study defines Government digital services as ICT-enabled public services that are delivered by the government to the public through various digital channels, to improve service delivery and to open new channels for citizen engagement with government (Alkraiji & Ameen, 2022). It is the application of internet services that distinguishes between traditional and digital public services, rendering digital services more transparent, effective and efficient (Mayedwa, 2023).

1.4 Research Problem

For decades, developing countries have been struggling with a shrinking economy, inadequate government capacity to provide basic services, and dwindling public trust (Kim, 2016). These challenges are partly attributed to the legacy of discriminatory past laws, poverty, inequality, and poor performance of government (Kassongo et al., 2018). However, governments continue to make substantial investments in the ICT infrastructure and deployment of digital services to complement traditional public services and to address service delivery challenges. The implementation of

government digital services plays a pivotal role in the development of the digital society that thrives in the digital economy (Kassongo et al., 2018).

Despite the large investment in ICT infrastructure and government digital services, the return on such investment remains substantially low in developing countries due to the low uptake and utilization of these services (Ma & Wu, 2020; Mahmood et al., 2020). The challenges that contribute to the low uptake include slow response to citizen queries submitted online. Additionally, lack of access to technology and digital skills, unstable network due to loadshedding, inadequate ICT infrastructure, all of which affect public trust in Government digital services (Blom & Uwizeyimana, 2020; Kamarudin et al., 2021; Nkomo & Moyane, 2021; Nokele & Mukonza, 2021).

Public trust is the precondition for the uptake and continuous utilization of government digital services. Public trust is shaped by the individual's experiences with government services, through physical or digital means, and the perceptions formed from such interactions (Barbosa & Mota, 2022; Kumar et al., 2021).

Trust in government digital services is not only determined by technological factors but is also influenced by personal and institutional contexts (Aleisa, 2024). Public trust, or lack thereof, in government institutions is often carried over to government digital services regardless of the digital service efficiency and effectiveness. Thus, government must build an institutional culture of credibility and reliability to enhance public trust (Aleisa, 2024). The technological context focusses on the reliability and credibility of digital services, the effectiveness and efficiency of the feedback loop, and the ability to handle increasing utilization of the system (Aleisa, 2024). Personal context refers to user characteristics and their ability to engage effectively with the digital services (Kumar et al., 2023)

It is against this backdrop that this study is conducted: to examine and explain factors affecting public trust in government digital services in developing countries, focusing on personal, institutional and technological factors.

1.5 Research questions and objectives

This study investigated and explained factors affecting public trust in government digital services in developing countries. This study answered the following research questions:

How do contextual factors affect public trust in government digital services in developing countries?

To answer the main research question, the research was broken down into three research sub-questions, with associated objectives:

- How do personal factors affect public trust in government digital services in developing countries? The objective of this question is to uncover the manifestation of trust at a personal level. This is achieved by uncovering subjective perceptions and real-world situations that influence the individual's decision to trust or mistrust government digital services
- How do institutional factors affect public trust in Government digital services in the developing countries? The objective of this sub-question is to explain how the governance and culture affect public trust in government digital services deployed by the government institutions.
- How do technological factors affect public trust in government digital services in developing countries? The objective of this question is to explain how digital service design and technical configuration of digital service influence the individual's decision to trust or mistrust government digital services

1.6 Overview of the research methodology

This study adopted an interpretive epistemology and employed a single case study approach, focussing on the Western Cape province in South Africa. The case examined was the WCED Online Admissions system. This case study was selected to examine and explain factors affecting public trust in government digital services in developing countries.

The qualitative data collection method was semi-structured interviews. Interviews were conducted with parents who have used the WCED online admission system to apply for learner admission, as well as with school admission clerks from public schools and WCED head office in Cape Town. Thematic data analysis was adopted, guided by six phases outlined by (Braun & Clarke, 2006) : Familiarizing with the data, generating codes, searching themes, reviewing themes, defining and naming themes, and producing the final report.

The results of this study show that personal, institutional, and technological contextual factors affect public trust in government digital services. People with low socio-economic status and limited digital efficacy often struggle to access and use these services. Government digital services that are deployed by institutions that lack transparency, accountability and good governance tend to be mistrusted by the public. Additionally, digital services that are not user-friendly, with poor quality of information, and lack adequate data security and privacy further erode public trust.

The key to building public trust in government digital services is to adopt the 'public inclusion design' principle when designing government digital services. Access to reliable ICT infrastructure, such as public WIFI, and access to digital skills are also key to building digital trust in government digital services. Furthermore, government employees must exhibit professional behaviour and performance excellence that inspire confidence in government, thus building trust in government digital services.

1.7 Significance of the study

This study made a practical contribution by providing the government with research-based findings that can be used as input in legislation and policies aimed at improving public trust in government digital services. This study also made a theoretical contribution by providing an in-depth analysis of how personal, institutional and technological factors affect public trust in government digital services in developing countries. The significance of this study may help to understand the reasons behind the low adoption of government digital services in developing countries. As a response, government may provide evidence-based solutions to boost the uptake of digital services.

1.8 Delimitations of the study

The study was conducted in the context of a developing country, South Africa, using the Western Cape Education Department's (WCED) online admission system as a case study.This study investigated and explained factors that affect public trust in government digital services, focusing on South Africa. The sampling unit consisted of parents and admission clerks from the head office and from three public schools in the western Cape province. Although the case study was the WCED Online admission system, the study was located in the Information Systems (IS) discipline and not in the education discipline.

1.9 Organisation of the thesis

This thesis is organised into of five chapters as follows:

Chapter One: **Introduction -** introduces the study, its background, context, research problem, research objective, and questions. It also provides an overview of the methodology employed and the significance of the study.

Chapter Two: **Context and Description of the WCED Online Admissions** – provides context of the research case study.

Chapter Three: **Literature Review -** summarises the existing literature related to factors affecting public trust in government digital services in developing countries, focusing on South Africa. This chapter concludes by presenting the proposed conceptual framework, which has been deduced from the literature review.

Chapter Four: **Research Methodology -** defines the research paradigm, sampling technique, data collection techniques, and methods of analysis employed in this study. Furthermore, this chapter addresses the ethical considerations of the study.

Chapter Five: **Research Findings -** presents and discusses the empirical findings from the data collected and analysed. Additionally, this chapter discusses the theoretical and practical implications of the finding.

Chapter Six: **Conclusion** - provides a summary of the study findings, drawing from key findings of the study. This chapter also presents the study conclusion, research contributions, limitations, and future research recommendations.

2. Context and Description of WCED Online Admissions

2.0. Introduction

This chapter describes the context and the case description of the study. The empirical setting of the study was South Africa, which is a developing country located on the African continent. South Africa consists of nine provinces, one of which is the western Cape province where this study is located.

Among the public-facing digital services provided by the WCED is the WCED Online Admissions system, which was used as the single case study for this study. One of the critical school activities is the acceptance of new students, which needs to be backed up by a carefully planned and measurable strategy.

This chapter is organised as follows: 2.1. An overview of the South African Education System. 2.2. An overview of public education in the Western Cape. 2.3. Description of the WCED online admission system. 2.4. Challenges with Online Admission Systems in South Africa. 2.5. Summary of the chapter.

2.1. An overview of South African Education system

Any refusal of learner admission to a public school in South Africa is a violation of a constitutional right to basic education as provided in Section 9 of the constitution. General Notice 4138 of 2001 prohibits unfair admission practices in the country. Section 3 of the South African Schools Act , 1996, demands that every member of the executive council must ensure that every child in the community is able to attend public school (Sibanda & Beckmann, 2021).

The South African public education has implemented progressive legislation and policies whose aim is to ensure access to equal, equitable, and quality education for all. Legislation and policies also ensure that teachers are provided with sufficient skills and knowledge to create a conducive teaching and learning environment. Furthermore, the legislation aims to ensure learner support and protection (Singh, 2022). This study is located in South Africa's basic education.

In 2015 the Gauteng Department of Education introduced the online school admission System. Since then, other provinces such as the Western Cape and Northern Cape have implemented their systems. The system focuses on the admission of Grade 1 and Grade 8 learners. The focus on grades 1 and 8 was based on the criticality of these stages in a learner's educational journey. It is crucial to provide foundation phase and high school students with opportunities for growth and development, as learners who receive quality education and support during the foundation and high school phases are likely to succeed post these phases (Kilag et al., 2023).

2.2. An overview of public education in the Western Cape

The Western Cape province constitutes thirteen departments, one of which is the Western Cape Department of Education, which operates under the jurisdiction of the national department of education in terms of policy and curriculum guideline. However, administratively, it can adopt and adapt national policies to meet provincial needs.

WCED operates in eight education districts in the province with its head office in the Central Business District (CBD) of Cape Town, presented in Figure 2-4. WCED is responsible for overseeing public education in the province from early childhood development (ECD) to grade 12 (WCED Annual Report, 2022/23).

The WCED online admission system is an online system that is used for the application and admission of the student to grade 1 and grade 8 public schools in the Western Cape province.

Figure 2-4: The Western Cape Education Districts.

Source: Western Cape Education Sector Analysis, 2024.

The western Cape province has a total of 1,754 schools, 83% of which are public schools, as presented in Figure 2-5.

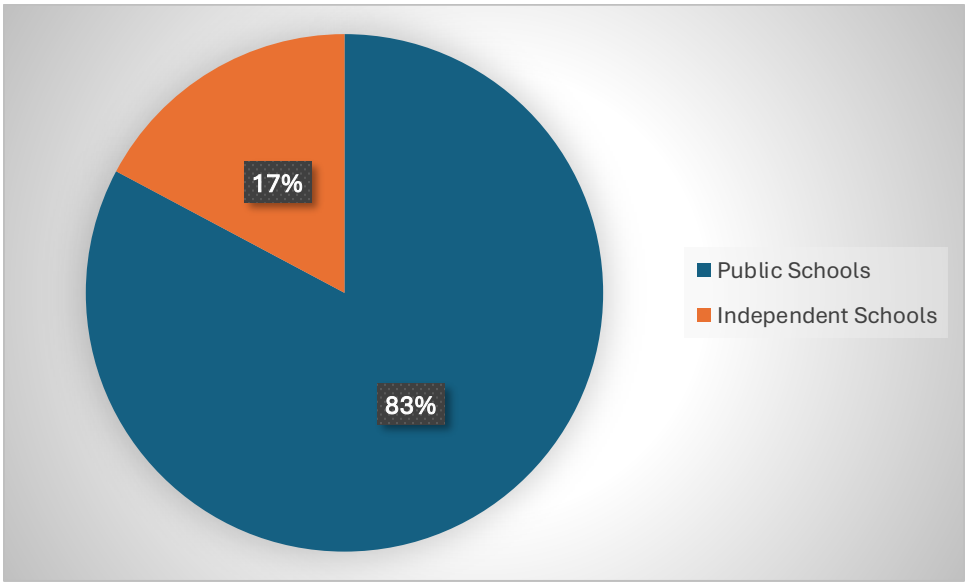

Figure 2-5: Schools in Western Cape province by sector.

Source: Statista, 2022

It can be seen in Figure 2-6 that the four metropolitan districts have processed the highest number of applications in 2024.

District	2024 Total Applications Prior (31 March 2024)
Cape Winelands	59 227
Eden And Central Karoo	36 330
Metro Central	125 762
Metro East	158 455
Metro North	144 840
Metro South	149 004
Overberg	13 029
West Coast	25 427
Province	**712 074**

Figure 2-6: Number of school applications processed per district

Source: Annual Report 2023/24 Department of Education

2.3. Description of the WCED Online Admission System

The South African government has taken advantage of advances in technology and implemented the Online School Admission system. The objective of the system was to facilitate online school admission of Grade 1 and Grade 8 learners (Istiqomah & Wahyono, 2021). In 2019, the Western Cape Government piloted the WCED Online Admissions System in public schools in the Western Cape province.

The implementation of the online learner admission system, such as the WCED online admissions system, has revolutionised the learner enrolment process and improved the engagement between parents and the department of education (Shabangu, 2024). The benefits of an online learner admission system include optimizing the learner admission process, making the application, and admission equitable and transparent (Sibanda & Beckmann, 2021). Figure 2-7 presents the application process followed when applying to the WCED online admission system.

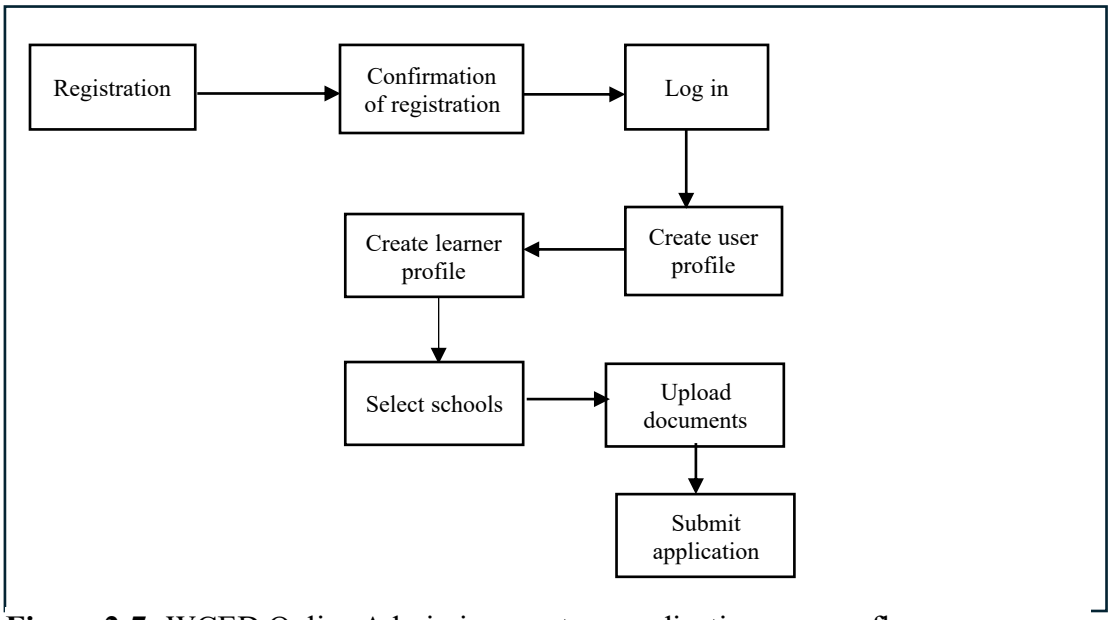

Figure 2-7: WCED Online Admissions system application process flow

The WCED has launched the advocacy program, which was aimed at creating awareness and promotion of the WCED online admission system and assisting parents with online applications. The program has seen admission clerks from the department of education conducting the shopping mall pop-up campaigns, across the province. The programme was spearheaded by the WCED head office team.

The programme resulted in 152 021 applications being captured on the system by parents themselves for the 2025 academic year. It must be noted that these figures were recorded before 31st March 2024, before the late applications were captured into the system.

2.4. Challenges with Online School Admission Systems in South Africa

Despite the benefits ushered in by the online admissions systems in South Africa, such as admission efficiency, fairness, and transparency, challenges exist that undermine the government efforts to integrate innovation in the education sector. The main challenges relate to the lack of digital skills and the uneven distribution of the ICT infrastructure necessary to enable the effective use of the online system. Consequently, some parents continue to use the traditional manual application method (Sibanda & Beckmann, 2021).

The online school admission system has provided convenience for parents who are educated, digital literate, and can afford the cost associated with online connectivity. However, the system has been criticised for perpetuating inequalities, as it disadvantages students who reside in rural areas and underserved areas (Ibrahim et al., 2021). This inequality brings to question the constitutional right of children to basic education and the government's responsibility to ensure equal and equitable access to public education (Sibanda & Beckmann, 2021).

There is no concerted effort, from the department of education, to provide sufficient awareness and user training, in using Government digital services such as the online school admission system (Istiqomah & Wahyono, 2021). Integrating user participation in the planning, design, and testing of the online school admission system could address some of these challenges (Bouzguenda et al., 2019). This would ensure that the government fulfils its mandate of providing inclusive and equal access to education(Sibanda & Beckmann, 2021).

2.5. Summary of the chapter

The chapter provided context for public education in the Western Cape in South Africa. The chapter also provided a description of the WCED online admission system, including the online application process. The WCED online admissions system was developed to optimise the admission process and remove the admission process from school administrators so that they can focus on their time on other education functions.

Parents and schools with enough resources have benefited from the use of the WCED online admission system. However, those without resources have not benefited from the same benefits. As such, the online system has underscored the socioeconomic disparities as parents from underserved communities have to use their constrained financial resources going to the school, district offices, or head office to apply manually.

3. Literature review

3.0. Introduction

Any substantial research is based on proof that the researcher understands the literature in the field of study (Randolph, 2019). Therefore, this chapter collected and summarized the most relevant literature to understand the factors that affect public trust in government digital services in developing countries. This chapter is organized as follows: 3.1. Conceptualization of trust. 3.2. Conceptualization of government digital services. 3.3. Classification of government digital services. 3.4. Digital Inclusion. 3.5. Gaps in the literature. 3.6. Factors that affect public trust in government digital services in developing countries. 3.7. Proposed conceptual framework. 3.8. Summary of the Literature Review.

3.1. Conceptualization of trust

The concept of trust has been evolving with the evolution of the society, from social trust in the agricultural economy, institutional trust in the industrial economy, and to technology trust in the digital economy (Guo, 2022). Despite the evolution of trust, scholars have not formulated a universally accepted definition of trust due to its complexity and ambiguity (Mansoor, 2021). Hence, the literature provides different definitions of trust presented in Table 3-4.

Table 3-4: Types of trust

Types of Trust	Description	Reference
Social Trust	Social trust is the perception that fellow human beings are trustworthy and that the world is a good place to live in.	Newton et al. (2018)
	Social trust is a cognitive behavior that is shaped by local cultures, values, and traditions where members of a particular community exhibit similar trust attributes.	Wan et al. (2022)
Institutional Trust	Institutional trust is the belief that interactions, through physical and digital means, will be conducted in the best interest of the trusting party, even in the face of uncertainty and risks.	Laifa et al. (2015)

	Institutional trust assumes that government officials will implement laws, polices, and processes that put the needs of the citizens ahead of theirs.	Citrin and Stoker (2018)
Technological Trust	Technological trust is the perception that technology will deliver the required service securely, easily, and reliably, with minimal effort from the user	Laifa et al. (2015)
	Technological trust assumes that digital interactions are conducted over a secured, useful, and credible ICT infrastructure.	Ejdys (2018)

Drawing on the various definitions of trust, this study defines trust as confidence that one's vulnerabilities will not be exploited under risky conditions, instead, the trusted party will deliver on the expected results (Alkraiji & Ameen, 2022).

The World Bank defines public trust as the perception of citizens that government will implement laws and policies to protect, serve and empower citizens, and to honour government's duty toward citizens (Kumar et al., 2021). Social, institutional and technological trust are interlinked and are the foundation for a stable, functional and civilized society (Oksanen et al., 2020). As technology development and people's dependence on technology advances, it is expected that technology trust will continue to receive significant research attention going into the future (Ejdys, 2018).

3.2. Conceptualisation of Government Digital Services

Over the years, scholars from different domains have formulated various definitions of government digital services. It still suffers from conceptual inconsistency, as none of the formulated definitions have been universally accepted (Alzahrani et al., 2017; Kvasnicova et al., 2016) as presented in Table 3-5. However, it is the application of the internet that distinguishes between traditional and digital services, rendering digital services more transparent, effective, and efficient than traditional services(Mayedwa, 2023).

Table 3-5: Definitions of government digital services

Source	Definition
Kvasnicova et al. (2016)	Public e-services are web-based services that are delivered by the government to the stakeholder (citizens, employees, businesses, and other government entities) over the Internet.
Gil-Garcia et al. (2018)	Digital government refers to the modern way of leadership, decision-making processes, service organization and delivery, as well as the new concept of citizenship which is mediated by ICT.
Othman et al, (2020)	E-Government is the ICT-enabled mechanism to transform conventional government services into online government services, which are delivered through websites, web portal, and mobile devices.
Aftab and Myeong (2022)	Digital government is the modernization of public services to improve the long-term utilization of government online services by citizens and businesses.
Hartanti et al, (2021)	Smart government services are public services rendered by government to citizens through digital technologies

In this study, government digital services are defined as ICT-enabled public services that are delivered by the government to its stakeholders to improve the efficiency and effectiveness of public services. Furthermore, government digital services enable new channels of engagement between government and citizens (Alkraiji & Ameen, 2022). The definition recognises the interplay between people, processes, and technology, as government employees play a key role in optimising government processes and rolling out innovative technologies necessary to improve public services. When government digital services are designed and implemented properly, they have the potential to transform the entire public administration into a single integrated access point for all government services (Mayedwa, 2023).

3.3. Classification of Government Digital Services

Government digital services are public services delivered to the government stakeholder, which are citizens, government employees, businesses, and other government institutions, as

presented in Figure 3-8. The objective of government digital services is to optimize government services and improve government performance of government (Kvasnicova et al., 2016).

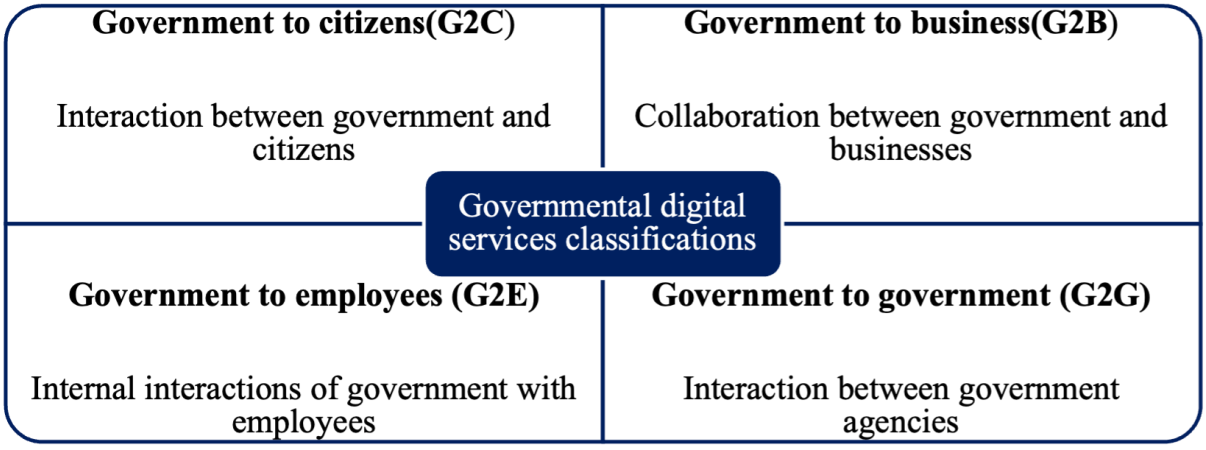

Figure 3-8: Classification of Government Digital Services

3.3.1. Digital services from government to citizens

Government-to-citizens (G2C) digital services refer to government services and information that are designed and organized to serve the needs of the citizens (Ma & Wu, 2020). The G2C digital services involve the provision of reliable information and services through government websites, portals and mobile applications (Yang et al., 2021). Table 3-6 presents the G2C government digital services.

Table 3-6: G2C Government Digital Services

G2C Government services	Description
e-HomeAffairs	Digital service that enables the public to schedule an appointment to visit the Home Affairs branch.
e-Natis	Digital service used by the public to book an appointment, register as a road traffic user and report a minor crash
e-Justice	Digital service used by public as an online one-stop shop justice related information and services.
e-Recruitment	Digital service used by the public to apply for state jobs
WCED Online Admissions	Digital service used by parents and guardians to apply for learner admission at public schools in the Western Cape Province.

3.3.2. Government-to-Business (G2B) digital services

Government-to-Business (G2B) digital services are government services designed to serve the needs of the businesses (Panayiotou & Stavrou, 2021). The objective of G2B is to create a conducive environment for established and small and medium businesses to succeed (Dukic et al., 2019). Table 3-7 presents the G2C government digital services.

Table 3-7: G2B Government Digital Services

G2B Government services	Description
SMME Booster Fund	Digital service used by Small, Medium, and Micro enterprises to apply for government funding and support.
eCertification	Digital service used by businesses to receive, verify, process, and deliver certification information to trading partners involved with plants and plant products export.
NPO registration	Digital service to register the Non-Profit Organisation
e-Filling	Digital service used by the individuals and businesses for the submission of returns, declarations and other related services

3.3.3. Government-to-Government (G2G) digital services

Government-to-Government (G2G) digital services are interGovernment interactions which are sometimes referred to as e-administration intended to improve administrative processes of government institutions (Nokele & Mukonza, 2021). Digital services G2G involve streamlining business processes and standardisation of government services, thus improving decision-making processes, optimisation of human and financial resources, and improving the quality of government services (Deman, 2020; Multama et al., 2019). The integrated financial management system (IFMS) is an example of a G2G Government digital service which is used by various spheres of government to integrate processes, thereby improving information sharing within government entities (Sikaonga & Tembo, 2020).

3.3.4. Government-to-Employees (G2E) digital services

Government-to-Employees (G2E) digital services refer to the internally focused digital services created to optimise, integrate internal government processes, and centralize information for decision making. The objective of G2E is to achieve government goals and objectives. G2E digital services include the performance management system, Project Management System (Sikaonga & Tembo, 2020).

There is often a mismatch between government digital services and stakeholders' needs, which negatively impact the government and stakeholder relationship and trust (Ma & Wu, 2020). Consequently, some stakeholders abandon the digital services and revert to physical or face-to-face interaction with government (Aftab & Myeong, 2022). Therefore, stakeholders are crucial to be involved in the design of Government digital services, as co-creators, to ensure that Government digital services meet and solve the problems of its stakeholder (Lee & Kim, 2018).

3.4. Digital inclusion

Digital technologies do not penetrate countries and societies in a uniform and standardized fashion but propagate over time (Sharp, 2022). Consequently, some countries and social groups remain excluded from digital connectivity, creating digital inequalities and gaps (Aziz, 2020). The digital inequalities and gaps between countries and social groups hamper sustainable economic growth and human development, and the key question becomes: How to achieve digital inclusion? (Aziz, 2020; Sharp, 2022).

Digital inclusion refers to the concerted efforts and activities taken to ensure equitable access to and ability to use ICT to enable citizens, of all backgrounds, to participate in and benefit from, the digital economy (Alhassan & Adam, 2021). The sections below will thus discuss the digital inclusion from a global and South African perspective and provide some insights into how the digital inclusion can be achieved in developing countries like South Africa.

3.4.1. The global perspective

As access to Government digital services has become a human right in the digital age, digital inclusion has become a global concern, as technology is increasingly transforming the way people live, work and engage (Dufva & Dufva, 2019; Guo, 2022). There are various factors that contribute to the digital divide. Such factors include age, economy, gender, education and digitals skills (Adedokun & Zulu, 2022; Matthews et al., 2019). Digital inclusion is more than just providing access to the Internet. It takes into account quality and quantity of access to the internet, digital skills, affordability, and ability to uses ICTs (Correa et al., 2020). Providing internet access without providing the necessary mechanisms to ensure that people can afford and use internet is a fruitless endeavor (Alhassan & Adam, 2021).

The concept of digital divide has been evolving with the evolution of times, from the initial simplistic focus on the uneven distribution of access to the Internet, referred to as first-level digital divide, to uneven distribution of access to digital skills, referred to as second-level digital divide, to the new focus on the digital divide based on Internet outcomes, which is referred to as the third-level digital divide. The digital divide of the outcomes of the Internet is concerned with the benefits that citizens derive from access to internet and digital skills (Scheerder et al., 2017). The evolution of the concept of the digital divide has been brought about by the appreciation that having access to ICT and the Internet is not synonymous with having digital skills. Therefore, the outcomes of the Internet are part of the digital inclusion discourse (Chisango & Marongwe, 2021).

Despite the complex and multifaceted nature of the digital divide, there are universally accepted barriers and enablers of digital inclusion. Barriers include access, affordability, and access. The enablers include data, design, and access, as presented in Figures 3-9.

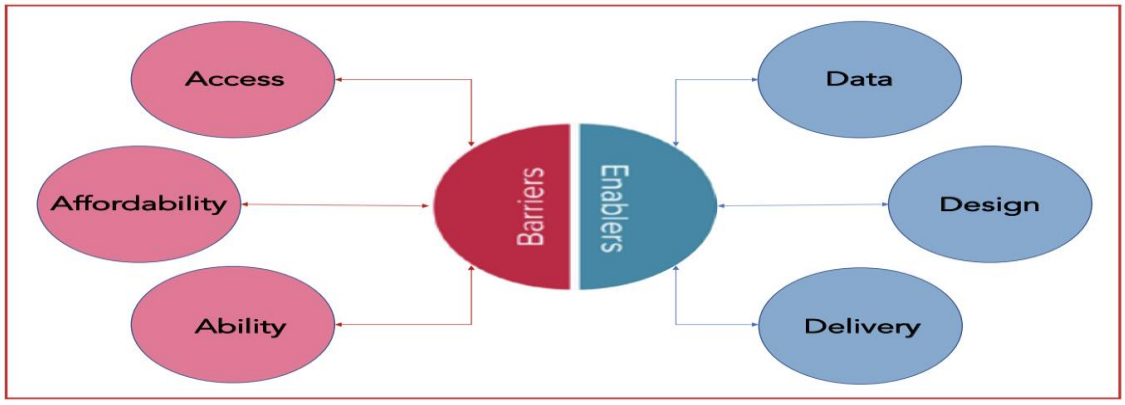

Figure 3-9: Framework for digital inclusion. Source: United Nations e-Government Survey

The level of digital divide is influenced by such factors as socioeconomic, cultural characteristics, and human development of a country. Technological penetration and the ability of citizens to use technology and participate in the digital economy have a direct link to the socioeconomic, cultural and human development (Alhassan & Adam, 2021; Pérez-Castro et al., 2021). Therefore, there is a stark difference in the level of digital divide between developed and developing countries (Nishijima et al., 2017).

Various organizations collect data from different countries and index them to measure the impact of ICT on human and socioeconomic development. These organizations include, but are not limited to, the United Nations' e-Government Development Index (EGDI), which publishes ICT indicators to measure the extent to which government provides digital services to the citizens. The World Economic Forum publishes the Network Readiness Index (NRI), which measures a country's readiness to take advantage of the opportunities offered by ICTs. The World Economic Forum also publishes Global Competitive Index (GCI) which measures the ability of countries to facilitate human development through, amongst other things, provision of adequate infrastructure, ICT adoption, skills, and innovation capabilities.

Nishijima et al. (2017) conducted a study analysing the digital divide in several countries such as Brazil, Latin America, Europe, and North America. The study findings revealed that the digital divide in developed countries has decreased since 2014. In Brazil, 58% of the population have access to the internet, 52% have access to computers, and 139 per 100 people own a mobile device. In Latin America and Caribbean countries, 52% of the population have internet access, 44% have access to computers, and 115 per 100 people own a mobile device. In North

America, 82.1% of the population have access to computers, 87.3% have access to the Internet, and 117 per 100 people have access to mobile devices.

In 2003, at the First World Summit on the Information Society, the United Nations (Asen & Bunn), pronounced its goal to close the digital divide between developed and developing countries (Hawash & Lang, 2020). Consequently, developing countries have since seen increased penetration of ICT and internet access from 2003 to 2018, as evidenced by the increase in the number of internet users from 6% to 48%. Additionally, the number of households that have access to a computer has increased from 10% to 36%, and the mobile phone subscription increase from 10% to over 75% (Hawash & Lang, 2020).

However, since 2015, China and South Africa have seen a decline in internet usage, with citizens indicating their reasons for not using the internet, such as lack of digital skills and the ability to use the Internet. This decline has been seen in disadvantaged communities where most of the population does not have formal education and employment (Chetty et al., 2018).

The investment in ICT infrastructure accelerates the manufacturing of the ICT-enabled goods and services, and penetrates new markets at low cost, thereby improving productivity and economic growth (Hawash & Lang, 2020). Sluggish economic growth in developing countries is directly proportional to low investment in adequate ICT infrastructure and a lack of appetite to adopt new technologies (Hawash & Lang, 2020).

3.4.2. Perspective of the developing country: A case of South Africa

The South African constitution of 1996 demands the equal right to knowledge and information. The 2030 Sustainable Development Goals (SDG) of the United Nations demand the development of the vibrant ICT sector, the connected and inclusive information society. To achieve the objectives of the South African Constitution and the 2030 SDG of the UN, the South African government has created a safe and conducive regulatory environment through the development of progressive legislation, presented in Tables 3-8.

Table 3-8: Legislations to bridge the digital divide in South Africa

Legislation	Description
The Electronic Communication and Transactions Act of 2002	Regulates the recognition of electronically signed documents to promote electronic commerce and communication
State Information Technology Agency (SITA) Act of 1999	To coordinates and consolidates state's ICT resources and provides ICT services and support to the government departments
Broadband Policy of 2013	To provide universally accessible, reliable and secure broadband services to all South Africans, giving priority to the marginalised and under serviced communities and to boost rural economic growth.
Cybercrimes Act, 2020	Legal framework to create a safe and secured cyberspace to protect Government digital services from cyber threats and attacks.

Consequently, the United Nations (Asen & Bunn) e-Government survey report (2022), a benchmarking tool for comparative assessment of e-Government of UN member states, reported that South Africa is among five countries in Africa that offer 20-21 online public services. The report regards the number of online public services, provided by the South African government, as a noteworthy progress, as only 63 of the member states offer 20 or more of the 22 online public services evaluated. South Africa is currently the leader in the African region in terms of the quantity of government digital services available to the public (UN e-Government Survey, 2022).

Although the UN e-Government survey report provides a comprehensive view of the progress made by South Africa in providing access to Government digital services, it has its own shortcomings. For example, the report does not provide the number of online public services provided at local government level where public services are delivered directly to the citizens (Mayedwa, 2023). Additionally, the report does not provide insights into the efficiency and effectiveness of the online public provided by government (Mayedwa, 2023).. Therefore, the survey report cannot be used as a reliable source of information to assess the progress made by developing countries towards closing the digital divide and building a digital society.

Despite the progressive regulatory environment created in South Africa and the influence of the country on the African continent, most citizens are subjected to triple challenges of poverty, inequality, and unemployment. This is due to slow economic development and poor education outcomes (Pasara & Garidzirai, 2020; Swilling et al., 2016). Triple challenges are exacerbated by digital exclusion, particularly in rural communities where there is little investment in ICT infrastructure. The inadequate ICT infrastructure has resulted in slow internet connectivity and slow information transmission, all of which make it difficult for the government to deploy digital services (Adedokun & Zulu, 2022). The uneven spread of access to the Internet, as presented in Figure 3-10, is spectacularly uneven, with rural areas having a total of 0.8% access to the Internet at home. The high cost of the Internet, digital illiteracy, and poor internet connectivity are major factors that contribute to digital exclusion, especially in rural areas (Alhassan & Adam, 2021).

Place where Internet is accessed	Rural/ Urban status	Province (per cent)									
		WC	EC	NC	FS	KZN	NW	GP	MP	LP	RSA
At home	Metro	25,1	11,3	-	13,6	3,8	-	14,0	-	-	14,0
	Urban	11,9	1,5	8,0	3,0	7,8	1,9	16,3	1,4	5,6	6,8
	Rural	6,2	0,1	8,8	4,5	0,4	0,3	0,0	1,2	0,5	0,8
	Total	**20,3**	**4,4**	**8,2**	**6,2**	**3,4**	**1,0**	**14,2**	**1,3**	**1,5**	**8,3**
At work	Metro	17,0	16,8	-	17,5	31,6	-	29,1	-	-	26,1
	Urban	17,5	12,2	18,1	9,4	27,5	14,8	16,4	13,9	14,5	16,4
	Rural	24,1	6,4	10,2	9,2	4,3	3,5	0,0	3,2	4,1	4,8
	Total	**17,5**	**11,4**	**15,9**	**11,7**	**20,3**	**8,4**	**27,3**	**7,9**	**5,9**	**17,5**
Using mobile devices	Metro	64,2	53,7	-	52,3	59,6	-	72,1	-	-	66,8
	Urban	69,7	59,2	62,4	64,2	77,1	73,0	79,8	73,0	77,8	71,6
	Rural	55,8	47,4	64,6	44,8	50,9	48,9	58,1	65,3	52,2	52,9
	Total	**65,4**	**52,2**	**63,0**	**59,0**	**60,2**	**59,3**	**73,1**	**68,7**	**56,9**	**64,1**
At Internet Cafes or educational facilities	Metro	16,9	16,7	-	15,0	47,1	-	28,7	-	-	28,2
	Urban	12,8	9,1	9,0	10,2	11,4	8,8	25,8	15,9	6,1	13,1
	Rural	21,4	3,1	0,4	9,9	3,3	3,3	0,0	10,4	3,8	4,9
	Total	**15,9**	**9,2**	**6,6**	**11,6**	**22,6**	**5,6**	**28,2**	**12,8**	**4,2**	**17,6**

Figure 3-10: Household Internet access by place and province, Stats SA, 2020

Although South Africa has its own fair share of digital exclusion challenges, it still performs better than other developing countries on the African continent in terms of ICT penetration. This progress is attributed to advanced institutions of higher learning and research bodies, strong financial and private sector, and access to ICT tools (Aruleba & Jere, 2022). Government, as the largest economy and custodian of public value, has the moral obligation to

develop innovative solutions to propel the state to sustainable development and to close the digital divide (Shibambu, 2022).

Since 1999 South Africa's government has been driving the Thusong Services Centre programme, which provides a one-stop shop for government services and information, particularly for poor and marginalized communities. Through this program, 400 Thusong Services Centers across the country have been built (Maloba & Auriacombe, 2019). Furthermore, the South African government has been increasingly repurposing and modernizing public services such as public libraries to meet the needs of the digital economy. Modernization and repurposing include re-purposing of the ICT infrastructure, providing access to a reliable Internet, and providing digital literacy programmes to the public (Adedokun & Zulu, 2022).

Hence, since 2021, the city of Johannesburg has built three new libraries, namely: Noordgesig Library, Paterson Park Library, and Lehae Library, aimed at meeting the needs of the digital society. Such digital society needs include transformation of library spaces and services and connecting the public with the global world. This initiative has position the new libraries as a community-centered space (Mpendulo, 2023).

To accelerate efforts aimed at closing the digital divide in developing countries, international organizations such as World Bank, United Nations, and G8 could play a pivotal role by supporting programmes aimed at lowering the costs of access (Chetty et al., 2018). Furthermore, mobile telecommunications, in collaboration with the government, can also join efforts and streamline programs aimed at closing the digital divide in developing countries (Nishijima et al., 2017).

3.5. Gaps in the Literature

Although the literature on government digital services is vast and extensive, two research gaps were noted.

1. The existing literature pays very little attention to institutional factors that affect public trust in government digital services. For example, how do public experiences with government institutions influence trust in government digital services?

2. The literature pays little attention to the personal factors that affect public trust in Government digital services. For example, how digital efficacy, age, socioeconomic status affects the intention to use and possibly trust Government digital services in developing countries?

This study aimed to close this gap in the existing literature by providing insight into factors affecting public trust in Government digital services from personal, institutional, and technological viewpoints.

3.6. Factors affecting public trust in government digital in developing countries

In recent years, the assessment of government digital services, from a citizens' perspective, has gained a great deal of research attention for several reasons. One of the reasons is the disjuncture between the expectation of citizens and the Government digital services offered to the public (Alkraiji & Ameen, 2022; Lee-Geiller & Lee, 2019). Therefore, this study is necessary to investigate and explain factors that affect public trust in government digital services in developing countries.

The uptake of government digital services in developing countries is significantly low, posing the challenge for the government in its quest to build a digital society that thrives in the digital economy. (Barbosa & Mota, 2022). The following subsections will provide insights, from the literature, on factors affecting public trust in government digital services in developing countries.

3.6.1. Data privacy and cyber security

Despite the commendable strides of the South African government to create a safe regulatory environment to provide secure digital services, data privacy and cyber security remain one of the major factors that affect public trust in government digital services in the country (Terrance, 2023a). Data privacy and cyber security refer to the protection of personal data against cyber threats and attacks (Cho et al., 2019). Data privacy and cyber security risks refer to the protection of network and application from cyber criminals who intend to gain unauthorized access to the confidential data for criminal activities. Cybercriminals can also attack or hack personal mobile devices to gain unauthorized access to people's personal information (Bayaga & Ophoff, 2019).

Since 2019 privacy and security concerns have increased in developing countries; as a result, citizens have become concerned about how their private information is handled and processed (Bayaga & Ophoff, 2019; Terrance, 2023a). Consequently, the adoption of government digital services remains substantially low, evidenced by long queues at government offices by citizens who want to access public services (Aftab & Myeong, 2022). Poor data privacy and security make citizens feel reluctant to share their private information online, as they feel vulnerable and exposed to cyber-criminals (Bayaga et al., 2020; Bayaga & Ophoff, 2019). Furthermore, poor security and privacy not only have irreparable damage to affected individuals, it also poses a risk to the image of the government and that of the nation (Cho et al., 2019).

In the developed countries, where strict privacy laws and regulations are in place, 75% of the population uses Government digital services, an indication of a high level of trust in Government digital services (Bayaga et al., 2020). Given the critical role that trust plays in the adoption and use of government digital services, building trust in these services, in developing countries, must be given priority in research and policy priority (Bayaga et al., 2020).

To increase uptake and trust in government digital services, government should make a concerted effort in providing cyber security awareness and training government employees on cyber security, (Hartanti et al., 2021). The impersonal and distant nature of government digital services requires trust in government and trust in digital service itself (Barbosa & Mota, 2022; Laifa et al., 2015) The low uptake poses a challenge for the government in its pursuit of a digital society and closing the digital divide (Hartanti et al., 2021).

3.6.2. Quality of information and digital services

Information quality and service quality improve citizen satisfaction and trust in the Government digital service (Alkraiji & Ameen, 2022; Cho et al., 2019). Quality of information and digital services refers to the accuracy, reliability, relevance, and completeness of the service. Furthermore, the design of the service and the ease of the system cultivate the perception of information and digital service quality (Aftab & Myeong, 2022).

Government offices that operate in rural communities are characterized by slow internet connectivity, outdated information on the Web sites, slow email transmission, and offline digital services. These challenges give a negative public perception of the quality of government digital services, resulting in a decline in public trust in these services (Nokele & Mukonza, 2021). Consequently, a significant number of citizens feel that government digital services bring more problems than solutions (Mesa, 2023).

Researchers are divided on the consequences of lack of trust in government digital services. Some researchers argue that when trust fails, citizens not only become resentful towards government, but also feel betrayed by the government they have entrusted with power to govern them (Festenstein, 2020). In which case, citizens become disengaged in government affairs, resulting in government developing in digital services that do not meet the needs and solve the problems of the publication. (Kumar et al., 2021). Lawlessness, protests, and wars then become the order of the day, thus perpetuating the lack of trust in Government services(Kumar et al., 2021).

Other scholars argue that lack of trust in Government digital services encourages the public to participate in democratic processes to change government whose services do not meet their needs (Goldfinch et al., 2022; Lee & Schachter, 2019). Lack of trust in government services indicates a failed democracy and renders such government illegitimate and unworthy of public trust (Huang et al., 2020). The lack of trust in government digital services, in developing countries, poses a challenge to the government, as the cost of physical services is glaringly higher than the cost of digital services (Merlo & Ferenhof, 2022).

Socioeconomic well-being of citizens is reliable indicators of a healthy trust relationship between government and citizens (Helliwell et al., 2018). Governments that enjoy high levels of trust are supported by the public in their efforts to implement public policies, laws, and innovative solutions aimed at serving the needs of citizens and solving their problems (Macdonald, 2020). The individual's experience with government services , through physical or digital means, shapes the perception of trust in government services (Kumar et al., 2021). This indicates the importance of designing quality digital services that are suitable for purpose to build public trust in Government services (Merlo & Ferenhof, 2022).

3.6.3. Digital Divide

Access to digital skills and education has the potential to enhance a person's life as it provides an individual with options to navigate the digital economy and to economically benefit from it (Johnston et al., 2015). However, in South Africa, access to ICT infrastructure, lack of digital skills, and few opportunities to education and training remain a challenge. Furthermore, age, gender, economic status, race, geographical location are factors that influence access and skills to use ICT, all of which further perpetuate the digital divide (Adedokun & Zulu, 2022; Mesa, 2023).

Adequate ICT infrastructure creates a conducive environment for new businesses to be developed and existing ones to thrive, thereby opening new markets and employment opportunities. Government digital services, supported by robust ICT infrastructure, can facilitate rural development by connecting underdeveloped to well-developed communities, thereby improving quality of life and well-being of citizens and enhancing trust in government (Alhassan & Adam, 2021; Johnston et al., 2015).

Poor access to digital services, particularly in rural communities, is a consequence of a lack of political will and administrative management support (Seadira, 2019). Management support is key to the successful implementation and maintenance of reliable digital services. Managers, as decision makers, must have a sufficient understanding of the benefits and opportunities offered by digital services to improve government efficiency and service delivery (Nokele & Mukonza, 2021).

Access to digital services must take into consideration the minority groups from various parts of the society, including illiterate, visually, and hearing impaired, and other groups with limitations that prevent easy access (Merlo & Ferenhof, 2022). Socioeconomic status, age, level of education, gender, area of residence also have a positive correlation with trust in and ability to use government digital services (Mesa, 2023).

To address the challenge of digital divide, the South African government has made commendable progress in rolling out broadband infrastructure programs to provide equitable and affordable access to the internet (Blom & Uwizeyimana, 2020). SA Connect is one such

programme aimed at connecting government facilities such as schools, clinics, libraries, Thusong centres (Seadira, 2019). The provision of broadband has the potential to boost rural economic development by attracting foreign investors and building a thriving small-medium enterprises environment (Seadira, 2019).

Some countries, including South African government, have also established access centers within rural communities to provide digital skills, increase access to information and other valuable resources, and bridge the digital divide (Johnston et al., 2015).

It is argued that for government efforts to successfully bridge the digital divide, it must make a concerted effort to investigate and understand the connectivity challenges in rural government offices and communities, and develop effective rural connectivity policies, in collaboration with citizens that are directly affected by the connectivity issues. This may improve government image, unlock rural economy, and improve trust in government's digital services (Seadira, 2019). While at it, government should take into account quality, quantity, and affordability of internet access in the rural communities, if the objective of closing the digital divide and trust in government services is to be achieved (Correa et al., 2020).

3.6.4. User participation in the design of government digital services

Public trust in government in developing countries has declined in recent years, evidenced by poor voter turnout and the number of service delivery protests in countries with functional democracy. The decline is partly attributed to the Government digital services that do not meet the needs of citizens and solve their problems. (Kumar et al., 2021; Lee-Geiller & Lee, 2019).

Although the government in developing countries like South Africa has achieved commendable successes in developing citizen-centered digital services such as e-filing, e-Natis, eVisa, e-recruitment, and eHome Affairs, challenges persist that render Government digital services inefficient and ineffective (Chan et al., 2021; Osah & Pade-Khene, 2020). The persistence of these challenges is attributed to the tendency of government to develop digital services without the input of the public, who are the primary users of these services (Osah & Pade-Khene, 2020).

User participation in the design of government digital services is recognized as part of the solution to solve some of the challenges with service delivery, as it creates a shared space for

collaboration and engagement (Bouzguenda et al., 2019). Although the concept of user participation has preoccupied researchers for decades, it still suffers from conceptual inconsistency as there is no universally accepted definition. The literature provides various definitions for user participation, as illustrated in Tables 3-9.

Table 3-9: Conceptualization of user participation

Conceptualization	Definition	Source
Co-creation	Involvement of all relevant stakeholders in the development cycle of public services.	(Khan & Krishnan, 2021)Khan and Krishna (2021)
Co-design	Collaborative approach between the users of government digital services and the providers of such services to understand and deliver the government services that meet the user expectation and needs.	Nusir (2020)
Collaborative governance	Involvement of the community stakeholders in the articulation of public value, its drivers, and resources required to achieve the public value for the benefit of the citizens.	Bianchi et al. (2021)
Citizen participation	Involvement of citizens as individual or groups in the decision-making process to address the needs of disadvantaged communities	Rosilawati et al. (2022)
Inclusive governance	Deliberate centering of public engagement in government innovation	Macnaghten and Guivant (2020)

Drawing on these various definitions, this study defines user participation as the coordinated engagement process between government and citizens in the design of government digital services, through multiple channels of engagement, to address the needs and solve the problems of citizens to achieve public value.

To this end, the South African government has been increasingly leveraging the ICT infrastructure to support SMS, emails, voice calls, e-petition, and social media to enable real-

time and cost-effective engagement with government (Bouzguenda et al., 2019).The provision of multiple channels of user engagement is pivotal if the objective of achieving inclusive participation of all social groups, is to be achieved (Chan et al., 2021).

Traditional user engagement mechanisms such as community engagements, public hearings, have been criticized for being ineffective in attracting the broader spectrum of stakeholders and encouraging user participation (Bouzguenda et al., 2019). Adoption of participatory governance practices enabled by ICT has proven to be more relevant and efficient in the digital and information age, breaking the boundaries between government and citizens and creating a shared online space that is accessible to all social groups, regardless of their social class (Bouzguenda et al., 2019).

Effective user participation depends on the availability of multiple channels of engagement with the government and trained government employees to maintain communication with citizens and to resolve citizens' queries online (Terrance, 2023b). Social media has been recognized globally as a two-way, real-time, and low-cost mass communication channel to improve responsiveness and promote public participation (Yang et al., 2021).

Responsiveness means that government must be led by citizens to understand the needs of citizens, from the citizen perspective, and then take action in response of those needs (Barberá et al., 2019). Social media is an application based on the Internet that allows users to participate in the creation and sharing of information or content through mobile/smart technologies. Popular social media applications include twitter, Facebook, YouTube, Instagram (Lovari & Valentini, 2020).

Statistics show an upward trend of social media subscription in South Africa, with 10.1 million subscribers on WhatsApp, 9.1 million active users on Facebook, 4.7 million active users on Twitter, 9 million active subscriptions on YouTube and 3.7 million subscription on LinkedIn (Fashoro & Barnard, 2021).

Although social networks offer government an effective mechanism to meet citizens where they are, government has not been capitalizing on these platforms, as they are merely used for public announcements and information broadcasting, with little effort in capitalizing on its collaborative power (Arshad & Khurram, 2020).

Despite the pervasiveness of social media and its ability to connect people, from all walks of like, social media has been criticized for facilitating the widespread of fake news, misinformation, and cybercrimes. It is therefore necessary for government to provide solutions in the form of laws and policies to address these challenges which hinder user participation as the public becomes skeptical of sharing their private information when engaging with government through social media (Van Dijck, 2020).

The failure of government to capitalize on social media, to promote user participation, is due to lack of skilled employees to handle user engagement online, lack of participation strategy to promote inclusivity (Fashoro & Barnard, 2021; Terrance, 2023b). Furthermore, Government digital services fail due to lack of management buy-in and enough budget to upgrade and maintain user participation digital services and upskilling of government employees (Adendorff & Smuts, 2019; Merlo & Ferenhof, 2022).

Failure to involve citizens, as users of government services, may lead to the design of digital services that fail to solve the problems of the citizens, fail to meet user expectation, resulting in user dissatisfaction, increased mistrust and low uptake(Guo, 2022). Essentially, government needs to do more to ensure that the voices of all social groups, regardless of their background, are taken into consideration when building government digital services, if the objectives of inclusive and digital society that thrives in the digital economy is be achieved (Nkomo & Moyane, 2021).

3.6.5. Good Governance

Public trust in digital services cannot exist where good governance principles are not upheld (Jameel et al., 2019; Seyedsayamdost & Vanderwal, 2020). The concept of good governance was launched by the World Bank as an intervention to address the perpetual underdevelopment of some states, despite having adopted 'neoliberal adjustment policies imposed by the World Bank and the International Monetary Fund (Mazhar & Goraya, 2020). Good governance principles include, amongst other things, accountability, transparency, inclusivity, equitability, responsiveness, rule of law, human rights, participatory (Seyedsayamdost & Vanderwal, 2020).

Public trust is enhanced when government institutions demonstrate a commitment to holding government officials accountable for committing malpractices and for failing to perform their

duty to provide basic services to citizens. The key to accountability is ensuring that actions taken are visible to the public (Hartanto & Siregar, (2021). Poor implementation of good governance erodes the capacity and capability of government to deliver quality and equitable digital services (Kamal & Batool, 2021). Essentially, good governance provides states with economic competitiveness that translated into substantial social and human development (Keping, 2018).

Although good governance has been considered a good practice for any organisation, it has not always met the expectation, as the public administration is still littered with incidents of corruption, political interference, and poor service delivery, all of which have eroded trust in government services. Good governance has also been criticised for ignoring the power of international actors in the governance processes of developing countries. Consequently, critics perceive good governance as a propaganda of the dominant imperial state to exploit developing countries. Then sound governance has been proposed as an alternative to good governance. However, sound governance is still a developing concept that is still unfamiliar in some national states, particularly in developing countries like South Africa (Kamal & Batool, 2021; Rao et al., 2020).

Building trust in government digital services is the building block for a stable and progressive digital society and is an essential ingredient in building a harmonious , democratic and civilized societies (Oksanen et al., 2020). It is therefore crucial for the public to be empowered with digital skills to participate confidently in, and benefit from, the digital economy. Digital illiteracy hinders the whole human civilization (Dufva & Dufva, 2019; Ejdys, 2018). Poor implementation of good governance erodes government capacity to deliver quality public services (Kamal & Batool, 2021).

To ensure that government digital services live up to their promises, among other things, they must emphasize transparency, accountability, responsiveness, thus improving public trust in government(Kamal & Batool, 2021).

3.7. Proposed Conceptual Framework

The literature review provided a myriad of complex and multifaceted factors that affect public trust in government digital services in developing countries, which can be classified as personal, institutional, and technological factors. Currently, there is no framework that incorporates all these factors to help in understanding this complex concept and interpretation thereof. After a comprehensive review of the literature, the conceptual framework in Figure 3-12 was proposed to guide the collection and analysis of data.

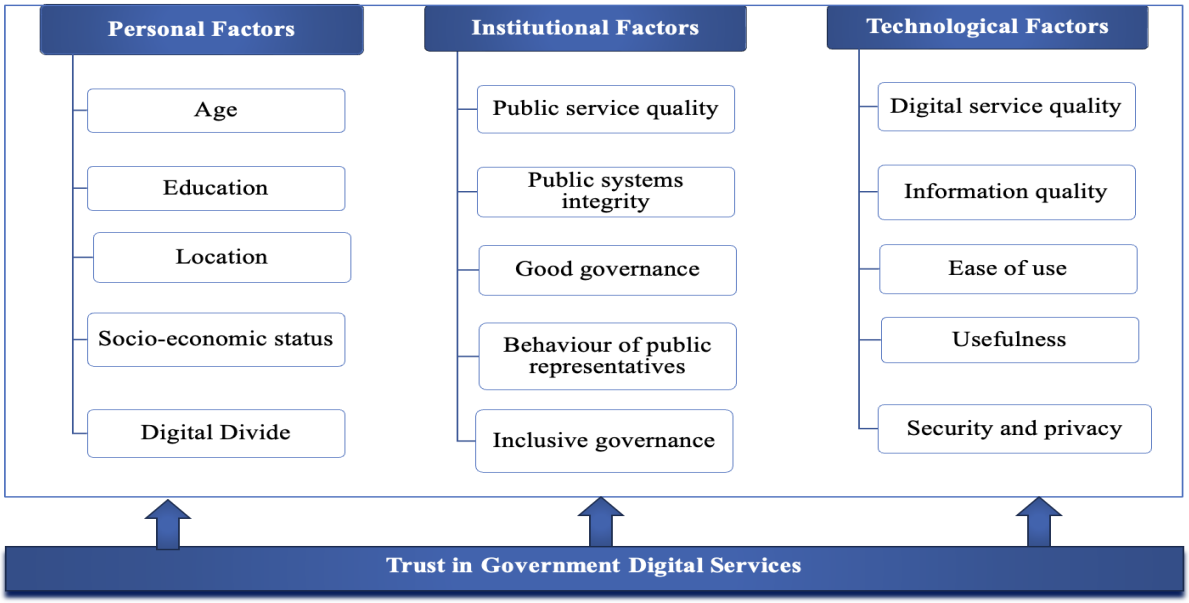

Figure 3-11: Proposed Conceptual Framework for Trust in Government Digital services.

3.8. Summary of the literature review

This study aims to examine and explain how contextual factors affecting public trust in government digital services with the context of developing countries. This literature review was conducted to synthesize and critically analyze the existing research to gain an in-depth understanding of factors affecting public trust in government digital services in developing countries.

The literature review revealed that public trust in Government digital services is influenced by a complex interplay of contextual factors which are personal, technological, and institutional. Given the global decline of public trust in government, digital services offer the opportunity to break the boundary between government and citizens, thereby improving trust in government. Government cannot afford to neglect public trust in government digital

services, as it is vital for human and economic development, and for building a progressive digital society that thrives in the digital economy. Therefore government, in collaboration with all its stakeholders, must make concerted efforts to ensure that the government digital services effectively and efficiently meet the needs of citizens and address their challenges.

4. Research Methodology

4.0. Introduction

This study aimed to examine and explain how contextual factors affect public trust in government digital services in developing countries, focussing on South Africa. The research methodology defines the steps we followed to collect and analyse data, and to present findings (Abutabenjeh & Jaradat, 2018).

This chapter is organised as follows: 4.1. Philosophical foundations of the study. 4.2. Research approach. 4.3. Research purpose. 4.4. Research Methods. 4.5. An overview of the empirical study context. 4.6. Target population and sampling technique. 4.7. Data collection. 4.8. Research Instrument. 4.9. Time frame. 4.10. Data Analysis. 4.11. Reliability and validity of the data of the data. 4.12. Limitations of the study. 4.13. Ethical Considerations. 4.14. Summary of research methodology.

4.1. Philosophical foundations of the study

The philosophical stance provides the starting point for the research process (Muhaise et al., 2020). Research philosophy indicates the assumptions of the researcher about the development of knowledge and the nature of that knowledge (Bleiker et al., 2019). This research adopted the research epistemology described below.

4.1.1. Research Epistemology

Epistemology is concerned with the nature of knowledge and how that knowledge is used.
is acquired (Žukauskas et al., 2018). This study adopted an interpretive epistemology to investigate and analyze factors affecting public trust in government digital services in developing countries. Interpretive epistemology seeks to understand interpretations of reality from the perspective of the individual social actor. Reality is a collection of daily experiences that shapes the behaviours and thought processes of social actors and informs the interpretation of the world (Kamal, 2019). Thus, interpretive epistemology was suitable for this study, as it allowed the researcher to uncover the multiple realities of a diverse group of participants.

4.2. Research approach

Two research approaches are used to develop a new theory: deductive and inductive (Armat et al., 2018). Deductive is a 'top-down' approach that follows a highly structured methodology to test casual relationships between constructs to understand and explain a social phenomenon. The inductive approach is a 'bottom-up' approach that involves the identification of patterns and relationships from which to build a theory (Woiceshyn & Daellenbach, 2018). This study adopted a deductive approach to collect and analyse data. This study was guided by the conceptual framework proposed in Chapter 3.

4.3. Research purpose

Research studies are conducted for different purposes, which may be exploratory, explanatory, or descriptive, depending on the research questions and objectives (Abutabenjeh & Jaradat, 2018). The nature of this study is interpretive; therefore, it adopted a descriptive purpose to examine and explain factors affecting public trust in government digital services in developing countries. Descriptive research is concerned with understanding a social phenomenon and its characteristics based on lived experiences (Willis et al., 2016).

4.4. Research methods

Research methods can be qualitative or quantitative depending on the philosophical stance of the researcher and the research purpose (Patton, 2014). Quantitative methods seek to investigate and explain a phenomenon through the collection of numeric data which are analysed using statistical techniques (Ragab & Arisha, 2018). Qualitative methods investigate a social phenomenon through communication with social actors to understand the meanings and interpretations attached to the social phenomenon under study (Azungah, 2018). The study used qualitative research methods that are consistent with the research philosophy and research purpose of this study.

4.5. An overview of the empirical study context

This section describes the empirical context of the study and the background information useful for interpreting and analysing the experiences of the participants. The study used a case study method as the research strategy to collect and analyse data. A case study is an empirical investigation of a social phenomenon within its natural context through a variety of lenses and multiple sources of evidence, using theoretical propositions to guide data collection and analysis (Ebneyamini & Sadeghi Moghadam, 2018; Rashid et al., 2019). The case study method was adopted due to its feasibility and suitability to answer the question 'what', 'why' and 'how' and producing richer insights from the perspective of social actors. The case study is the most popular method in qualitative research (Rashid et al., 2019).

4.5.1. Rationale for a single case study design

Case studies provide a higher level of flexibility compared to other qualitative approaches and are designed to suit the case and research questions (Ebneyamini & Sadeghi Moghadam, 2018). The objective of the case study is to conduct an in-depth investigation into a specific case within its real-life context, taking into consideration the nature of the case, physical setting, historical, political, and institutional factors (Rashid et al., 2019). The case study research methodology can be applied to a single case or comparative case studies (Ebneyamini & Sadeghi Moghadam, 2018). Therefore, this study adopted a single case to investigate factors that affect public trust in Government digital services in developing countries, focusing on South Africa.

4.5.2. Case selection

The WCED Online Admissions was selected as the single case study for this study. WCED Online Admissions is an online system that is used for applications for admission and registration of grade 1 and grade 8 learners in public schools in the western Cape province. The WCED online admissions system was tested in 2019 and has since been implemented in all public schools in the province. As shown in Chapter 1, there is an upward trend in the uptake of the WCED Online system by parents, although it is slow, as a significant number of parents still use manual processes to apply. Here lies the purpose of this study: Investigate and analyse factors that affect public trust in government digital services in developing countries.

4.6. Target population and sampling technique

The target population is the group of individuals from whom the research data will be collected (Stratton, 2021). The target population for this study was South African citizens. This study had three samples, namely:

- Parents who have submitted the admission application for their children through the WCED online admission system.
- Admission clerks in schools, the WCED head office and district offices, who assist parents who submit manual applications.
- Education Policy makers for the Western Cape Public Education.

The heterogeneity of the sample was critical for this study, therefore relevant participants were chosen based on their diverse characteristics (Saunders & Townsend, 2018). Table 9 presents the sampling criteria applied in this study.

4.6.1. Purposive sampling

Purposive sampling is the selection of participants based on the researcher's judgement of the individual's suitability to provide relevant information to achieve the objective of the study (Etikan & Bala, 2017). Potential participants were identified and recruited through direct emails, Facebook, and WhatsApp. Purposive sampling yielded a total of 11 participants, as presented in Table 4-10.

4.6.2. Snowball Sampling

Due to the insufficient number of participants recruited through the purposive sampling, the snowball was adopted as the second sampling technique to recruit more participants. The snowball technique refers to the recruitment of participants based on referral from researcher networks and connections (Etikan & Bala, 2017). We asked the participants that were recruited through the purposive sampling to refer them to other potential participants for the study. We then approached the referrals and asked for their participation. The snowball sampling yielded the results presented in Table 4-10. This study did not have a predetermined sample size; however, the recruitment of participants and data collection was done until the data was saturated.

Table 4-10: Sampling criteria for the study

Criteria	**Details**
Location	Western Cape
Gender	All
Age	=>18
Language spoken	IsiXhosa and English
Participation criteria	• Parents/guardians who have used WCED Online Admission system to apply the for admission of their children at public schools in the Western Cape province • Parents who were aware of the system but could not use it for various reasons • Admission clerks at schools and head office who assisted parents who submit manual applications.
Purposive sampling	
Category of participants	**Number**
Parents who have used the system to apply at the public schools in the Western Cape province	8
Parents who were aware of the system but could not use it for various reasons	2
Admission Clerks at schools	1
Total participants 11	
Snowball Sampling	
Category of participants	**Number**
Parents who have used the system to apply at the public schools in the Western Cape province	2

Admission Clerks from the head office	5
Admission Clerks from the public schools	2
Total participants 9	

4.7. Data collection

Interviews are the main data collection method for qualitative research (Cypress, 2018). Interviews serve as the researcher's attempt to understand and explain the world from the participant's perspective (Adhabi & Anozie, 2017). Semi-structured interviews were used to allow participants the flexibility to freely express their experience when interacting with the WCED online admissions system. Data was also collected from the WCED database to determine trends in manual vs. online applications in the Western Cape province.

The constructs that informed the data collection instrument were drawn from the proposed conceptual framework. The constructs of the framework were derived deductively from the literature. The constructs of the framework informed the data collection instrument covered personal, institutional, and technological factors, to examine and explain factors affecting public trust in government digital services in developing countries.

The semi structured interviews allowed me to zoom in on specific issues and aspects to obtain an in-depth understanding of the factors that affect trust in the WCED Online Admissions system, using a set of guiding questions. The interviews took an average of 30 minutes. The interviews were conducted in English as the participants in this sample had a good command of English.

- The interview questionnaires for parents/guardians are attached in Appendix D,
- The interview questions for admission clerks are attached in Appendix E.

The research findings were presented using verbal descriptions and explanations of the participants' account to ensure the precision of the findings. Data triangulation was performed to cross-check specific information within and across each category of participants.

4.7.1. Interview process

Before the start of the data collection process, the ethics committee of the University of Cape Town granted ethical clearance. During the interview process, the following steps were taken to adhere to the ethical considerations of this study.

- Introduced the researcher to the respondent.
- Explained the purpose and objective of the study.
- Provided the respondent with an opportunity to ask any questions seeking clarity.
- Requested permission to start the interview.
- For online interviews, permission to audio record the conversation was requested.

4.7.2. Microsoft Teams interviews

Microsoft Teams was used to conduct teams with parents who have submitted applications for admission to their children through the WCED online admission system. The rationale behind choosing of Microsoft Team was that participants were all working parents and due to their busy schedule, they preferred to be interviewed virtually, through the Microsoft Teams. This preference was very welcome, as the University of Cape Town provides students with an enterprise version of Office 365. The researcher sent a Microsoft Team online appointment to all parents who had consented to participate.

To maintain anonymity of the participants, the camera of Microsoft Team was switched off and names of the participants were not mentioned throughout the interview. The interviews were recorded using the real-time recording and transcription feature of Microsoft Teams and saved on the researcher's personal laptop and on Dropbox cloud storage for backup. Table 4-11 provides a summary of the Microsoft Teams Research interviews.

4.7.3. Face-to-face interviews

Face-to-face interviews were conducted with the Admission Clerks at the WCED Head Office and schools and produced the results presented in Table 4-11. All admission clerks recommended face-to-face interviews, as they did not have access to online platforms such as Ms Teams for Zoom. The interviews were recorded using the researcher’s cell phone and the laptop recording capability. Recordings were then transcribed in Microsoft Word and saved to the researcher’s personal laptop and on Dropbox cloud storage.

Table 4-11: Overview of Interviews information

Participation information	MS Teams interviews	Face to Face interviews
Total number of participants	12	8
Category of participants	Parents	Admission Clerks
Gender	All	All
Interview duration	Average of 30 minutes	Average of 30 minutes
Date Started	18th April 2024	06 June 2024
Date completed	12th July 2024	26th July 2024
Interview location	Online	WCED head-office and at public school premises in Cape Town.

4.8. Research instrument

This study used the interview questionnaire as the research instrument. Three sets of questionnaires were designed for the three samples in this study. The interview questionnaires were designed and asked in English. However, the researcher interpreted isiXhosa for participants who preferred as such. The choice of languages was motivated by the dominance of these two languages in the Western Cape province. Refer to Table 5-14. The Afrikaans are also another dominant language in the Western Cape province; however, most Afrikaans people have a good command of English.

4.8.1. Interview questionnaire

The conceptual framework presented in Appendix E was used to inform the interview questionnaires. The interview questionnaire for parents and admission clerks consisted of the sections presented in Tables 4-12.

Table 4-12: Structure of the Interview Instruments

PARENTS	
Section 1	Questions related to personal factors
Section 2	Questions related to digital skills
Section 3	Questions related to general information
Section 4	Questions related to technological factors
Section 5	Questions related to institutional factors
Section 6	Closing questions
Admission Clerks	
Section 1	Demographics questions
Section 2	Questions related to digital skills
Section 3	Questions related to WCED Online Admissions experience
Section 4	Closing questions

4.9. Time frame

The timeframe is a study of a phenomenon at a particular point in time (Wang & Cheng, 2020). The time frame can be longitudinal or cross-sectional, depending on the research questions and the time available to conduct the research (Spector, 2019). This study followed a cross-sectional timeframe due to the limitation of the master programme. The research plan is attached in Appendix H.

4.10. Data analysis

Data analysis is the process that lays the foundation for data interpretation, research finding and conclusion(Mayer, 2015). Since this study is qualitative in nature, it adopted thematic analysis method as the data analysis technique, guided by (Braun & Clarke, 2006) six phases. Thematic analysis helps the researchers to analyze the research participants' experiences, attitudes, and perception of the phenomenon under study (Herzog et al., 2019). Table 4-13 presents the six phases of thematic analysis followed in this study.

Table 4-13: Six phases of thematic analysis

Phases	Description	Output
1. Familiarization with the data	This phase involved reading the entire data corpus, breaking down the data from the data corpus, and searching for meaning and patterns. It also involved linking similar statements to other data sets across the data corpus.	Transcripts of data from the interview
2. Generating initial codes	This phase was concerned with grouping and labelling segments of data which are likely relevant to answer the research question. The related data extracts were coded and grouped together.	Coding
3. Searching for themes	This phase involved constructing potential themes and sub-themes from the coded data. Related coded data extracts within the identified themes were combined.	Documentation of the themes and sub-themes, and the purpose thereof
4. Reviewing themes'	At this phase final themes, representing the data set, were developed. However, a clear distinction between themes was maintained through reorganizing of coded data extracts, grouping of themes with coherent meaning, renaming of themes, and discarding of others that were not relevant.	Provisional names of the themes. Preliminary thematic map.
5. Defining and naming themes	At this phase the provisional names were reviewed for finalization. The essence of each theme was specified in terms of relevance to the research question.	Development of final theme names.
6. Producing the report	At this stage the write-up, which started in phase 1 was finalized. The interview quotes that best	Final Report

	represented each theme that emerged from the analysed data were included in the report.	

4.11. Reliability and validity

Reliability and validity are achieved through data triangulation. Data triangulation is a technique used to strengthen the validity and reliability of qualitative research in which data and interpretations are cross-checked within and between each category of participants (Cypress, 2018). For this study, triangulation was achieved through collection of data from a heterogeneous sample of participants which included parents, admission clerks from the WCED head office, and public schools. Furthermore, different data collection modalities such as face-to-face and Microsoft Teams interviews were used. In addition, verbatim descriptions, and explanation of participants' account to support findings. Data triangulation assisted in cross-checking specific information within and across each category of participants and data collection modality.

4.12. Limitations of the study

Listed below are the limitations of this study that suggest future research.

- Reliability and validity -researcher being the only instruments to conduct the data collection and analysis. However, this limitation was improved through guidance from the supervisor, who quality checked the research questions, recordings, and transcripts.
- Time constraints of two years posed by the duration of the master's programme.
- Language barrier: Only participants who spoke English and IsiXhosa were part of the study, as the Afrikaans speaking participants interviewed had a good command of English.

4.13. Ethical considerations

Research ethics is concerned with protecting the interests, rights and confidentiality of the research participants. The researcher has a moral obligation to ask "relevant questions, using validated methods, obtaining reliable data, and drawing logical conclusions" (Bos, 2020).

Before the data collection process started, the researcher obtained ethics approval from the Ethics Committee of the University of Cape Town (UCT).

Since the Government digital study service used for this study was WCED Online Admission Systems, the researcher obtained permission to conduct research from the WCED. Before conducting the interviews, the researcher informed the participants that the research was anonymous and voluntary, and these terms were explained to the participants.
Furthermore, participants were informed that the findings of this study would be shared with the WCED to understand public experiences with the system and improve trust and acceptance of this system. Participants were then asked to consent to be interviewed and for their interview to be recorded.

Data were stored on the researcher's password-protected computer and backed up on the researchers' Dropbox could storage personal which could be accessed by password. Data were only shared with the supervisor. The data was always treated with confidentiality and the identities of the participants were encrypted. The ethics approval letter is attached in Appendix B.

4.14. Summary of research methodology

This chapter outlines the methodology used in the study. Table 4-14 summarise the measures, techniques, and methods used in guiding the methodology of this study.

Table 4-14: Summary of the Research Methodology

Section	Summary
Research domain	Public trust in Government digital services
Research contribution	Description
Epistemology	Interpretive
Research approach	Qualitative
Approach to theory	Deductive
Research design	Single-case study: Western Cape province in South Africa
Sub-unit of the single case study	Western Cape Department of Education
Unit of analysis	WCED Online Admissions System

Sampling	Twelve parents and eight school Admission Clerks
Sampling strategy	Purposive and Snowball sampling strategy
Research time frame	Cross-sectional
Data collection methods	Semi-structured interviews and document analysis
Data analysis	Thematic analysis

5. Research Findings and Discussion

5.0. Introduction

The purpose of this study was to investigate the factors that affect public trust in Government Digital Services in developing countries. The study used the case of the WCED online admissions system. This chapter presents and analyses the research findings based on the conceptual framework presented in Chapter 3. The conceptual framework has identified personal, institutional, and technological factors affecting public trust in government digital services. These factors will be explored against the responses of the research participants.

As indicated in the methodology data was collected through interviews and other statistical data extracted from the WCED Online Admissions. Figure 5-1 presents the statistical data for applications submitted online from 2019 to 2024.

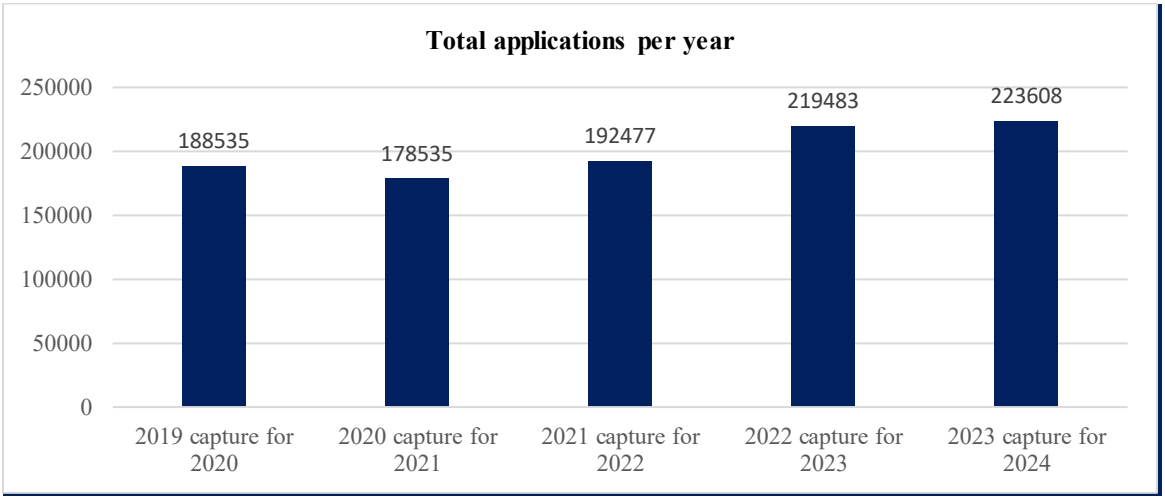

Figure 5-1: Online application for learner admission since 2019

Figure 5-2 shows an upward trend of applications submitted by parents in the WCED online admission system since 2019. These numbers show that in 2019, only 37.8% of the applications were submitted online, while 62.2% were submitted manually. However, in 2022, 66.8 % of applications were submitted online. The upward trend of online submissions may be due to growing awareness of the system and the convenience it provides to parents when applying online.

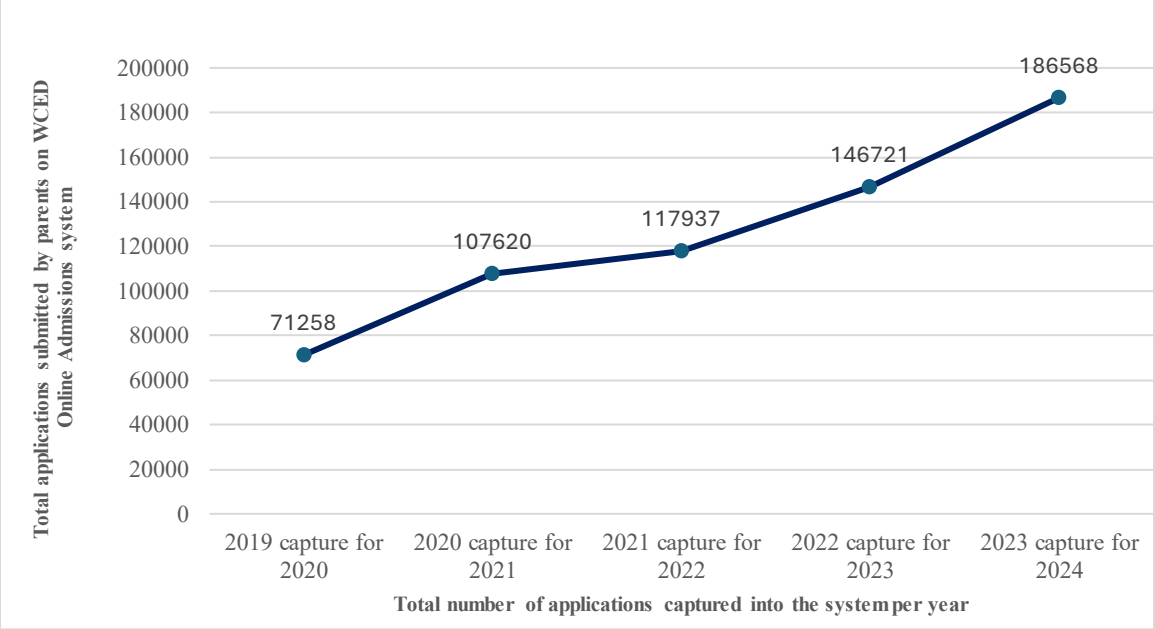

Figure 5-2: Total online applications submitted by parents per year using the WCED online

A comparison between the total applications for 2024, as shown in Figure 5-1, and the online submissions by parents for the same year, shown in Figure 5-2, reveals that 16.6% of the applications were submitted manually. This implies that many parents could not use the system despite the upward trend of adoption by parents. Herein lies the aim of this study: to examine and explain factors affecting public trust in government digital services in developing countries. Understanding and addressing these factors can help fulfil the moral obligation of the government to not leave anyone behind in the digital transformation.

I used excerpts and textual vignettes to provide a 'thick description' when capturing the realities and meaning of the responses of the participants. Vignettes are mechanisms for the extraction of important information about attitudes, beliefs, and opinions of the participants (Erfanian et al., 2020). Furthermore, this chapter summarises the key themes that have emerged from data analysis and identifies new key concepts.

This chapter is organised as follows: 5.1. Personal factors. 5.2. Institutional factors. 5.3. Technological factors. 5.4. Research findings and discussion summary.

5.1. Personal Factors

Personal factors influence trust in and the intention to use government digital services. Such factors include age, gender, socioeconomic status, education level and area of residence (Wiguna & Hariyani, 2022). This study has identified similar personal factors affecting public trust in government digital services in developing countries; see Table 5-15. These factors will be discussed in the sub-sections below.

Table 5-15: Overview of personal factors affecting public trust in government digital services

	Themes
Personal Factors	Age
	Education and Socio-economic Status
	Digital Access
	Outcome from Digital service usage

5.1.1. Age

Although the literature states that older people have lower levels of trust in digital services, the findings of this study showed contradictory views about the age factor. Contrary to the points of view, it was suggested that neither old nor early age affects public trust in government digital services. Instead, people of any age who lack access to digital skills and exposure to digital services are more likely to exhibit lower levels of trust in Government digital services.
It is the complexity of the digital service, the lack of exposure to digital services, and prior experience that inform the decision on whether to use the digital service or opt for the physical public services.

> "I don't *mean to say specifically that it's older parents because sometimes we get younger parents in their 20s and 30s, depending on the issues"* (Admin_Clerk 2).

When the public is able and willing to use Government digital services, it is likely to adopt such services. Attitudes toward the intention to use the digital service would be informed by understanding the convenience and benefits provided by the digital service. Therefore, it is critical for government to empower citizens with the digital skills and stable ICT infrastructure to use government digital services effectively.

5.1.2. Education and socio-economic status

Education offers people the cognitive ability to deal with the complexities brought about by ICT and the Internet. Such complexities require people to be trained to sift through the vast amount of information to find and evaluate useful information that can be used to solve their problems. Thus, highly educated and working people are most likely to use and trust Government digital services due to exposure to complex systems and data. Furthermore, the benefits and convenience of the digital service optimize your time.

> *"I am an IT manager... I studied Computer Systems degree … I've chosen to be in the IT industry, so that option of going to the school for me was very inconvenient" (*Par_1).

Users with lower levels of education are likely to be challenged with using the digital service due to lack exposure, affordability, and access, which would have empowered them to use and trust the government digital services. As a result, these users did not have a choice but to seek assistance from people with digital skills or travel to the department's education service facilities to apply manually.

> *"Some of them, a lot of them, did not have data, and that is a problem. And if they go to POSTNET*[1] *they have to pay, so that's also a problem... not everyone has a smartphone, data, and a scanner"* (Admin_Clerk 6).

The World Economic Forum (WEF) contends that the ICT sector is one of the major drivers of economic growth. It is expected to contribute 1.4 % to the gross domestic product (GDP) of developing countries and 2.5 % to the Chinese GDP. Furthermore, a 10% annual increase in the deployment of government digital services deployment is expected to contribute 0.75% to the GDP per capita (Aly, 2020).

The implication of the predicted economic development contribution of the ICT sector underscores the importance of opening access to education, digital skills, and adequate ICT

[1] POSTNET is the franchise that provides graphic design, printing and shipping services to businesses and consumers. Each franchise is independently owned by local entrepreneurs that are keenly focused on helping the businesses and individuals in their community succeed.

infrastructure. This would enable the government to achieve its objective of closing the digital divide and building the digital society that thrives in the digital economy.

5.1.3. Digital Access

This section discusses how digital access elements, such as digital efficacy, familiarity with technology and access to other online applications, and quality of digital access, affect public trust in Government digital services. The discussion will be based on the experiences of the respondents.

Digital efficacy

The lack of digital access perpetuates digital inefficacy and discourages people from learning to use digital services effectively and meaningfully. Therefore, people who lack digital access are highly likely to not trust their ability to use digital services to complete online applications.

> "Not *all parents have access to the Internet or the computer. Some parents do not understand the system; some don't have access to the Internet"* (Admin_Clerk_3).

Familiarity with technology and access to other online applications

People who have access to smartphones and subscribe to other online services, such as social media and banking apps, are more likely to be able to navigate the cyberspace better. Additionally, the familiarity with the cyber space builds awareness on the dangers of the cyber space, resulting in people deriving value from the digital services.

> *"I have a smartphone... I use it for research, looking for jobs, work and also social networks... for me it is easy to do things online"* (Resp_11)

One respondent indicated that in *schools you have to make an appointment. Perhaps you would wait in queues.* Thus, these parents had no difficulty using and trusting the WCED online admission system due to the convenience it provides. They reported a positive experience with WCED online admissions that improved their trust in the system.

> *"I'd lie if I say that I had difficulties uploading the information that was required in the system"* (Par_3).

The respondents, who worked for the Western Cape Government, attributed their trust in the WCED Online Admissions system to their advantage of '*knowing the back end of systems or platforms within the Western Cape Government'.* Another respondent who works in the IT industry commented as follows:

> *"Maybe I'm biased because I know how the system works because I work in the IT space, I didn't have any trust issues with the quality of the system"* (Par_1).

Respondents who used the system for the second- or third-time reported improvements to the system that increased their trust in the system. Improvements to the system included the elimination of the manual process.

> "I *think it's a good system... previously we still needed to submit manual forms, but this year it's not even available"* (Par_7).

The improvements made to the system had a positive influence on parents, as most of them attempted to use the system, evidenced by the increase of applications submitted by parents online in 2024. One of the respondents noted the impact of the digital service improvement and cited

> *"In 2024, I discovered that more parents have applied to the system compared to previous years. When I was out in the public helping parents, most parents had profiles, and they may have completed the applications halfway and wanted us to verify the information and help from the section where they left off"* (Admin_Clerk_1).

Quality of digital access

The quality of access affects people's willingness to use and trust technology. Most rural areas are characterized by low investment in ICT infrastructure due to the scarcity of economic activities in these areas. Figure 3-11 presents the access of the household to the Internet in South Africa. People living in urban towns have better access to the Internet than those in rural towns.

The uneven distribution of digital access results in comparatively slow internet access and digital skills in rural areas. To close this gap, rural areas schools assist the public with online applications.

> *"There are some schools that are willing to help parents with applications, especially in areas where schools are far from the central business district... obviously there are no other means of accessing the system"* (Admin_Clerk 1).

In contrast, respondents who live in urban or metropolitan areas, where there is adequate ICT infrastructure and fast internet connectivity, find it easy to use and trust the system.

> *"I live in Durbanville... I have a high level of trust in the system. I am waiting and I am hoping for the best results for my son"* (Par_7).

5.1.4. Outcome of the Digital service usage

The application period brings about feelings of anxiety, as parents worry about whether their kids would be accepted at all or at the school of their choice. While the system provides a list of schools to choose from, based on preference, there are no guarantees that leans will get placement at any of the options. And these feelings affect the trust of parents in the system.

> *"I don't think parents have no trust in the system. I just think that when the registration period starts, it is nerve wrecking because they don't know if they will be placed. They become very anxious"* (Admin_Clerk 6).

> *"I was anxious because you know that feeling when you want your child to be accepted at the school of choice"* (Par_1).

Some parents get disappointed when they get a negative outcome of their application, as a result most of them put the blame on the system. As a result, they felt that when the applications were still manual, the success rate was relatively higher.

> *"The reason they don't trust the system is when the outcome of the application comes back as unsuccessful. They would feel like the system is not good enough"* (Admin_Clerk 4).

Another respondent added: "Most *parents want to go back to manual applications where they can apply in schools because they say it's more difficult to make applications online and are not sure who accepts learners or where to go when the learner has not been accepted"* (Admission_Clerk_3).

Thus, most parents, even those who are digitally literate, when they do not get the expected results from the system, feel like the digital systems have brought more problems than solutions.

The role of public trust in the adoption of Government digital services should be considered during the planning, development, and deployment of Government digital services. This would ensure that the digital systems meet the expectation and solve the problems of the citizens.

5.1.5. Implications of findings on the personal factors affecting public trust in government digital services

The findings of the study provided views on the effects of age on trust in Government digital services in developing countries. Contrary views were observed in the literature, as the findings of Guo (2022) and Correa et al. (2020) have concluded that age does not affect trust in digital services. Whereas others have found that age affects trust in Government digital services (Adedokun and Zulu (2022), and Mathews et al. (2019).

This study also concluded that education background and socioeconomic status have a positive influence on public trust in Government digital services. The government in developing countries should provide equitable access to digital skills and adequate ICT infrastructure to citizens of all ages, depending on the level of intention to use digital services. However, incentives should be provided to members of the public who make an effort to understand the workings of digital services in an attempt to motivate those who exhibit reluctance to use digital services. Furthermore, training on the use of digital services and awareness of cyber security should be prioritized to equip citizens with skills on how to navigate the digital space safely and securely.

5.2. Institutional Factors

Institutional factors assume situational normality and structural assurances such as regulations, contracts, and guarantees. These allow individuals or groups to act in a certain way in anticipation of positive future endeavors. Therefore, an institution with high reputation will find it easy to introduce a new technology and gain the trust of users, compared to an institution with low reputation (Siau & Wang, 2018). Table 5-16 present an overview of institutional factors affecting public trust in government digital services which were highlighted during interviews.

Table 5-16: Overview of the Institutional factors that affect public trust in Government Digital Services

	Themes
Institution Factors	Public Service Quality
	Public Systems Integrity
	Good Governance
	Accountability and Transparency
	Conduct of government employees
	Inclusive governance
	Quality of government communication

5.2.1. Public service quality

User satisfaction with the quality of public service shapes the attitude towards Government digital services. Additionally, it improves the chances of adoption and strengthens public trust in government digital services. Hence, government institutions that have a reputation of good quality of services find it easy to get public approval and support when introducing new digital services.

The Western Cape Government emphasises the citizen-centricity of its digital services. For example, the vision statement for the WCG Digital strategy is "*Optimised, transformed and integrated customer-centred service delivery through digital government*". One of the objectives of the WCG digital strategy is "Digitally empowered and informed citizens". The

citizen-centricity of WCG digital services is not only good on the strategies, but the citizens also feel it.

> *"I think with my experience with some government departments in the Western Cape, I trust the system"* (Par_4).

> *"I trust the system even more, especially because it is provided by the Western Cape Government. Maybe because I work for the Western Cape Government now, I know that the citizen comes first"* (Par_10).

Although government is not in the business of designing services to obtain competitive advantage, government institutions compete for service excellence and provision of citizen-centred services. Therefore, the findings show that people trust the WCED Online Admissions system more because of the excellence of the service and satisfaction with the quality of government services in the Western Cape.

One respondent reported:

> *"We tried in the Eastern Cape government, it went on for months, where we kept going back and forth. They kept sending us from pillar to post. We came to the Western Cape, they could pick up what was wrong, and they fixed things for us within a week, so I think somehow because of my experience with the Western Cape Government, and that was not the only problem that made me trust Western Cape Government Systems more"* (Par_4).

5.2.2. Integrity of public systems

There is a positive relationship between the integrity of public systems and institutional trust among stakeholders. This institutional trust which is derived from the integrity of the public systems drives the speed of innovation through data sharing, effective feedback systems, and co-creation of public value (Kim et al., 2022). The public trusts the integrity of the government system because they believed that the government would not sell their private data for profit maximization.

> *"The reason why I trust government systems is because I know that the government does not sell our information. Government is using our information to provide us with services"* (Par_1).

The respondent also provided evidence that the government does not share personal information even between internal systems. She stated: "*For example, I wanted to apply for a post in education, so I entered that application for jobs and then had to resubmit my information as if they did not know me.... So, my conclusion was that the information you put there is not sharable in other spaces"* (Par_1).

The respondents trusted that the government implements the Protection of Personal Information (POPI) Act to ensure the integrity of the government system. Furthermore, the issuance of a username and password to parents to log in and track the application online provides assurance of the safety of confidential data.

> *"I think most companies and institutions now comply with the POPI Act. So that is why I have a little bit of trust in the system"* (Par_4).

> *"The information is safe, it cannot be manipulated, unless you have your password"* (Admin_Clerk 6).

The department also caters for parents who cannot use the system using various platforms for participation. This is to ensure that parents have complete control over their digital profiles.

> *"Those who cannot use the system, we give them our call centre line and our emails, so that they can call us or email us anytime to track their application or they can come to the department or to the nearest district office to go and track the application"* (Admin_Clerk 4).

5.2.3. Good Governance

There is a positive relationship between good governance and trust in government. Institutions that uphold good governance principles in action are more likely to be trusted by the public than those that do not. Respondents related how their trust in the WCED online admissions system was affected by transparency, responsiveness, and accountability, and /or lack thereof.

Responsiveness

Effective response requires the availability of multiple channels of citizen participation and an efficient feedback loop. The Department of Education has provided multiple channels of engagement to improve inclusion and trust in government digital services. Such channels included cell phones, email, website, and the call centre. This indicated the government's commitment to response. The responsiveness of the government improved the parents' trust in the government itself and the department itself and in the WCED online admissions system.

Cell Phone Feedback

Parents received feedback from the government through cell phones where necessary. Feedback showed that department officials carefully analysed the applications and identified missing information and errors at a time.

> "The *system was responsive, especially when they contact me about the error that I had done, and they fixed it" (*Par_10).
>
> *"We received feedback through an SMS that my application was processed. So, I got that comfortability that OK, I have done it"* (Par_1).

However, there were instances where there were difficulties in getting in touch with parents as some may have lost their cell phones. This affected the engagement with parents and the tracking of the application status which required the password that was sent to the cell phones.

> *"There is a bit of a challenge when it comes to tracking status, as some parents might have lost their cell phones"* (Admin_Clerk 1).

System Feedback

The system was designed in such a way that it was able to provide feedback to parents during the application process and afterward. Parents were able to track the completion status of the application and see the outstanding information. The system '*had the tracker to say that you are 20% and 50% done, and these are the areas you did not fill correctly'*. In addition, the system had clear instructions on the actions required from the parents and a feedback loop during the application process. These functionalities of the system had positively boosted trust in the system.

> *"The system also gave the commands and feedback to say that I needed to upload my documents, what supporting documents I needed to upload. I was kept in the loop about the process and at the end of the process it told me I should take the letter to the school of my choice"* (Par_11).

Some respondents, particularly those who submitted late applications due to reasons such as relocation from other provinces, reported different experiences with respect to system responsiveness.

> *"I applied late and did everything while I was still in Kwazulu-Natal. The system kept saying that the status was pending and then I came to Cape Town in January, still there was no response on the system"* (Par_3).

Another late applicant lamented:

> "The *system treats you in a way that you did not apply because you were lazy, whereas I did not apply because I initially had no job in Cape Town. I only got a job in August"* (Parent_4).

Late applicants could not confirm whether they trust the system or not due to their bad experience. The difference in experience of the early and late applicants indicates that the department of education does not maintain the system consistently throughout the year. It is understandable that at some point of the year the application system ceases to be the priority for maintenance, as most leans have been placed. However, this should not be the case as people move from one place to another throughout the year.

Email

The department of education had added the email as the other means of engaging parents. This was meant to ensure that if the department cannot get hold of the parents on the cell phone, they have another option to reach out.

> *"We add both the email and the cell phone number, we would use both methods of communication" (*Admin_Clerk 1).

Query box

Parents who did not have the digital skills to communicate with the department on-line were also taken care of. They had the option to submit their queries and comments manually using the query box.

> "We *have a query box, we always check every day that it must be up to date, that we must answer all the queries and questions from the parents" (*Admin_Clerk 4).

Call centre

The Department of Education has a well-functioning call centre located at the Cape Town head office. Parents have the option to contact the call centre and inquire about the status of their application or to ask any question related to the Western Cape Public Education.

> *"We have a call centre; parents call us on the call centre side" (*Admin_Clerk_2).

Walk-in centre

The department of education also maintains a walk-in centre for parents who prefer to apply manually or for those with no digital skills or access to the Internet. The primary purpose of the walk-in centre is to assist parents who, for various reasons, prefer to submit the applications manually. The admission clerks assist parents by capturing manual applications into the system.

> *"The walk-in centre is where we capture the applications ourselves, on behalf of the parents"* (Admin_Clerk_2).

However, parents were free to contact the walk-in centre if they had problems with the applications they had submitted online. The admission clerks requested permission from parents to access their online applications. Additionally, parents visited the walk-in centre when their children had not been placed at any of the schools in which they had applied.

> *"After the result of the application, parents come to the reception to tell them that their child did not get a school, then we advise them to write motivational letters and provide them with district office information"* (Admin_Clerk_4).

The improvements made to the system had paid off as there were positive changes in parents' behaviour. A respondent indicated '*a drop this year of parents' queries.* The respondent further commented:

> *"This year the system seems to be much better, and I can tell this by the number of people who actually come to the walk-in centre and the number of calls we have been getting"* (Admin_Clerk_5).

Despite the provision of multiple channels of engagement, some parents reported a lack of responsiveness from all the available channels. Lack of responsiveness had a negative effect on trust in the system and in government itself.

> *"When I was having problems with my applications, I tried to reach out. I even wrote to the Minister's office and was taken from pillar to post... I had to keep writing... It was as if someone was not even reading my email"* (Par_4).

The importance of provision of the multiple channels of engagement cannot be over-emphasize. The department must be commended for providing multiple channels of citizen engagement. However, these channels must be maintained properly and consistently, throughout the year, to ensure that WCED achieves the goal of inclusion.

Accountability and Transparency

Accountability and transparency require the government to make a concerted effort to get the public involved in or aware of government decisions. When digital services are designed and deployed without the input of the public, the government risks designing services that do not meet the needs and solve the problems of the public. In this case, the public may reject those services, resulting in wasteful expenditure. When the public participates in government affairs, they feel empowered and highly likely to take advantage of digital services.

A considerable number of parents felt that the WCED lacked transparency about the criteria they use to place learners in schools. Parents reported that this caused a lot of anxiety as they would be unsure whether their children met the criteria at the schools of their choice.

> *"I think the main issue for me is that the Western Cape government cannot tell me the criteria used by schools to accept our kids" (*Par_12).

Another respondent cited:

> "They *do not give the criteria, so the parents just apply and apply, maybe the child does not even meet the criteria in all those schools, the leans end up not getting accepted in all those schools"* (Admin_Clerk 7).

If the department of education were transparent about the admission criteria, parents would only apply to school in which their children met the criteria and would save themselves the trouble of getting their applications rejected and re-application.

The department of education was also criticized for not being responsible for the errors they made during the placement process.

> *"No one wanted to be responsible for placing my son in a school I did not apply to"* (Par_4).

Instead of accounting for errors or system failure, they send the parents from pillar to post, as a result, some parents ditched the system and applied physically at school.

> *"I went to the Department of Education and the Department of Education could not give me a go because they were waiting for the XX primary school to respond... I ended up ditching the online application and physically going to the school. To my surprise, my child got to school without the system indicating that my child has been accepted*" (Par_3).

Government employees should be informed about the importance of transparency and accountability to build public trust in government digital services. In instances where users experience errors and glitches on the system, they would be forgiven by the government, as they would have been part of the conceptualization and deployment of the digital service. They would, in part, feel responsible for the glitches and not put the blame squarely on the shoulders of the government.

5.2.4. Conduct of government employees

The Batho-Pele principles demand that public servants provide good customer service to the public to transform the image of government in South Africa (Department of Public Service and Administration (DPSA), 1997:2). Therefore, the new government employees were inducted and trained to equip them with customer service skills and professionalism.

One responded reported:

> *"I was trained on how to speak / interact with clients professionally... I was also trained on how to greet clients and introduce myself"* (Admin_Clerk 2).

A positive engagement with government employees improves citizens' experience and satisfaction with government services, thereby improving trust in government services and systems.

> *"The first time I tried to do the online application, I had minor problems logging in, but there were government officials at some different malls who were able to help me with everything I needed. I was happy with the interaction"* (Par_8).

When parents contacted government offices, they expect that any employee would be able to give them answers or resolve their queries. However, it seemed that only certain individuals in the WCED were able to assist parents with enquiries on their applications.

> *"They said the person you had spoken to would be back at 13h30, you call at 13h30, the person is still out, and nobody knows when they would be in. You are told that the person is the only person who can help you, so that experience for me has increased my trust in government employees and government systems"* (Par_4).

If government employees are, for instance, sitting at the helpdesk and receiving calls from the public, they should be equipped with skills to solve any kind of problem the public typically enquire about. Employees who do not have such skills should be able to serve the public in areas where they would be able to serve the public. This would minimise the frustration of talking to an employee who is unable to provide the required services, as the expectation from the public is that all the employees should be capacitated to render all the government services.

5.2.5. Inclusive governance

Involving users of government services, including marginalized and minority groups, in the planning and design of government digital services has a positive relationship with trust in government digital services. In South Africa, inclusive governance is not widely enforced policy despite its potential to address the low adoption of government digital services in the country. One responding reported that '*If you are involved in the design of something or in the early phases, then you will trust it even more'.* The objective of inclusive governance is to ensure that the decisions made, and services delivered are based on the public inputs and requirements.

> *"If the public was involved in the design and creation of this system or consulted during the creation phase, I am sure it would have helped. You know, you also feel like you are part of it. It would also create that interest, and we would have that trust on the system"* (Par_12).

After the digital service has been designed, based on public requirements, the department of education should pilot it and collect feedback before the full deployment. This would guarantee that the public buy-in would translate into high uptake. Additionally, the department should have a mechanism to ensure the participation of a broad range of users from different social settings.

> *"I think it would help if the system was tested with the public before it was released, going and finding people who can actually capture their application"* (Par_6).

The responses indicate that the government should adopt inclusive governance as a design principle to ensure that citizen input is expressed in the decision-making process. Inclusive governance is the decentralization of governance, whereby citizens are encouraged to play a key role in the management of government affairs (Annahar et al., 2023).

This would empower citizens and give them confidence that government digital services are designed with them and not for them. Citizens, as users of Government digital services, may help to improve the quality of the public services and identify problems with the existing digital services, thereby improving trust in Government digital services.

WCED has made commendable efforts to promote user participation in the development and improvement of government digital services. It has achieved this by leveraging surveys, query boxes, email, and community outreach to reach a broad range of stakeholders.

5.2.6. Quality of government communication

The communication between Government digital services and the associated government department should be in sync. This means that when the digital service user logs onto the system must get the same information or status update that they would get if they had chosen to go to the department physically. This was not the case when parents engaged in the system. There were instances in which the department was unable to confirm whether a learner was accepted through the system. Consequently, some parents ended up going to schools to apply manually, even though they had completed the applications online, indicating double effort.

> *"I would say that I trusted the system. The only thing I had issues with was the communication flow between the system, schools, and the department... I went to school physically, even though I had applied online and uploaded my documents, I had to redo my application physically, I called the school, and the school said that I must come to the school, then we did my application physically at school"* (Par_3).

The application process communicated by the Department of Education was not consistent with the requirements of some schools. The Department of Education had told parents that applications to public schools would be strictly through the WCED online admissions system. However, some schools still required parents to submit the manual application, over and above the online application. This lack of coordinated communication and inconsistency had a negative effect on public trust in the system.

> *For instance, in school X, you are told that you did not put a manual application, whereas the Western Cape Department is telling us that you don't need to, you just need to put in applications online. So, I think there was a bit of a grey area between the schools, system, and the Western Cape Department; they were contradicting themselves.* (Par_12).

To strengthen public trust in government digital services, the government should create coordinated and centralized communication with the public, schools, and department offices to avoid confusing messaging. Furthermore, the government should ensure that the digital service always provides up-to-date information. This would also benefit government as parents would be self-servicing themselves, while the government employees spend their time focussing on other important matters.

5.3. Implications of the Findings on the institutional factors affecting public trust in government digital services

The findings of this study indicated that institutional factors have a positive relationship with public trust in government digital services in developing countries. Such institutional factors include public service quality, public systems integrity, transparency, accountability, responsiveness, and the conduct of the government employees. The implication of these

findings is that the government needs to strengthen policies and strategies to build institutional factors affecting public trust in government digital services in developing countries.

5.4. Technological Factors

This section will discuss the technological factors affecting public trust in government digital services, which have been identified in this study. The technological factors for discussion are listed below.

- Digital Service Quality
- Information Quality
- Ease of Use
- Usefulness
- Security and Privacy
- Language Barrier
- Human element

5.4.1. Digital Service Quality

There is a positive relationship between the quality of the digital service and the trust in the digital service. The quality of the digital service was measured by the extent to which it was easy to follow the instructions provided by the system. The WCED online admissions system was found to be a superior quality system because the website had a clear process flow.

> "The *website will guide you to what you really need to do. Like if you want to register or want to track your application"* (Par. 8).

For some respondents, the quality of digital service was measured by its transparency and responsiveness, which improved user experience and trust in the digital service. During the application process, the system allowed parents to track the progress of the application, identify areas they needed to complete. Upon completion, the system sent an automated message confirming the successful completion of the application process.

> *"I did not have any trust issues with the quality of the system because when we applied, we received feedback. I got an SMS that my application was through"* (Par_1).

The professional look and brand of the system had a positive influence on trust in the system.

> *"The quality of the system is quite good... it has the Western Cape Department emblem. It gave me comfort to actually download and upload my personal details and documents "(*Par_12).

Despite all the positive feelings about the quality of the WCED Online Admissions system, there were parents whose trust in the system declined due to the perceived inferior quality of the system. It seemed the maintenance of the system was not consistent throughout the year as the respondents who submitted late applications had a different experience, which negatively affected their trust in the system. The poor quality and unreliability of the system after the normal application period resulted in parents abandoning the system and submitting manual applications.

> *"I'm not too sure about the quality of the system because I applied late. The system kept saying that the status was pending... so I ended up ditching it and physically going to the school" (Par_3).*

Another late applicant added that she '*could not log in to the system'* because when she moved to Cape Town the application period had already closed and so was the system. They felt that the system 'needed *a little bit of a human element'* so that when the applicant had trouble with the system, there would be a person readily available to help. The lack of human element resulted in them making several calls to the department and being sent from pillar to post, which negatively affected their experience and trust in government digital services.

5.4.2. Information Quality

Information quality refers to the accuracy, completeness, and reliability of the information provided by the digital service. Respondents who were using the system for the second or third time were happy that the system had kept their information and pre-populated it when they were completing the application again. They were only required to update the information where necessary, saving them time and effort.

> *"There was information I provided before. So, most of that information was pulled through, and then also the record of my application from last year. So, overall, I think that was quite good"* (Par_6).

Respondents who were using the system for the first time were also satisfied with the quality of information provided by the system. The application instruction and the process flow were clear and easy to follow. Additionally, the system advised parents to download the application letters to confirm completion of the application process on the system, as the schools required these letters.

> "For *me it was good quality because I could download a letter to say that I have applied, so I could use that and keep it as a reference"* (Par_11).

5.4.3. Ease of Use

The ease of use of digital services was determined by the clear instructions, simple design layout, user-friendliness of the system, and seamless completion of application. The parents were able to complete the online applications seamlessly, without the need for the intervention of the department of education.

> *"For me, the system was user-friendly. It saves you a lot of time and money"* (Admin_Clerk 2).

Not all users found the system user-friendly or easy to use. Some respondent indicated that there was '*some confusion in the layout on the application side',* which made the system difficult to navigate. Although some respondents viewed ease of use and user-friendliness in the same light, another respondent differentiated between the two. She argued that the system required '*a lot of information to complete for a grade 1 application'.* She qualified her statement as follows.

> *You know there is no sport they are doing, and it does not matter because we are not looking at that; the leadership skills and all that stuff, they are only seven years old, so we don't even look at that, but parents must still complete the application* (Admin_Clerk_6).

The WCED has reported a substantial increase in parents who submitted their application online in 2024 compared to 2023, a respondent attributed this increase to the 'continuous *improvement of the system'*. Users also acknowledged the improvements made in the system as they indicated that in the past parents could not upload documents on the system, they needed to submit them at school. With the improvements, Parents were able to complete the whole application online.

Although most of the respondents applauded the improvements in the system, some respondents criticised it for requiring unnecessary information for the Grade 1 application, as schools only required *basic information, the important information* for Grade 1. This unnecessary information included leadership skills and sports in which the learners participated.

The WCED should create different application processes for Grade 1 and Grade 8, and require the grade-appropriate information, to shorter and simplify the process for Grade 1 applications. At the moment, the Grade 1 and the Grade 8 application required the same amount of information.

5.4.4. Usefulness

The use was related to the '*convenience'* the respondents derived from using the Government digital system versus traditional government services. Such convenience included the ability to apply to multiple schools at once, paperless application, and cost savings.

> "The system *saved me more time than driving and going to the district, and it is very convenient"* (Par_2).

Most of the respondents who found the system useful were employed, digitally literate, own smart phones, and subscribed to other digital services such as social networks, banking applications, and retail shopping applications. These users saved money and time that would have been spent traveling to schools and dropping manual applications.

> "*I am an IT manager... The system is fast; it is convenient for me. I don't need to print papers... that option of going to school for me was very inconvenient"* (Par_1).

Although most of the respondents applauded the system for providing convenience, other respondents thought that the system would be more useful if it had more options for schools to increase the chances of placement. There were learners who were rejected by all the schools to which they had applied. Therefore, some respondents argued that they wanted to go back to the manual application process because they were '*not sure where they should go when children have not been accepted into schools.*

The system was also criticised for '*gatekeeping*' and maintaining inequalities in society, due to the zoning requirement. As such, students were placed in schools closer to their homes.

> *The problem is the fact that if you are staying in Khayelitsha, you cannot apply for a school in Wynberg. So, if you stay in Khayelitsha, it means that your child must study in Khayelitsha even if you want a better type of education for your child. That is my one problem with the system* (Par 4).

Some respondents reported that the system was totally useless as it was unable to provide the status of the applications, resulting in parents submitting manual applications at school, in addition to the online applications. Duplication of effort indicated inconsistency and unreliability of the application process, as the department of education had announced that the application would be strictly online.

> *I don't know if it is useful because in my experience, I ended up calling the school myself. I went there physically even though I had applied online and uploaded my documents... I would say it did affect my trust in the system because after applying on the system, I also had to redo the application physically* (Par_3).

There were also cases where learners were placed in schools' parents did not choose, and when they enquired, no one took responsibility for the error. This inconvenience and lack of accountability resulted in parents losing trust in the system.

> "At *some point, my son was assigned to a school, which I had not applied to" (*Par_4).

5.4.5. Security and Privacy

The users of digital services tend to mistrust and avoid a digital service where the security and privacy of confidential information is not guaranteed. In the case of the WCED online admissions, respondents reported that they trusted that their personal information was safe and secured on the system. This trust came from knowing that the government complied with data security regulations and policies such as the Protection of Personal Information Act (POPIA).

> "I think *most companies and institutions now comply with the POPI Act. So that is why I have a little bit of trust in the System"* (Par_4).

The system generated the pin upon the registration of the user profile. The pin was sent to the cell phone and email for verification. The pin gave parents assurance that their private information was safe and secure and improved their trust in the system.

> *"I have my own online pin. I created my own profile. I was given verification emails and constant update... not just anyone can log in because the credentials are known to me, that give me comfort that my information is secure"* (Par_12).

Despite the pin on-line that was issued to parents when creating the profile, some respondents were not sure if the system kept their private information safe and secure. Some respondents mentioned that they '*hoped'* that their private information was safe in the system, and further stated that they were '*concerned'* about the lack of assurance of data safety.

Education systems have never been invaded by cyber criminals before; therefore, respondents felt that the system had stringent security mechanisms in place to protect private data.

> *"I think since it is the second time I use it and I never had any problems, so I don't think there will be anything that can actually come back to me in terms of my information. So yes, I think I trust the system"* (Par_8).

The department of education employees who assist parents with applications sign a confidentiality form to declare that they would not disclose the parents' information. The signed form put another layer of security on the system. However, parents who were unable to use the system asked their relatives and neighbours to apply on their behalf. This compromised the

security of the private information as the pins were sent to the cell phones of those who were assisting the parents.

The biggest challenge facing the department of education was when parents sought help from Internet cafés. The café staff used their own profiles to apply for the admission of their clients' learners to schools. This significantly compromised private information security as the employee at the Internet Café would be linked to several applications with which they had no relationship.

> *They created the profile for themselves and helped about 50 parents using the same profile. When we received the application, one parent looked like a parent to 50 children. It was a very difficult case to solve... that is how the system becomes untrustworthy.* (Admin_Clerk_2).

Another data safety guarantee was based on the knowledge that the government was not in the business of maximising profits, therefore citizens' data would not be sold to make money.

> *"I know the government is not selling our information. Government is using our information to provide us with services. So that is why I trust education system, because it is a government system"* (Par_1).

5.4.6. Language Barrier

The WCED online admission system was operated in English, which is the second spoken language in the Western Cape province. In 2016, only 19% of the population of the western Cape province was able to speak English, as shown in Figures 5-14. The systems' inability to operate in other languages created a language barrier, since most of the population spoke Afrikaans. As a result, most of the population opted for the manual application method.

Language most often spoken in the household	Western Cape		South Africa	
	N	%	N	%
Afrikaans	2 871 415	46,6	6 582 140	12,1
English	1 206 209	19,6	4 537 884	8,3
IsiNdebele	6 435	0,1	847 665	1,6
IsiXhosa	1 915 631	31,1	9 249 841	17,0
IsiZulu	19 498	0,3	13 414 612	24,6
Sepedi	2 306	0,0	5 194 236	9,5
Sesotho	53 143	0,9	4 353 921	8,0
Setswana	7 672	0,1	4 798 356	8,8
Sign language	287	0,0	7 629	0,0
SiSwati	1 673	0,0	1 398 404	2,6
Tshivenda	2 500	0,0	1 290 168	2,4
Xitsonga	4 847	0,1	2 312 885	4,2
Khoi, Nama and San languages	263	0,0	13 016	0,0
Other	73 562	1,2	517 069	0,9

Figure 5-3: Distribution of language spoken at home in the Western Cape and South Africa

Source: Community survey, 2016

> *"The problem is that the system is only in English. Most of the parents who come here cannot read English, so they can actually add Afrikaans and IsiXhosa as options, to make it easy for everyone to use"* (Admin_Clerk 3).

To address the language gap, the WCED should consider the suggestion of adding the '*human element'* to assist applicants when they need an explanation. Alternatively, more dominant languages should be added to the system to promote inclusivity.

5.4.7. Human element

Although the public education sector, in developing countries, is trying to integrate technology to optimize admissions, teaching, and learning processes, most of the population are not ready to have the human element completely removed in the said processes. The lack of digital skills and the under-development of digital services require that the human element remain part of the education processes because people *'would rather speak to someone so that they can understand better... a computer cannot do that'.*

Although the WCED Online Admissions system has clear instructions and process flow for application, the lack of human element in the system had a negative effect on public trust. Parents did not know who to contact in cases where clarification was required.

Furthermore, since parents were used to '*engage one-on-one with school officials',* they still needed to speak to a person to confirm that they had submitted their online application correctly and successfully. Having someone to confirm the accuracy of information and the successful submission of the application would ease their anxiety, which was expressed by most of the respondents.

The department of education has the call centre available to the public to call in and inquire about anything related to the services provided by the department of education. However, it seems that it was not always effective in resolving the parents' problem, as some parents were told that only certain individuals could solve their problems. This indicated that the department of education should assess the effectiveness of the call centre to serve the needs of citizens.

Additionally, all the call centre employees should be capacitated with enough information to serve the public effectively, to remove the need for the public to wait for certain individuals to serve them.

5.4.8. Implications of the findings on the technological factors affecting public trust in government digital services

The findings of this study showed that the quality of digital services, the quality of information, ease of use, the usefulness, security and privacy, the language barrier, and the inclusion of the human element in digital services have a positive relationship with trust in government digital services. Although the objectives of government digital services are to provide public services and information, they fail to bridge the language divide as most public services use the English language only with no interpretation functionalities (Rosenberg, 2019).

Failure to incorporate local languages can undermine government efforts to provide equitable access to public services, as local people may find such service irrelevant to them due to the language barrier(Harvey & Brazier, 2022).The language question should be part of the decision-making process as far as the provision of digital services is concerned, if the objective of improving inclusivity and public trust in government digital services is to be achieved.

5.5. Summary of research findings and discussion

This chapter presented and discussed findings based on participant experience with the WCED Online Admissions System, which was the case study for this investigation. The findings were structure according to the proposed conceptual framework. The concepts of the conceptual framework have proved to have affected public trust in Government digital services in developing countries. However, additional themes that were extracted from the experiences of the respondents that were not part of the initial conceptual framework were added. The additional themes added value in this study by broadening the understanding of the factors affecting public trust in government digital services in developing countries.

6. Conclusions

6.0. Introduction

This study aimed to investigate and explain factors affecting public trust in government digital services in developing countries. This chapter answers the research questions drawing on the research findings and the existing literature. This chapter is organised as follows: 6.1. Summary of the problem statement and the objective. 6.2. Summary of the Research Design. 6.3. Contribution of the study. 6.4. Limitations of the study. 6.5. Study recommendations for future research. 6.6. Study recommendation to improve public trust in government digital services in developing countries.

6.1. Summary of the problem statement and objective

For decades, developing countries have been grappling with declining economic activity, resulting in declining government capacity to provide adequate basic services and to improve public infrastructure. There has also been an increase in corruption and mismanagement of public finds (Soudien et al., 2022). Consequently, trust in government as the custodian of the public value has been decreasing, and service delivery protests have been increasing (Osah & Pade-Khene, 2020).

Government digital services were intended to address some of the challenges in service delivery and to increase government capacity to serve the public effectively and efficiently. However, instead, the government digital services have inherited old challenges and introduced new challenges. Such challenges include the digital divide, inadequate access to ICT infrastructure, and digital skills, all of which exacerbated inequalities and negatively affected public trust.

Despite the challenges, the government has been continually bolstering efforts to strengthen and expand access to government digital services and digital skills. Such efforts include the implementation of the public WIFI and the mobilization of Thusong centers across the country. The advent of digital services has also required the government to modernize traditional public services centers such as libraries to provide services aimed at building the digital society. However, returns from such investment have not been satisfactory, as the uptake of the

Government services remains substantially low, posing a challenge for the government in its effort to build an inclusive digital society that thrives in the digital society.

Trust is the precondition for the uptake and continuous use of government digital services. Herein lies the purpose of this research: To examine and explain factors affecting public trust in government digital services in developing countries, focusing on South Africa. The primary question we sought to answer was **How does contextual factors affect public trust in government digital services in developing countries**? To answer the primary question, the research was broken down into three research sub-questions, whose objectives were to explore how personal, institutional and technological factors affect public trust in government digital services in the developing countries.

6.2. Summary of the research design

Due to the explanatory nature of the study, I adopted qualitative methods and the interpretive paradigm. A case study research design was used using a single case study of the WCED Online Admission system, which is a system used by the department of education for the application and admission of learners in public schools in the Western Cape province.

Data were collected through semi-structured interviews using face-to-face and Microsoft Teams modalities. Purposive and snowball sampling methods were used to select the relevant participants in the study, including parents and admission clerks from public schools. Following the literature review, a theoretical framework was designed, deductively, to examine and explain factors affecting public trust in government digital services from the personal, institutional, and technological perspectives. The Thematic data analysis was appropriate for the study. The findings and conclusion of the study were presented, which indicated a strong relationship between personal, institutional, and technological factors and public trust in government digital services in developing countries.

6.3. Contribution of the study

The study also intended to make a practical contribution by providing the government with research-based findings that can be used as input into the policies and processes intended to improve public trust in government digital services, which can increase the acceptance of these services in developing countries.

6.4. Limitations of the study

The purpose of this study was to examine and explain factors that affect public trust in Government digital services in developing countries. This aim was achieved through a single case study in one country; the findings may not be generalizable to all developing countries.

The study sample did not include parents and admission clerks from all districts in the Western Cape province. The inclusion of this sample would have provided information on factors affecting public trust in government digital services across the western Cape province. However, this limitation was addressed by ensuring that the sample included admission clerks who were based in townships and urban schools in the western Cape province.

The time constraint posed by the duration of the master's programme was identified as the limitations as I had to put a cut-off date for data collection to focus on the analysis and write-up.

6.5. Study recommendations for future research

Since this study adopted a qualitative approach, a comparative study may be undertaken, using a quantitative approach, to increase the reliability of the findings. This study has focused on a single case study of the WCED online admission system, a similar study can be undertaken in the Gauteng and Northern Cape provinces, where similar systems have been implemented, to compare the results, as each province has its own dynamics. The inclusion of more cases would strengthen the results and body of knowledge on public trust in government digital services.

6.6. Study recommendations to improve public trust in government digital services in developing countries

Whenever the government is implementing a citizen-facing digital service, it must make concerted efforts to involve the public in the planning, system requirements gathering, design and testing. This will improve public participation, user experience, acceptance of, and trust in government digital services. After the digital services have been implemented, the government must conduct a public awareness and training campaign, ensuring that all social groups are informed and empowered on how to use the system.

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7. List of Appendices

Appendix A – Research Schedule

Participation information	**Details**
Overall Number of participants	TBD when the interviews are completed
Gender	All
Interview duration	Average of 30 minutes
Date Started	18th April 2024
Date completed	26th July 2024

Appendix B - University of Cape Town Ethics Approval

UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA · UNIVERSITEIT VAN KAAPSTAD

2024/02/07

COM/00590/2024

RE: Research Ethics Committee Project Approval Letter

Dear Nomfezeko Ntika,

Your application for ethics review of your project titled

Factors affecting trust in government's digital services in South Africa

has been reviewed and evaluated by the

Commerce Research Ethics Committee.

You may proceed with your research project titled:

Factors affecting trust in government's digital services in South Africa

Please note that should:

(i) any serious or adverse effects to participants occur and/or,

(ii) aspect(s) of your current project change and/or

(iii) any unforeseen events that might affect continued ethical acceptability of the project occur then you should immediately report this to the approving REC. You may be required to submit an amendment to this application, in order to determine whether the changed aspects increase the ethical risks of your project.

Based on the information supplied your application has been successful and is approved.

Please note the following additional conditions associated with this approval:

(i) Gatekeeper permission must be obtained before commencing the study

Regards,

Commerce Research Ethics Committee.

Appendix B – WCED Research Approval Letter

Western Cape Government
Education

Directorate: Research

meshack.kanzi@westerncape.gov.za
Tel: +27 021 467 2350
Fax: 086 590 2282
Private Bag x9114, Cape Town, 8000
wced.wcape.gov.za

REFERENCE: 3A65DD3857000005-20240228
ENQUIRIES: Mr M Kanzi

Ms Nomfezeko Ntika
B8 Tuscania Villas, Thetford Road
Parklands
Cape Town
7441

Dear Nomfezeko Ntika,

RESEARCH PROPOSAL: FACTORS AFFECTING TRUST IN GOVERNMENT'S DIGITAL SERVICES IN SOUTH AFRICA.

Your application to conduct the above-mentioned research in schools in the Western Cape has been approved subject to the following conditions:

1. Principals, educators and learners are under no obligation to assist you in your investigation.
2. Principals, educators, learners and schools should not be identifiable in any way from the results of the investigation.
3. You make all the arrangements concerning your investigation.
4. Educators' programmes are not to be interrupted.
5. The Study is to be conducted from **12 April 2024 till 30 September 2024.**
6. No research can be conducted during the fourth term as schools are preparing and finalizing syllabi for examinations (October to December).
7. Should you wish to extend the period of your survey, please contact Mr M Kanzi at the contact numbers above quoting the reference number.
8. A photocopy of this letter is submitted to the principal where the intended research is to be conducted.
9. Your research will be limited to the list of schools as forwarded to the Western Cape Education Department.
10. A brief summary of the content, findings and recommendations is provided to the Director: Research Services.
11. The Department receives a copy of the completed report/dissertation/thesis addressed to:

The Director: Research Services
Western Cape Education Department
Private Bag X9114
CAPE TOWN
8000

We wish you success in your research.

Kind regards,
Meshack Kanzi
Directorate: Research
DATE: 12 April 2024

1 North Wharf Square, 2 Lower Loop Street,
Foreshore, Cape Town 8001
tel: +27 21 467 2531

Private Bag X 9114, Cape Town, 8000
Safe Schools: 0800 45 46 47
wcedonline.westerncape.gov.za

Appendix C: Interview question guide for parents

Interview Question Guide - Citizens

UNIVERSITY OF CAPE TOWN

FACULTY OF COMMERCE

Igniting Knowledge and Opportunity

WCED Online Admissions is an online system used to apply for student placement at Western Cape public schools. Applications on this system are mainly for Grade 1 and Grade 8, and instances where the learner has reached the highest grade. All applications for other grades are treated as transfers between schools.

1. **Personal Factors**

1.1. Gender:

Male ☐ Female ☐ Prefer not to specify ☐

Age : 18 – 28 ☐ 29-39 ☐ 40-50 ☐ 51-60 ☐ 61 and above ☐

1.2. Where do you live? _____

1.3. How long have you lived there (Number of years)? _____

1.4. Are you employed? Yes | No

1.5. If your answer to 1.4 is "Yes", what kind of job do you do?

_____

1.6. Do you own a business Yes | No

1.7. If your answer to 1.7 is "Yes", how much is your net profit per month?

_____

2. Digital Skills

2.1. How long have you used a computer?

2.2. Do you have a smart phone? | Yes | No |

2.3. If you answer to 2.4. is "Yes", what do you mostly use your smart phone for besides calls

_____

3. General Information

3.1. Have you used WCED Online Admissions System | Yes | No |

3.2. If your answer to 3.1 is "No", what are your reasons for choosing not to use the WCED Online Admissions?

_____

3.3. If your answer to 3.1 is "Yes", please answer questions 3.3.1 to 3.3.3

- 3.3.1. When did you use WCED Online Admission System?
- 3.3.2. How many times have you used the system?
- 3.3.3. Why did you choose to use the system as opposed to manual?
- 3.3.4. May you describe your experience while using the WCED Online Admissions. Describe the process you followed to complete the application.

_____

4. Technological Factors

4.1. How does the quality of WCED Online Admissions affect your trust in this system?

_____

4.2. How does the quality of information provided by WCED Online Admission system affect your trust in this system?

_____

4.3. How does the ease of use of WCED Online Admissions affects your trust in this system?

_____

4.4. How does usefulness of WCED Online Admissions affects your trust in this system?

4.5. Do you think the information you provided into WCED online admissions is safe and secure?

4.6. How is the perception of safety and security affects your trust in the WCED online admissions?

4.7. What do you think of the overall quality of WCED Online? Please provide reasons for your answer?

5. Institutional Factors

5.1. How does the fact that WCED Online Admissions is provided by government affect your trust in this system?

5.2. How does government systems' integrity affect your trust in WCED Online Admissions? (Integrity is the assurance that government systems are reliable and free from manipulation)

5.3. How does good governance principles such as accountability, transparency and responsiveness, affect your trust in WCED Online Admissions?

5.4. How does the conduct of government officials affect your trust in WCED Online Admissions?

6. Closing questions

6.1. In your opinion, what are other factors that affect people's trust in WCED Online Admissions?

6.2. What do you think are the reasons why some parents/guardians prefer to apply manually than to use the WCED Online Admissions?

Do you think your trust in the system would increase if the public was involved in its design? Please elaborate why it would trust would increase.

What other functionalities do you think should be added into the system to improve trust in WCED Online Admissions? Please state your reasons

Thank you for participation in this interview!

Appendix D: Interview question guide for Admission Clerks

UNIVERSITY OF CAPE TOWN

FACULTY OF COMMERCE

Igniting Knowledge and Opportunity

1. Personal Characteristics

1.1. Demographics:

Male ☐ Female ☐ Prefer not to specify ☐

Age : 18 – 28 ☐ 29-39 ☐ 40-50 ☐ 51-60 ☐ 61 and above ☐

1.2. Where do you work? _____

1.3. What kind of job do you do?_____

2. Digital Skills

2.1. Have long you been using a computer?

2.2. Do you have a smart phone? | Yes | No |

2.3. If you answer to 2.2. is yes, what do you mostly use your smart phone for besides calls?

_____

3. Government Digital Service experience

3.1. Have you used WCED Online Admissions System? | Yes | No |

3.2. If your answer to 3.1 is yes, please answer the following questions:

- When did you use the system?
- For what purpose did you use the system?

- How many times have you used the system?
- May you describe your experience while you were using WCED Online Admissions System?

3.3. How did the quality of WCED Online Admissions system affect your trust in this system?

3.4. How did the quality of information provided by WCED Online Admission system affect your trust in this system?

3.5. Would you consider WCED Online Admissions systems easy to use? Please elaborate

3.6. How did the ease of use(or lack thereof) of WCED Online Admissions system affect your trust in this system?

3.7. Would you consider the WCED Online Admissions system useful? Please elaborate

3.8. How did usefulness (or lack thereof) of WCED Online Admissions system affect your trust in this system?

3.9. Do you think the information you provided into WCED online admissions is safe and secure?

3.10. How did the perception of safety and security affect your trust in the WCED online admissions?

4. Closing questions

4.1. In your opinion, what are other factors that affect parents/guardian's trust in WCED Online Admissions system, and what do you think government must do to increase trust in WCED Online Admissions ? Please elaborate

4.2. What do you think are the reasons why some parents/guardians prefer to come to school for applications instead of applying for themselves?

4.3. Do you think parents/guardian's trust in the system would increase if the they were involved in its design? Please elaborate why it would trust would increase.

4.4. What other functionalities do you think should be added into the system to improve trust in WCED Online Admissions? Please state your reasons

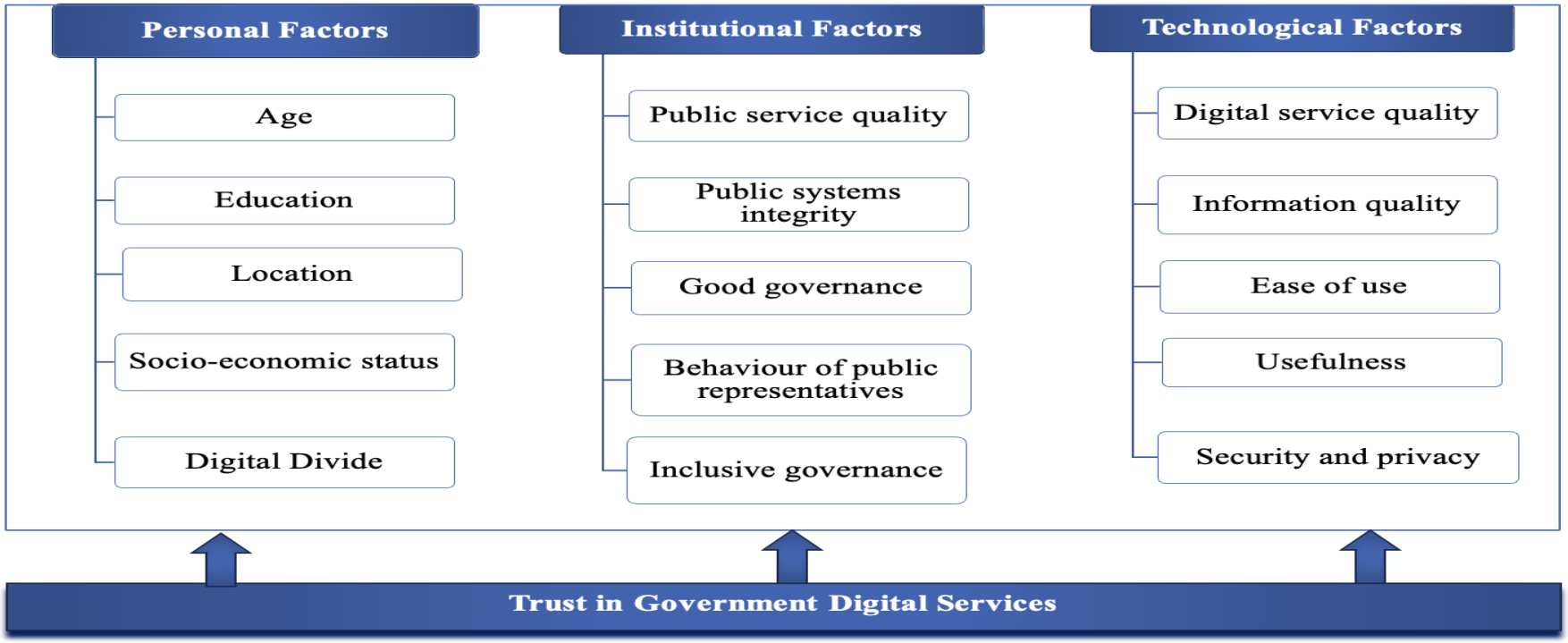
4.5. Do you think parents/guardians trust in the system would increase if the public was involved in its design? Please elaborate why it would trust would increase.

4.6. What other functionalities do you think should be added into the system to improve trust in it? Please state your reasons

4.6. Would you recommend WCED online admissions system to your friends and family? Please provide your reasons.

The End

Appendix E: Proposed Conceptual Framework



Appendix F: Summary of key findings

Sub-research questions	Discussion Theme	Key findings
How does personal factors affect public trust in Government digital services in developing countries?	Age	No conclusive evidence, from this study, that that suggests that age affects trust in Government digital services. Rather, people of all ages who lack access to digital skills and resources to afford the cost of acquiring digital technology and internet exhibit the same trust levels in Government digital services, regardless of age. Literature also did not provide conclusive evidence on age; there is no consensus on whether younger people exhibit more trust in the digital services than the older generation.
	Education and socio-economic status	The study provided conclusive findings that education and socio-economic status affect trust in Government digital services in developing countries. This is because people who enjoy the higher socio-economic status have exposure to other digital services such as banking and shopping apps. The findings of this study were consistent with the literature I engaged on this matter.
	Digital Access	This study provided evidence that people who lack access to digital skills and digital technologies do not trust their ability to use the Government digital services effectively. This phenomenon is more pronounce in rural areas where there is meagre investment in the ICT infrastructure, resulting in poor quality of internet access. The findings of this study were consistent with the literature engaged.

How does institutional factors affect public trust in Government digital services in developing countries?	Public Service Quality	The findings of this study indicate that institutions that have a legacy of good quality services do not struggle to get buy-in form the public when they introduce new digital services. These findings are in line with the findings of the literature I have engaged.
	Good Governance - transparency, accountability, and responsiveness	The government institutions that uphold good governance principles are more trustworthy than those that pay lip service to good governance. Evidence shows that the public appreciates it when the government is transparent about its processes and decisions, responsive to public queries. Furthermore, accountable plays a pivotal role in building public trust in Government digital services. These findings are consistent with the findings of the literature I have engaged on the influence of good governance factors in public trust in Government digital services.
	Conduct of government employees	The findings shows that the conduct of government employees affects public trust in the government institutions and Government digital services. When government employees behave in an unprofessional manner or lack the capacity to serve the public effectively and efficiently, the image of government gets affected negatively. These findings are consistent with the literature I have engaged.
	Inclusive governance	When the government makes a concerted effort to be inclusive in their decision-making process, the public feel seen, heard and empowered by the government. Therefore, their trust in Government services improve. These findings are in line with the literature I have engaged.
	Quality of government communication	The evidence shows that when the government sends uncoordinated and inconsistent message to the public, it risks being seen as an untrustworthy government. The

		perception of untrustworthiness affects the uptake of Government digital services as people get confusing messaging from the government. The literature I have engaged confirmed that the quality of information provided by government affects public trust in Government digital services.
How does technological factors affect public trust in government digital services in developing countries?	Digital Service Quality	Evidence show that people measure digital service quality by the extent to which it is easy to follow the instructions and process to achieve the desired outcome. When the Government digital service is difficult to use, and lack transparency and responsiveness, public trust gets affected negatively. This is consistent with the literature I have engaged.
	Information Quality	The findings of this study showed a strong relationship between the information quality and public trust in Government digital services. These findings are in line with the literature I have engaged.
	Ease of Use and usefulness	The findings showed that ease of use and usefulness are determined by the clear instructions on how to perform specific tasks, simple design or layout, user-friendliness and convenience of the digital service. These findings are consistent with the literature I have engaged.
	Security and Privacy	The findings indicate that Information safety and security is one of the major determinants of digital trustworthiness. Evidence shows that citizens trust that government, as the custodian of data protection laws and policies, to always kept their data safe and secure at all material times. This is consistent with the literature I have

		engage on the relationship between data security and privacy, and public trust in Government digital services.
	Language Barrier	`The language barrier factor was not in the conceptual framework that informed the research questions. However, the findings of this study revealed a strong relationship between the language use in the digital services and trust. The literature confirmed these findings by adding that if the local people do not understand the language required to use the digital services, they may deem the services irrelevant to them.
	Human element	This study found that the human element still plays a critical role in building trust in Government digital services. This is because the digital services are a fairly invention, therefore, some people still need a bit of handholding. No literature was found that confirm these finding

Appendix G: Research Plan

Activity	Timelines
Application for Ethics clearance to UCT Ethics committee	15/01/2024
Approval of ethics clearance from UCT Ethics committee	07/02/2024
Application to conduct research at WCED	28/02/2024
Approval of the research by WCED	12/04/2024
Submission of Literature Review chapter	16/03/2024
Feedback for the Literature Review chapter	16/03/2024
Data collection start	18/04/2024
Data collection end	26/07/2024
Submission of the Methodology chapter	04/07/2024
Data transcription and analysis completion	15/09/2024
Submission of the findings chapter	10/11/2024
Review and submission of the final report	08/12/2024