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Technological Penetration in Local Government:

The Use of Technology to make government and service delivery accessible to poorer communities.

A case study on City Power.

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Research assignment presented in fulfilment of the requirements for the degree of Master of Arts in Political Studies at The University of the Witwatersrand

Supervisor: Dr Thokozani Chilenga-Butao

August 2024

DECLARATION

I, _____Linda MM Manetsi_____, (Student Number: 2083958_____) am a student registered for _____Master of Arts____ in the year ___2023___. I hereby declare the following:

I am aware that plagiarism (the use of someone else's work without their permission and/or without acknowledging the original source) is wrong.

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I have followed the required conventions in referencing the thoughts and ideas of others.

I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief that this is not my own unaided work or that I have failed to acknowledge the source of the ideas or words in my writing.



Signature_____ Date: _9 September 2024___

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ABSTRACT

This study investigates the use of technology in service delivery as a method to ensure poorer communities have access to public services. The focus of this investigation is City Power SOC, the City of Johannesburg's power distribution utility, which provides power to more than 350 000 households and businesses in Johannesburg metropolitan city, Gauteng, South Africa. The power utility has a digital query system to assist customers in the event of an unplanned power outage or other power supply queries. The hypothesis of this report is that public services in South Africa are digitized and have significant technological penetration, this has depoliticized and professionalized service delivery. But, technology has politicised service delivery by perpetuating inequality between richer and poorer areas as poorer areas do not have access to such technology. A Qualitative research was undertaken with dependence on sources from City Power's annual reports, academic journals, media reports and conference papers. Due to limitations, this study could not find a link between the impact technology created in worsening inequality between the richer and poorer areas, due to the limited data from City Power. While, this study inadvertently shows that there is significant technological penetration in South Africa, especially Johannesburg, but residents are not aware of e-government services such as the measures provided by City Power.

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Chapter One: Introduction

1.1. Introduction

It is widely accepted that the existence and use of modern technology has optimised peoples' lives and organisational operations in the business world. Technology has brought changes to how people live and interact, how businesses provide their products and services, and a created new industry. Technology has also allowed governments to provide better service delivery through e-government. This involves being accessible to constituents using a wide range of technologies such as online query systems and consumer dashboards to keep citizens informed about government services, alert government agencies on service delivery issues and hold government agencies accountable for service delivery problems.

Existing literature praises the use of technology in government as a method to professionalise service delivery by making operations easier and accessible to the public. Technology also streamlines decision-making processes around the allocation of resources, making these processes data driven targeting communities that need services most. This is in contrast to situations where service delivery is driven by political interests and for the benefit of communities who already have access to the services.

South Africa has the potential to use e-government technologies, with a nation that has high digital literacy rates and technological penetration. This is evident in data from Matthias Kronke (2020) in an Afrobarometer survey on Africa's digital divide and e-learning, stated that 36% of South African households have access to a cell phone and computer, 36% have access to only a cell phone, 24% have access to a cell phone but not internet, while only 4% do not have phones. Therefore, a combined 96% South Africans have access to either a computer or cell phone (Kronke, 2020; p.3) Technology in South Africa has the potential to give access to government services for constituents who previously lacked this access due to limited or no access to internet. The lack of internet for most South Africans is caused by the lack of infrastructure or the high price of data.

Beyond the data and the news reports and statements, the South African government at National, Provincial and Local Government has shown failures to fully utilise

technology for the betterment of public administration and service delivery. South Africa remains an unequal society. Though there is high technological penetration in the country, a contradiction lies, internet access remains unequal due to the exorbitant internet data costs, limited telecommunication infrastructure in rural, township and informal settlements to accommodate the growing

1.2. Research Rationale

Service delivery in South Africa is largely criticised as most citizens express concern over access to basic services because of government's failure to stem corruption perpetrated public sector officials. Organisational failure within the public sector such as inefficient bureaucratic processes, the failure of officials to reach their performance indicators which risks officials losing morale, and failing to address the needs of the public. The lack of investment in infrastructure for efficient service delivery and operations risks to low opportunity costs, which translate to billions being used to enhance infrastructure at a later period which facilitates exorbitant tariff increases of basic utilities such as water and electricity, additionally, perpetuates the public protest in the country which has become a mechanism to express discontent with the government and public sector as a whole (Masiya, et.al, 2019; pp. 20-3) (Auditor General South Africa (AGSA), 2023; 34, 36, 42, 44).

Moreover, South Africa is currently experiencing challenges with its power supply. A phenomenon called load shedding which has been with the nation for 16 years, was introduced to reduce energy demand by limiting power to specific areas for a minimum period of two hours per day. Access to electricity is a basic right, which exposes South Africa's high levels of inequality as some areas experience more than two hours of load-shedding, frequent power failures, and high electricity prices cause many poor and low household incomes to choose between food and basic services. To mitigate the energy crisis, the country's power utility, Eskom, has called for the use of innovative technologies to enhance energy security by expanding access, protecting the grid, and making power stations more cost-effective which have an impact in reducing energy costs (Eskom, 2021; pp. 1-16)

One of the country's energy providers, City Power which operates in the City of Johannesburg, introduced interventions to eliminate load shedding and broaden access to electricity, such as ripple relay technology (City of Johannesburg; 2016) to

reduce demand by remotely turning off geysers in residential areas during off peak hours. In addition, City Power has a customer service website, ‘City Power.mobi’, where customers can log electricity outages and faults. City Power uses this website to address electricity issues in the city within a short period of time. These technologies are innovative; however, they also expose more inequality around access to the internet, the ability to address electricity faults or failures in predominantly fail to address the high price of electricity.

The consensus on the literature on this topic, is that the use of technology in government professionalises service delivery through innovation, efficiency and bringing government closer to people. The latter is one of the goals of New Public Management (NPM), introduced in South Africa in 1999. However, the nation is still grappling with apartheid legacies of inequality, corruption and political interference, which have worsened the energy crisis and the failure of government at all levels to provide electricity. This crisis pushes local energy distributors to develop ways to encourage citizens to minimise energy usage, address energy distribution problems and faults. The introduction of technological developments integrates the use of operating systems, matrixes, and interfaces to monitor the allocation of funds, public goods, aid better decision making to be data driven, and use this technology for a social cause such as eliminating crime, like cable theft and sabotage of electricity making energy management efficient.

1.3. Research Questions

Central Research Question: What is the relationship between technology and service delivery?

Central to the rapid integration of technology into service delivery is the adoption of NPM policies during the Mbeki Administration (1999 to 2008) (Cameron 1999). South African public administration has been revitalised from a paper-based, delayed systems to the adoption of information technology systems that bring government closer to people and speed up service delivery (Traunmuller, 1996). South Africa implemented NPM across all levels of government with the aim to professionalise public administration & service delivery from local government to national government.

One of the accomplishments of NPM and the integration of service delivery is the creation of e-government. The World Bank (2015) explains e-government as the utilisation of information technologies for instance Wide Area Networks, the Internet and mobile computing which have the capability to transform interaction between the citizenry, businesses and arms of government. The technology can work multiple ends, delivery of government services to citizens, enhanced interactions with business and industry, enabling access to information and more efficient public management.

Supplementary Question One: What is the state of service delivery in South Africa?

There have been varying outcomes on service delivery in local government. This is based on three factors that affect service delivery, which will provide direction to this research report. Firstly, the capacity and skills of public servants. Secondly, the ethical conduct of public servants and politicians; and, lastly the impact of service providers in carrying through their service delivery contracts impartially. This section problematizes the terrible state of service delivery in South Africa by assessing the above negative outcomes of NPM in service delivery and how this has led to the current issues plaguing service delivery today. The South African Local Government Association (SALGA) Annual Report (2021; 33) states that 60% of councillors across South Africa do not have the computer skills needed to pass crucial legislation such as municipal budgets. This is concerning, especially in a technologically intensive environment where knowledge and skills have been tightly integrated with the understanding of technology in order to take important decisions.

Service delivery in Africa has been predominantly riddled with political interference. Root causes of political interference in local government are patronage whereby political parties use local government as a network to dispense funds and grants from the government to the local elite and political leaders, and corruption whereby service delivery contracts are awarded to political allies and funders. What has not been analysed by academics is the allocation of public goods to constituents according to how they voted. The equitable share as provided by Section 214 of the South African Constitution allows the division of revenue to Provincial and Local Governments based on matters of national interest, local priorities and fiscal capacity of the local government. The hypothetical loophole of this Section allows the majority party in the

National Assembly and the National Council of Provinces to pass partisan shares in order to benefit their party and strain the opposition party.

This matter is prevalent in South Africa post-2016 Local Government elections whereby different coalition governments provided service delivery to their preferred constituents first, then other constituents. In the case of the City of Johannesburg under the Democratic Alliance, CCTV cameras provided by the local government, commonly known as the 'Vumacams' were predominantly seen in suburban wards, which were led by DA Councillors. However, wards led by opposition parties such as the ANC did not receive these Vumacams. This issue emphasised on the racial implications of government technology as the technology is installed by a private company, and widely not installed in poor areas such as Soweto (Hao, Swart, 2019). Service delivery such as refuse removal, repairs and construction were first provided to DA wards, and later to ANC wards. This pattern continues to play out across coalition governments.

Supplementary Question Two: Case Study Analysis on City Power – How has the use of technology optimised City Power's operations?

Energy generation and maintenance became the centre of attention for all South Africans due to the energy crisis which began in 2008. The energy crisis has multiple negative impacts on the South African economy. But, the addition of technology into the national electricity grid creates an opportunity to reduce load shedding and improve energy supply.

The main focus is to address energy management and energy distribution issues in particular infrastructure damage. There have been limitations in accessing research on the technological interventions aimed at addressing the energy crisis in South Africa. There is an opportunity to conduct ground and desk research on these interventions to positively contribute to the knowledge in this field. The report investigates the utilisation of technology such as smart meters for energy management, enquiry systems which are used to improve City Power's distribution and operations in addressing electricity faults, damaged infrastructure such as transformers and cable theft. Alongside the evolution of technology in government, it is important that the study assesses City Power's vision for AI to optimise their technology infrastructure and energy management.

1.4. Research Objectives

The 21st Century brought the fourth industrial revolution, an opportunity for corporations to innovate and develop technologies which can optimise their service delivery, address problems and challenges faced by customers, and gain the competitive advantage. Governments cannot ignore the power of technology to benefit citizens. At times, the advantages overshadow the disadvantages.

The purpose of this research is to:

i. Give recognition to poorer communities who have been excluded and victimised during a period of innovation which is supposed to benefit them.
ii. Highlight and contribute to the debate on the benefits technology in African governments by highlighting the disadvantages of technology in relation to access.
iii. Facilitate the development and expansion of infrastructure into poor communities in South Africa and push for the implementation of pro-poor strategies to make it accessible for poorer communities to use the technologies. These strategies include making consumer portals zero-rated, reduction of data prices and the introduction of Unstructured Supplementary Service Data (USSD) for people who do not have smartphones.

1.5. Research Methodology

In order for the research to answer the research questions and fulfil its objectives, a qualitative research methodology was utilised. The qualitative methodology allows observations about trends and their meanings. The case study for this research report is of City Power's ability to respond to service delivery in poor and low-income areas. Using City Power's 2022/2023 Annual Reporting, and 2023/2024 Quarterly Reporting, the report sought to gain an understanding of the plans and outcomes of City Power's e-government interventions aimed at making the institution accessible to its customers, creating a convenient tool for customers to interact with the public utility through means of technology, lastly to reduce outages.

This case study utilized two research methods to collect and analyse data, a document analysis to review and analyse information from City Power's annual and quarterly

reporting. A thematic analysis was utilized to analyse the collected data to find trends and patterns in order to find themes.

A document analysis, which is a systematic procedure for reviewing or evaluate printed and electronic material. This analysis requires data be examined and interpreted in order to find meaning and gain understanding (Bowen, 2009; p.27). The type of data collected from the document analysis was primary source data reporting on their public lighting related queries (which relate to the street lighting in secondary road networks and area lighting), and meter related queries (which are residential lighting and household queries) from their annual and quarterly reports. By collecting this data, it gave the report an opportunity to not only look at the quantity and quality of calls being logged, but to evaluate how long it took for City Power to respond to logged calls in the respective areas.

A thematic analysis was used to organise data and offer insight and patterns across a dataset in order to develop themes (Braun, Clarke, 2012; p.2). This research analysed the data collected from public lighting and meter-related queries and organised them separately in order to understand the quantity of called logged, the type of called logged and graphically represent them to find patterns within the dataset and across datasets in order to formulate themes.

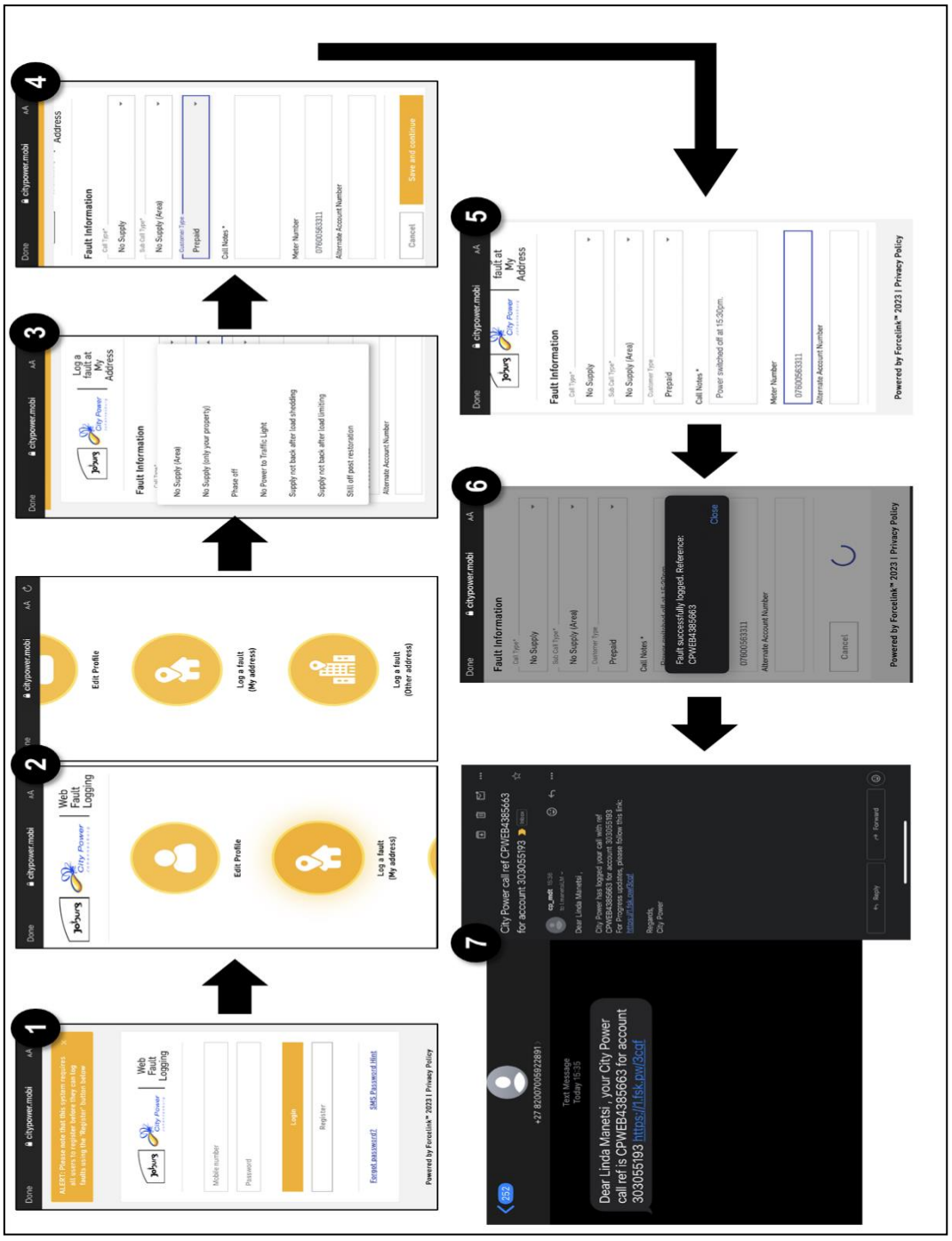
Moreover, the case study tested the argument that the use of technology can solve electricity service delivery problems in townships. Load shedding was a major problem for millions of South Africans until April 2024. Shange (2020) details the interventions by City Power to limit the impact of load shedding in the 390 000 households that it supplies with electricity. One of the interventions is the implementation of ripple-relay technology, embedded in smart meters. Ripple Relay Control (RRC) is technology where high consumption devices, such as geysers, are controlled by smart meters that send a signal to customers on high usage and interrupts electricity supply to the geyser during peak times and load shedding (City Power 2014). Only half of City Power customers (185 500 customers) are connected to these smart meters. Therefore, 185 000 more customers either have outdated smart meters or do not have smart meters at all. This data excludes the use of prepaid electricity meters fitted with ripple relay mechanisms. 70 Megawatts of electricity is saved through these smart meters, also known as load limiting.

Additional e-government services introduced by City Power included the ‘citypower.mobi’ customer website, alluded to above. Besides calling City Power to lodge a call, this website gives customers less than 2 minutes to lodge outages and faults. When lodging the outage/fault, customers insert their account details, personal details and house address. The system generates a CW Number, which serves as a reference for the enquiry. The CW Number is sent to the service station, where the supervisor deploys staff members to prepare necessary resources and go to the site where the fault is lodged. If there is more than one complaint lodged within a street/area, the system escalates the matter as an outage and staff are deployed to the area to start repairs.

Accessing data regarding the usage of smart meters and citypower.mobi is vital to discuss issues around access and inequality. In this case, one may assume that suburban areas would use this technology more compared to township areas due to internet access and institutional issues because there are areas which are supplied by Eskom thus City Power does not have their infrastructure and technology rolled out to these areas.

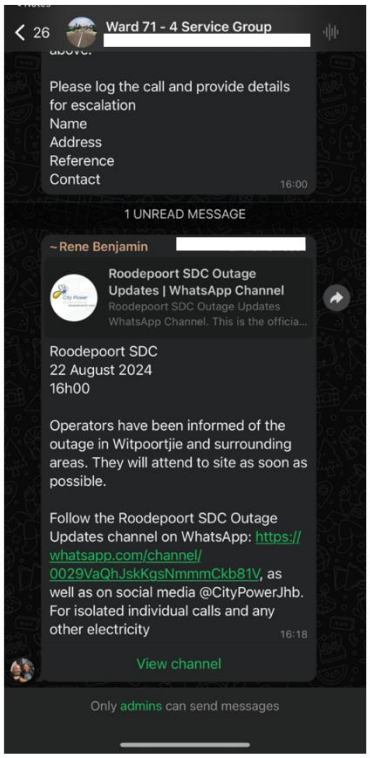
The infographics from pages 9 to 11 demonstrates the logging process when an unexpected power outage hit the Witpoortjie, Roodepoort area on Thursday 22nd August 2024. Page 10 explains the process.

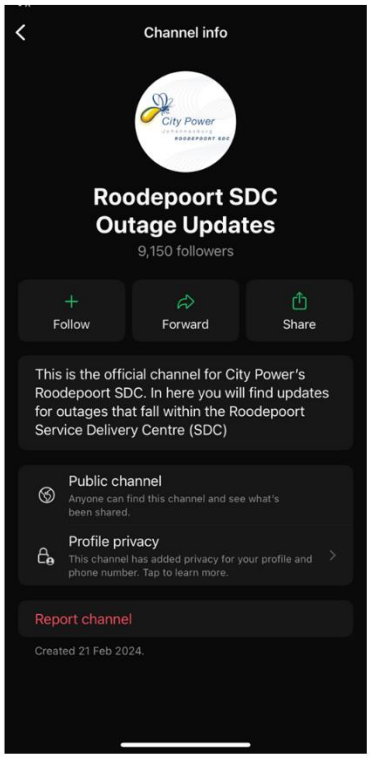
Infographic A: City Power query logging process (Manetsi, 2024)[1]



[1] City Power X (Formerly Twitter) page, Accessed: 22nd August 2024. https://x.com/citypowerjhb/status/1831568321671463356?s=46, https://x.com/citypowerjhb/status/1826678042061930829?s=46, https://x.com/citypowerjhb/status/1826672873693741158?s=46, https://x.com/citypowerjhb/status/1826623585319817242?s=46, https://x.com/citypowerjhb/status/1826623061258387781?s=46. Website: City Power Web Fault Logging, Managed by Forcelink ™. Accessed: 22nd August 2024, https://citypower.mobi/login

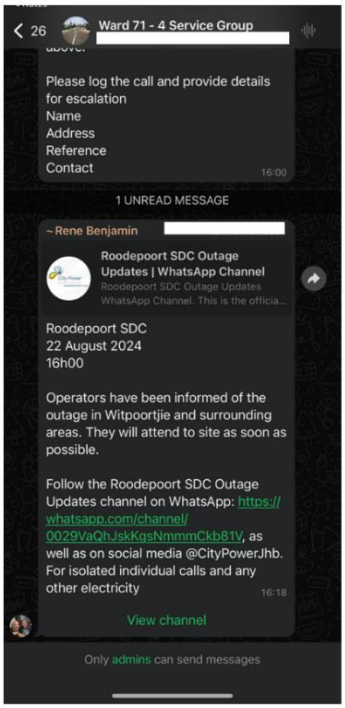
Infographic B: Confirmation of query and outage updates

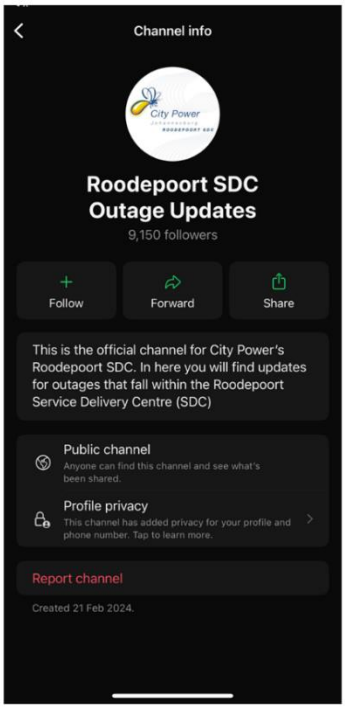






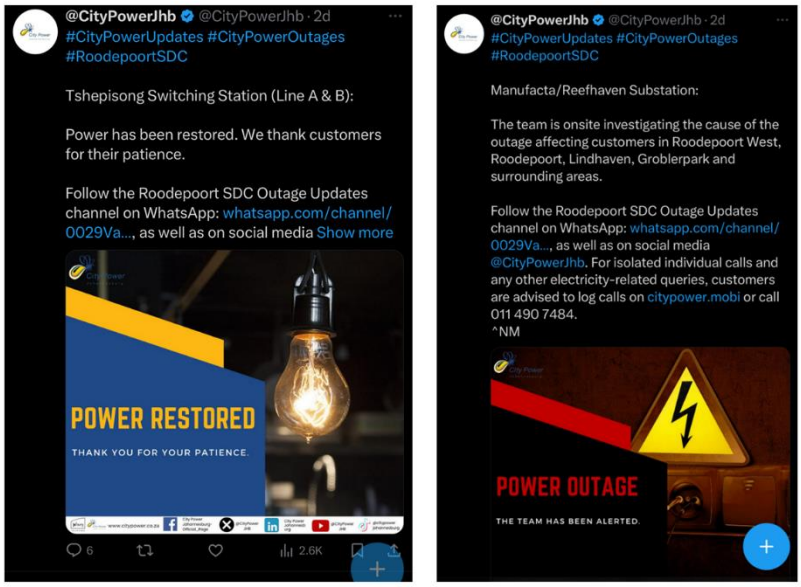
Infographics C1 & C2: Confirmation of query and outage updates (Infographic C1)







Infographic C2:



1. The resident types in ‘citypower.mobi’ on their internet and it will take them to the login page of the website. The resident will login with their mobile number or password. In the event the resident is new to the service, they are required to register.
2. The resident will be directed to the menu which has different services such as to edit their profile, log a fault for their address or another address.
3. Once they select the option to log a fault query, the resident selects from the drop-down menu, the ‘call type’ and ‘sub-call type’ which are ‘No Supply, Dangerous Situation, Street light, non-billing related smart meter queries, a non-billing related meter fault, power quality issue, no hot water-where a geyser load control unit is installed, and a substation grass cutting/vegetation clearing query’. For the purpose of this research, a no area supply query will be selected.
4. Once the call type and sub call type are selected, the resident selects which type of customer they are, which is domestic, large power user and prepaid customers.
5. The customer will describe their call and insert their meter number.

6. Once the customer clicks save and continue, the customer will be directed to a greyed-out page which has the query number which is used for references. Thus, the query has been logged.
7. The query number is sent on email and on SMS for the customer.

Infographic B are the Community WhatsApp Group and Service Delivery Centre Outage Update WhatsApp Channels. Once the query and call has been captured, City Power confirms that the query/queries have been received via the Ward Councillor or the WhatsApp Channel. Thus, technicians are deployed to the site/substation to detect faults.

Infographics C, are updates from City Power via X (Formerly Twitter) regarding the repairs and restoration.

Detailing this process provides a background to readers to understand how citypower.mobi functions and how one can utilise this platform. It took two minutes to go through this process. Thus, it was a convenient and fast way to report a power issue compared to telephone or a branch visit. Therefore, as one goes deeper into this research, specifically Chapter Three, I take into consideration the data collected and analysed and find any themes or links between the process and the quantity of calls logged.

In relation to the objectives of the research, this process shows how public utilities aim to use e-government to make processes efficient for users and the utilities in order to make service delivery convenient and faster.

1.5.1. Limitations

There were two approaches to collect data. Firstly, data was going to be retrieved through written questions provided to a City Power official who answered the questions and provided the data requested from the written questions. The rationale of selecting this approach was to provide an opportunity for collaboration with City Power for a positive cause. To make this research an inclusive and balanced in order to reduce biases and public perceptions about the public sector, and to provide data to the public about work which was done in order to mitigate the impacts of load shedding and make power supply available to all customers. However, this was not possible because communication to the power utility came to an abrupt end after failing to respond to

communication on their commitment to participate in the research. City Power expressed concern of the risk that this research could compromise their compliance with the Protection of Information Act (POPI Act) even through this research would not require information of customers, rather focus on enquiring on City Power's efforts to digitise their operations, and the foot traffic from their platform, citypower.mobi. Nonetheless, questions were reformulated to accommodate City Power's concerns but the institution did not participate in this research as evident by their inability to respond to communication.

The second approach, explained above, was used to complete this research. I.e. the collection of primary source data from City Power's annual and quarterly reports. This entailed perusing City Power's website to their Company Reports page download their annual and quarterly reports. A document analysis was utilised to collect data and a thematic analysis was utilised to analyse the collected data to develop key patterns.

1.6. Chapter Outline

Chapter 1 will contextualise and provide a background of the study and includes the research problem, research question and objectives of the research. Chapter 2 will present a theoretical framework for the study in the form of a comprehensive literature review. Chapter 3 presents the research methodology and data collection. Chapter 4 provides data analysis, which reflects on the results on the analysis. The fifth chapter presents the findings, recommendations and conclusion of the study.

Chapter Two: Literature Review

2.1. Introduction

This research report aims to determine whether technology can be used to address the service delivery problems, particularly electricity problems, in poorer communities. The themes of the literature review focus on the state of service delivery in South Africa, addressing contemporary issues while reviewing South Africa's history and its impact on these issues. The literature review will also review the concept of depoliticisation of public service and service delivery through the use of technology by reviewing literature by authors who are proponents of New Public Management (NPM), e-government and technology.

The literature review finds that South Africa's contemporary service delivery challenges are caused by inequality, as a result of colonialism and apartheid. There were two different models for service delivery resembles during colonialism and apartheid, resembling what Mamdani defines as direct and indirect governance.

Attempts were made to address this by introducing New Public Management (NPM) in 1999 during the Thabo Mbeki Administration (1999 – 2008), which involved the use of technology to professionalise public administration and service delivery. However, NPM has worsened the service delivery as some officials were not capacitated or skilled to interact with the technology, the public did not understand this technology, while there was limited infrastructure to ensure the technology works effectively.

The departing point of the literature review is important to critically evaluate the use of technology in addressing social issues, especially in areas with inequality and limited infrastructure. Additionally, it provides a background of how societies have reached this point. Debates of technology have become discussions of requiring us to forget about the past and history for the sake of progress and innovation. However, researchers are important in this case to provide history to make technology effective and inclusive.

2.2. The State of Service Delivery in South Africa

The literature on the state of service delivery focuses on the history of service delivery in South Africa, as well as the relevant legislative frameworks. Sithole and Mathonsi (2015) who provided a comparative analysis of service delivery in South Africa during

Apartheid and Post-Apartheid settings. Kaywood (2021) provides a historical background of service delivery and argues that there is a lack of public value and addresses this by pushing for a need to promote public value through constitutional values and principles to guide public governance. This largely hinges on the need of government to use public service to address the injustices of the past. The literature also points to contemporary issues and perceptions of service delivery by reviewing NPM in research and journals. Zerihun & Mashigo (2022) in their research on dissatisfactory service delivery in Mpumalanga finds that citizens in the Dr JS Moroka Municipality value essential services such as water and electricity but it is bad quality, and are willing to pay for the services, however it is the governance in the municipality which makes the services poor (Zerihun & Mashigo, 2022; p. 6).Nkomo (2017) provides insight on public perception of the provision of services at a local government and provided analysis on the importance of local councillors. South Africa reflects 30-years of democracy, within which time, injustices of the past in several state institutions, government services and the economy should have been resolved. There have been significant strides in service delivery in post-apartheid South Africa such as the electrification of townships and informal settlements, installing piped tap water into households, and the provision of free government housing. Service delivery remains a challenge in all countries across the globe. What is significant with these countries is the different ways to mitigate service delivery challenges such as new organisational and managerial styles such as New Public Management (NPM), and the introduction of technology that work together to professionalise government and optimise service delivery.

However, service delivery challenges in South Africa remain a constant feature in our politics and a major concern for businesses because when service delivery infrastructure and service delivery quality deteriorate, the bottom-line of a business gets negatively impacted. One can refer to load shedding and the South African power crisis which saw businesses close or take a huge knock due to lost production time and the increase in diesel purchases for their generators which puts strain on their budget. This section focuses on the state of service delivery and the legal framework which necessitated the enforcement of service delivery. Additionally, this section begins with a broad, yet brief analysis of the state of service delivery from apartheid

and post-apartheid, then specifically focus on the state of electricity provision in South Africa from 1994.

Service Delivery in South Africa comes from a backdrop of inequality, lack of access and low-quality infrastructure which the majority of South Africans were excluded from during the apartheid era. Sithole & Mathonsi (2015) analysed the state of local governance from colonial South Africa to apartheid South Africa, dating back to peak colonialism in the 17th and 18th century from the Dutch East Indian Company (DEIC) and British settlers who arrived at the Cape respectively led to the establishment of a hybrid local government and service delivery system. The 18th Century saw significant introduction of governance systems by the British which advocated by the white regime as this saw the introduction of the three tiers of government (National, Provincial and Local), which was adopted during the apartheid regime. This was a system to merely reinforce control of British colonial government over their territory and ensure that development in areas of economic activity is ensured. During this period, local government was non-existent in black rural areas.

Governance and Service Delivery during apartheid

The Group Areas Act of 1950 (GAA) introduced policies of segregation which segregated non-white South Africans according to race. They were forcefully removed to areas far from economic activity and resided in these areas according to ethnicity (Kaywood, 2021; p.45; Sithole & Mathontsi, p.11). The apartheid government sought a way to avoid a situation whereby wealthy white municipalities would provide services to areas inhabited by the black population. Therefore, the Act restricted access of the black population in white areas and restrained inhabitation for the black population where people resided and experienced obstacles such as the pass system and limited municipal revenue wherein a majority of revenue was allocated towards white areas, segregated townships, industrial and commercial development space. In terms of governance, the GAA enforce ‘separate development’ through the introduction of self-governing homelands, known as Bantustans or TBVC states, which were states dominated by the ethnic identity of their population. Within these states, service delivery government and tribal authorities who derived their power from communally owned were responsible for service delivery. These areas where outlying from industrial centres without meaningful economies, forcing the black population to travel

long distances for services and contribute to white municipality's revenue base. In the 1960s, coloured and Indian townships were controlled by management committees.

The 1971 Bantu Authority Act removed authority from white municipalities to administrative boards to manage the daily service delivery affairs. 1977 saw the introduction of community councils which were composed of elected officials. However, the councils did not have meaningful powers and had minimal resources, thus they lacked political credibility. In 1982/1983 which saw the implementation of widespread reforms after the enforcement of the Tricameral Constitution, Black Local Authorities replaced the community councils. These authorities had no revenue base, they were politically illegitimate and during the 1980s, they were violently rejected. During this period, service delivery was under their responsibility with minimal revenue; thus water, electricity and waste removal was minimal, and a huge majority of black dominated townships did not have access to water or electricity.

Service Delivery from 1994 to date

The 1996 Constitution established a strong system of local government. The Constitution recognised the role of local government as one of the spheres of government and grants exclusive powers and responsibilities to fulfil their responsibilities. Local Government consists of elected municipal councils with a degree of autonomy, executive and legislative authority. The duty of the Constitution is to ensure that critical services are delivered regardless of race, expand access to service delivery by servicing areas disadvantaged by the apartheid regime, which is ultimately consistent with the Constitution's aim to eliminate the injustices of the past.

New Public Management (NPM) was introduced to modernise public administration and service delivery. It seeks to do this by making the public service efficient by hiring skilled and competent staff. Integrating new technology into the public service with the aim to serve the public with professionalism and care. Ensure rapid service delivery and to deracialise service delivery (Zerihun, Mashigo, 2022; pp. 2). However, poor service delivery remained widespread due to corruption, political patronage and a skills deficit. As an intervention to make NPM practical in South Africa, the principals of Batho Pele were introduced. These principles transformed the public service through consumer-centric, accessible and high-quality services. Batho Pele comprises eight elements: consult users of services, set service standards, enhance and expand

access, ensure courtesy, provide additional information of higher quality, more openness and transparency, mitigating errors, failures and getting the best possible value for money to provide the best technology and service providers to optimise service delivery (Zerihun, Mashigo, 2022; pp. 3)

Nkomo's analysis introduces literature on constituents' sentiments on service delivery at local government. Nkomo's (2017) findings published on Afrobarometer, finds that more South Africans said their municipalities performed fairly badly or vary in key areas of service delivery such as road maintenance (56%) while sanitation is handled fairly well or very well (52%) (Nkomo, 2017; p2). In addition, positive assessments of service delivery are high in urban areas and more educated, employed and white respondents. 47% of South African's who notice the problems with how their local government was run and took steps to address these problems. Average positive sentiments of service delivery stood at 37% nationwide. Rural areas stood at 23% positivity while urban areas stood at 45% (Nkomo, 2017; p.5.)

Respondents with high and moderate poverty have an average of 26.5% positive assessment of local government. An average of 34% of respondents who are unemployed express a positive attitude of local government service delivery while employed respondents have a 40% positive assessment of local government service delivery. In terms of race, 51% of white South Africans express a positive assessment of local government service delivery while black South Africans (black, coloured and Indian) hold a 38,6% positive assessment of service delivery by local government. Black South Africans hold the lowest positive assessment of local government service delivery at 33%. (Nkomo, 2017, p.5).

In terms of citizen action when they are confronted with service delivery, the use of technology was not part of the questions in Nkomo's Afrobarometer survey. Nkomo (2017) finds that 76% of citizens discuss the problem with people in their communities at least once and 43% discuss these issues several times. 63% of respondents stated that in one occasion, the community worked together to address the problem. 41% went further to involve community, religious or traditional leaders to address the problem. 14% of respondents wrote in public forums and the media to address their issue. Less of these issues are escalated to their councillor with only 24% of respondents take their complaint to their local government officials by meeting with

them or writing a letter at least once. While 12% state that they have done this several times (Nkomo, 2017; p.12-13).

This literature is relevant to this report in order to assess the perception of service delivery in the opinion of citizens. There is a common perception that public service in South Africa is problematic; thus, Nkomo provides a quantitative assessment to assess this perception. What is striking is that respondents in urban areas have a better positivity rating for service delivery compared to rural areas. This is due in large part because urban areas are serviced and have more access to basic services compared to rural areas who have limited to no access to basic services. In terms of racial analysis, white South Africans expressed a positive impression of service delivery than of black South Africans. This finding shows there is still inequality in service delivery which reinforces, the analysis from Hao & Swart (2017) in relation to their findings that service delivery can be politicised in priority of well-off constituents, which will be explained as the literature focuses on de-politicisation, and Kaywood (2021) who stated that the inequalities brought by apartheid policy making remain in contemporary service delivery.

This literature further shows that traditional methods of action when it comes to addressing service delivery problems remain prevalent. The questions Nkomo (2017) provided in Table 7 and Table 8 (p.13) still show that in person discussions with community members, a joint effort to address the problem, complaining to media and local government, also protest action remain the dominant way to remedy problems. While using technology such as ‘citypower.mobi’ or social media were not asked by the author or raised by the respondents.

2.3. Technology Usage in Government

The literature focuses on the type of technology used in government with the dominant literature focusing on e-government. The World Bank (2015) defines, e-government as the implementation of software, computer systems and internet to reach multiple ends such as faster service delivery, improved interaction with businesses an industry and easy access to information and data. With e-government being the dominant literature, the existing literature focuses on optimising e-government as in the case of Al Mushayt (2021) and making e-government accessible to the public as Nzimakwe (2018) argues in his proposal of ‘mobile government’, m-government.

Alsheri and Drew (2010) review e-government implementation, challenges and benefits. This literature provides the groundwork on e-government and introduce new concepts, especially e-readiness, in order to use this information and communication technologies (ICT) to develop the economy and sustain welfare (Alsheri and Drew, 2010; 79).

Nzimakwe (2018) argues that e-government in South Africa has fallen short in addressing issues around inequality in South Africa as citizens struggle to access these features due to skills and knowledge of the systems. Furthermore, many South Africans do not have access to the internet. Nzimakwe proposes the implementation of a new form of government technology, mobile government (m-government). Government is obliged to create applications that take advantage of present technology to service citizens (Nzimakwe, 2018; 116). Government should create applications and features compatible with mobile phones, which have great capabilities as they are used for to connect to social, financial, and personal aspects of the user's life. Therefore, the use of m-government technologies will stimulate citizen participation in all spheres of government.

Hinkley (2022) writes on the use of technology in the US government from Federal Agencies to State Agencies. Hinkley argues that government has been slow in implementing technologies due lack of funding, public scrutiny, and lack of internal IT capacity. Hinkley acknowledges technology can be used to remove time-consuming processes. Hinkley shares the sentiments of Couret-Branco (2012) that some technologies present risks such as replacing human decision-making processes, which can create worse outcomes such as limiting access and worsen racial bias. Hinkley summarises that technology should be implemented in a framework that acknowledges the role that public workers can play in assessing whether these systems are serving citizens as it is intended. This article touches on how technology is used in government and the human impact of technology on public sector employees.

An examination of e-government awareness and usage in Gauteng Province by Mabinane (2018) concludes that citizens in the province do have access to e-

government platforms, however do not have awareness of e-government services. Data shows in 2015 that South Africa's mobile penetration stood at 85 million, which is an oversubscription of 156%, this means there is a significant number of individuals own more than one phone. The telecommunication infrastructure exhibits weakness with the rate below the Index value of 0.5. There is high use of the internet, which is indicative of easy access to the internet and technological devices. This study found that more 82.7% of South Africans are online. The study reported data from We are Social In 2016 which shows that South Africans spend 2 hours and 59 minutes on the internet a day, while nearly three- quarters (73%) of South Africans have access to the internet from home using 3G or Wi-Fi Routers. 100% of South Africans have cell phones. (Mabinane, 2018; 2-3)

Mabinane finds that there are more South Africans who are aware and connected to social media networks daily (90%) while only 34.6% know the concept of e-government. of the abovementioned data, only 66.7% use e-government services. One would take from this data that the level of awareness of e-government services is minimal. Additionally, there is uncertainty in terms of adopting more e-government services. (Mabinane, 2018; 3)

The literature for the theme gives the research a platform to present the existing technology government uses for technological intervention. In the context of South Africa specifically Nzimakwe's writing on m-government, one evaluates the existing technology in South African government at all levels of government where m-government is implemented such as the 'City Power.mobi'. The literature in this theme focuses on the implementation of e-government and technology in government which assists the report in presenting real-life experience in implementing e-government technology, and its impact on public servants.

2.4. The Concept of De-politicisation and its relationship with technology

Flinders (2014) defines depoliticisation as the reduction of boundaries in democratic politics, which can intertwine with concerns about the 'end of politics' and the developing a technocratic post-democratic form of governance (Flinders 2014; 135, 137). Fabio de Nardis (2017) summarises depoliticisation as a set of ways power is exercised. Couret Branco (2012) writes on the danger of merging economics with

democratic ideals such as representation and participation by stating that the naturalisation of economics in democratic debate weakens democracy, as economics is a science and science implies that studies are factual and cannot be debated. Depoliticisation leads to technology and experts taking over the decision-making process, which reduces debate. Therefore, issues the public deal with become data-centric and not 'people centric'. In other words, it interprets problems of access and inequality as data and not social issues.

On the contrary, Madumo (2016) argues that the use of information, communication technology (ICT) in government professionalises the public sector. Technology encourages efficiency, develops local government and reduces the interference from politicians. Madumo presents the challenges of politicisation in local government such as the promotion of rampant political interference which was the main point of discussion in this article. Madumo attempts to introduce the contemporary issues around South African local government and integrates these issues under one umbrella term of political interference.

Analysing the definition of depoliticisation by Flinders and de Nardis while focusing on the concept of an expert dictatorship by Couret-Branco, there is an opportunity to focus on access and inequality as the main challenge towards depoliticisation, which is the focus of this research.

Another debate on depoliticisation is the use of technology to further exacerbate the existing divide the country experiences. The expert dictatorship, conceptualised by Couret-Branco is the 'outsourcing' of decision-making to elite experts. Though authors such as Madumo who support on the use of e-government to professionalise the public service and make it efficient, the absorption of elite experts into the public sector to professionalise decision making, the use of technology also undermines the social issues the nation faces, while these interventions are still open to political interference as the technology can be used to create harm.

Hao and Swart (2017) write on the roll out of the City of Johannesburg's surveillance systems, the Vuma-cams. In 2017, the City Government awarded Vuma contracts to install cameras across the City as a commitment to fight crime in the city and in most crime ridden areas which is predominantly townships. Hao and Swart document the roll out of this cutting-edge technology, which exposes the inequality in the city. These

cameras were predominantly seen in suburban areas, areas which voted for the then DA-led coalition government. On the contrary, in townships represented by the opposition's councillors, Vumacams were not installed.

This article assists this report to assess the politicisation of service delivery by looking at councillors manipulating the process by exploring cases of lobbying as a way of politicising service delivery. Cases to explore in this section is the lobbying of service providers to give preference to their constituency at the expense of constituencies that need it. Importantly, assess the use of government technology to perpetuate inequality and racism.

Makene (2009) writes on the effectiveness of e-government in rolling out service delivery by focusing on Tanzania Electric Supply Company Limited (TANESCO)'s interventions on getting closer to its customers. However, Makene argues that though the Tanzanian Government adopted their ICT Policy in 2003, there has been a lack of political will to implement the policy and the lack of funds. However, the rise of mobile phones and roll out of communication infrastructure by the private sector led pressured the government to implement their ICT policy. For the report, this paper substantiates on the divide between urban and rural areas which still do not have access to e-government services. Additionally, will assess how ICT can be adopted in electricity supply and distribution processes.

The literature will assist the research to gain understanding of the existing research and debates on technology in government, and its relationship to depoliticisation. To do this, the research is built upon the typology of technology in government such as e-government, m-government and AI do have certain advantages such as efficiency, bring professionalism in the public service and guide data driven decision making which can lead to depolicisation, but depoliticisation risks not solving issues particularly inequality and access, rather perpetuate these social issues in South Africa.

Chapter Three: Research Methodology

3.1. Introduction

To undertake this qualitative case study, a mixed approach was selected. A document analysis which isolated and extracted useful and strategic data which is relevant to the research. Secondly, a thematic analysis is used to study the collected data and present prevalent themes found in City Power's primary data. In addition, this study reviewed existing literature, as seen above, related to e-government services, the digital divide, de-politicisation and technological infrastructure and indices. This literature and data were accessible on journal articles, mass-media report and website analysis.

This data collected addresses the level of interaction by customers who interacted with City Power through logging queries during the 2022/2023 annual reporting cycle, and the 2023/2024 quarterly reporting cycle. One of the challenges presented with the data collection was the lacklustre assistance from City Power. This led me to utilising the Quarterly and Annual Reports, which did not provide enough information to aid the hypothesis of the research. This section will provide the data collected from City Power's 2022/2023 Annual Report, and the 2023/2024 Annual Report. Thereafter, a thematic analysis was conducted to analyse the data which will provide a basis for developing findings.

3.2. Limitations

The data collection process drastically changed during the research. Initially, this study was supposed to collect data from City Power through a questionnaire issued to City Power officials. Informal discussions with the City of Johannesburg regarding the research occurred. I was directed to a City Power Official and briefed them about the research and the methodology. After a tacit agreement was reached, formal notification was shared. Part of the methodology included an interview with City Power to facilitate a deeper analysis of the data, providing them with an opportunity to share their insight and experience. An interview would further remove any public misconceptions around City Power, and find underlying trends and themes that would positively contribute to this report. They were pleased and eager to assist, however they could not provide the data and did not respond to numerous communications.

Due to this unfortunate development, this limited the scope of research to analyse the geographical data to research the usage of City Power's services in particular areas. Additionally, with this data, it would have found underlying themes such as racial and economic challenges to accessing City Power's platform, due to access to the internet and technical literacy.

3.3. Data Collection

The data has been obtained through secondary sources. The City Power Annual Report of 2022/2023 and the Quarterly Reports from the first to the third quarter of their 2023/2024 financial year. This information has been used to conclude that technological enhancements of City Power's customer service through their customer query system have perpetuated inequality levels between the poorer township areas and richer suburban areas.

Data collected from the annual and quarterly reports are the quarterly totals of calls lodged by customers in the respective City Power regional boundaries, specifically,

- The total number of calls settled; and,
- The type of calls that are logged the queries logged are divided into two categories, Public Lighting and Meter Related queries.

Briefly, Public Lighting queries relate to the street lighting in secondary road networks such as arterial routes and area lighting. Meter Related queries relate to household or residential power supply issues.

There is heavy reporting on public lighting queries than there is for meter related queries.

According to the 2022/2023 Annual Report, there are 378 852 City Power customers in the city.

Key:

Above Performance Target		Below Performance Target	

Calls lodged in the 2022/2023 Financial Year

Query	Queries Received	Queries Addressed	Queries Outstanding	Resolution Rate (%)	Average Resolution Time
Public Lighting	Not Provided	11 098	Not Provided	Not Provided	7,3 Days
Meter Related	3 064	2 939	125	96	Not Provided

Table 1: 2022/2023 Public Lighting and Meter Related Query Report

Public Lighting Queries		
Service Delivery Centres	**Queries Resolved**	**Average Performance in Days (D)**
Alexandra	337	7,1
Eskom North (Bryanston)	938	2,2
Eskom South	34	4,8
Hurst Hill	1 235	15,3
Lenasia	1 032	5,7
Midrand	274	3,4
Randburg	555	10,9
Reuven	931	8,6
Roodepoort	1 709	7,9
Inner City	787	4,5
Soweto/Klipspruit	3 226	5,9
Grand Total	**11 098**	**7,3**

In 2023, City Power does not provide a report as to how many queries that were received for public lighting queries however confirms that there were 11 098 resolved queries. These queries were resolved within an average of 174,8 hours which is 7.3 days.

Received meter related queries totalled to 3 064 lodged across the City. 2 939 were resolved and only 125 were outstanding. Thus, the resolution rate is 96%. The institutions Key Performance Indicator (KPI). The report also does not provide

the number of hours a meter related query was addressed. However, according to their KPI, they have achieved to address queries within 30 days.

Calls Lodged in the 2023/2024 Financial Year (First Quarter to Third Quarter)

First Quarter (1 July 2023 – 30 September 2023)

Query	Queries Received	Queries Addressed	Queries Outstanding	Resolution Rate (%)	Average Resolution Time
Public Lighting	Not Provided	7 026	Not Provided	Not Provided	12,6 Days
Meter Related	2 861	2 763	98	97	Not Provided

Table 2: First Quarter Public Lighting and Meter Related Query Report

Public Lighting Queries		
Service Delivery Centres	**Queries Resolved**	**Average Performance in Days (D)**
Alexandra	334	14,2
Eskom North (Bryanston)	464	3,2
Eskom South	0	0
Hurst Hill	1011	18,8
Lenasia	842	10,2
Midrand	202	5,4
Randburg	639	15,8
Reuven	711	10
Roodepoort	888	5,8
Inner City	500	16,7
Soweto/Klipspruit	1 435	13,8
Grand Total	**7 026**	**12,2**

Table 2A: Public Lighting Queries according to Service Delivery Centres

Public lighting calls lodged resolved are 7 026. In this quarter, City Power did not disclose how many calls were lodged. The average performance of calls resolves is at 12,2 days from the target of 6 days. The only Service Delivery Centre (SDC) which were able to address their queries below the target is Midrand and

Roodepoort who manage to address these calls in 5,4 days which is 130 hours and 5,8 days which is 139 hours. The low performing SDC is Hursthill which addressed their queries in 18,8 days on average which is 450 hours.

In the first quarter of the current financial year, September 2023, City Power reported that a total of 2 861 calls were lodged with 2 763 being resolved. Thus, there was 98 outstanding which means the resolution rate is 97%.

Second Quarter (1 October 2023 – 31 December 2023)

Query	**Queries Received**	**Queries Addressed**	**Queries Outstanding**	**Resolution Rate (%)**	**Average Resolution Time**
Public Lighting	Not Provided	Not Provided	Not Provided	Not Provided	10,9 Days
Meter Related	2 286	2 188	98	96	Not Provided

Table 3: Second Quarter Public Lighting and Meter Related Query Report

Meter Related Queries					
Service Delivery Centres	**Queries Received**	**Queries Addressed**	**Outstanding**	**Resolution Rate (%)**	**Target**
Alexandra	97	95	2	98	95
Hurst Hill	268	256	12	96	95
Lenasia	102	94	8	92	95
Midrand	101	101	0	100	95
Randburg	307	284	23	93	95
Reuven	433	427	6	6	95
Roodepoort	381	381	0	0	95
Inner City	336	321	15	15	95
Nulls	261	229	32	88	95
Total	**2 286**	**2 188**	**98**	**96**	**95**

Table 3A: Meter Related Queries according to Service Delivery Centres

Public lighting queries lodged were not reported in the Second quarter. However, the utility reported on Motorway streetlight performance and queries which is of

major roads in the City such as the M1 Highway. The power utility targeted to address public lighting within 6 days after a logged query. However, it took City Power 10,9 days to repair the outage, and resolve the call lodged.

For meter related queries, City Power reported that 2 286 calls have been logged with 2 188. 98 queries were outstanding. Thus, the resolution rate was 96% which is 1% above their target of 95%.

Third Quarter (1 January 2024 – 31 March 2024)

Query	Queries Received	Queries Addressed	Queries Outstanding	Resolution Rate (%)	Average Resolution Time
Public Lighting	Not Provided	Not Provided	Not Provided	Not Provided	11,1 Days
Meter Related	3 949	3 864	85	98	Not Provided

Table 4: Third Quarter Public Lighting and Meter Related Query Report

Meter Related Queries				
Service Delivery Centres	**Queries Received**	**Queries Addressed**	**Performance Target (%)**	**Q3 Performance (%)**
Alexandra	126	120	95	95
Midrand	246	242	95	98
Hursthill	883	871	95	99
Inner City	325	316	95	97
Reuven	556	550	95	99
Randburg	323	312	95	97
Roodepoort	871	868	95	99.6
Lenasia	292	286	95	98
Nulls	327	299	95	91
Total	**3 949**	**3 864**	**95**	**98**

Table 4A: Meter Related Queries according to Service Delivery Centres

Public lighting queries were not reported for the Third quarter. However, continued to report on motorway streetlight queries. The power utility targeted to address

public lighting queries within 11,1 days in the third quarter, which is a variance of -5,1 day from their quarterly target which is 6 days

Meter related queries received in the third quarter show that a total of 3 949 queries were logged. The SDC breakdown is in the below chart. 3 864 queries were addressed and 85 were outstanding. Therefore, the resolution rate for the quarter is 98% which is above the quarterly target of 95%.

3.3. Data Analysis

The methodology followed to determine whether the use of technology can give poorer communities access to service delivery. This is done by reviewing existing technology, which is City Power's customer query systems which are digitised. This will be analysed by collecting data to assess the effectiveness of the customer query system in addressing electricity service delivery issues in the City. Data which is collected from City Power's reporting focuses on the level of queries logged and addressed. Thus, this section analyses this data by assessing the trend of queries received, addressed and the time it has been addressed.

It is important to note that there are gaps in the data collected, which will be discussed in the next chapter. City Power has provided targets for public lighting and meter related queries which will be used in this section to extrapolate the above data.

2022/2023 Annual Performance Targets *Time Performance*		
Query Type	**Target Performance**	**Actual Performance**
Public Lighting (in Days)	6 Days	7.8 Days
Meter-Related Query Percentage (%)	95%	96%

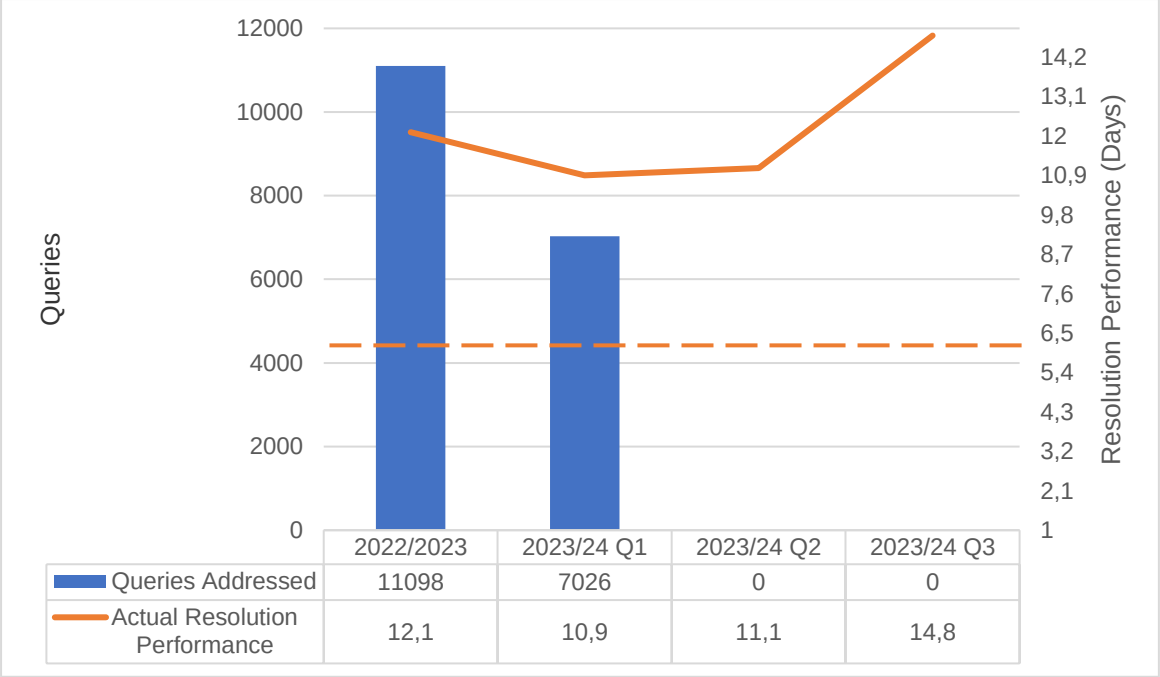
2023/2024 Annual Performance Targets *Time Performance*					
Query Type	**Target Performance**	**Actual Performance**			
		Q1	**Q2**	**Q3**	**Year to Date**

Public Lighting (in Days)	6 Days	12.1 Days	10.9 Days	11.1 Days	14.8 Days
Meter-Related Query Percentage (%)	95%	97%	96%	98%	98%

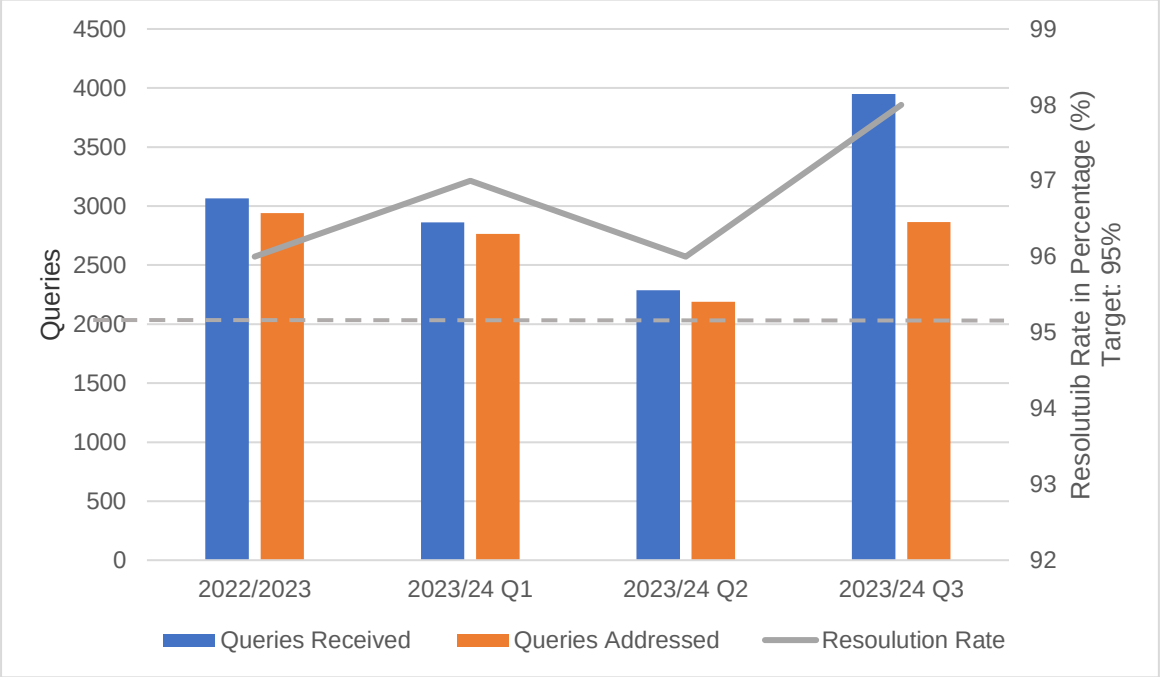
Looking at this data, City Power is behind in addressing public lighting queries while the power utility has surpassed meter related queries targets across the years focused.

Level of Queries Reported and Addressed

Public Lighting Queries



Meter Related Queries



What is found in this data is that there are reporting gaps by City Power which make it difficult to conclude whether if the City Power customer services are effective in addressing service delivery issues in poorer areas. These gaps are evident in the public lighting reporting wherein the power utility provides a report of how many days it took to repair public lighting problems, but fail to provide the level of queries received and in only occasions, shared the level of queries addressed. Thus, with this data, it would be difficult to conclude that technology can be effective in providing service delivery in poorer areas.

There is a decline in meter related queries from the previous financial year to the second quarter and a sharp increase in queries reported in the third quarter. City Power in the Quarterly report accounts the increase in queries to the struggling infrastructure which fails to supply the high demand of electricity. Therefore, the infrastructure collapses leaving blocks of residential areas without electricity.

Chapter Four: Findings

4.1. Introduction

The report utilises thematic analysis to study the collected data with the objective to analyse the data and determine trends. Therefore, this chapter will present the themes of the data presented in the previous chapter. The identified are firstly, the low number of queries compared to the number of customers. In this regard, the report finds that there are public awareness issues and an administrative approach that leads to the low volume of queries. The public awareness issues vindicated Mabinane's conclusion in the Literature Review, that there is no public awareness and communication campaign of government services.

Secondly, there were different trends in reporting whereby City Power prioritises residential and commercial meter related queries compared to public lighting queries. Lastly, there are gaps in reporting which make it difficult to analyse the data. This includes changes to their reporting methodology quarterly, selective reporting according to the areas and types of queries and their reporting is limited to SDC's and does not go further within suburban and township areas.

The hypothesis of the research, states that the use of technology in government institutions perpetuates inequality because there is limited access to the internet due to high data costs, and a lack of infrastructure. Due to the limitations of this research, one cannot conclude, with the data provided from City Power, that technology use in government has perpetuated inequality.

One can conclude that there is strong usage of technology in government. However, one cannot practically conclude that technology is used to address service delivery. Ultimately, this report cannot find the link between access to these consumer query systems and efficient service delivery. Additionally, one cannot practically conclude that technology is used to address service delivery issues in poorer communities. However, data collection of the available data unearthed the above themes.

4.2. Low queries compared to the number of customers.

As stated in the previous chapter and touched on in the introduction, City Power provides electricity to 378 852 households and businesses with meters being used to monitor consumption. Therefore, with data from 2022/2023 Financial Year, and the

first to third quarter 2023/2024, only 16 325-meter related queries where reported. City Power's reporting does not define if this is an issue, or an accomplishment.

Therefore, one can explain the cause of this issue to being a public awareness issue and an administrative approach.

Public Awareness Issue:

According to Mabinane's (2018) findings, though most South Africans are online, their internet usage is concentrated on social media, with 90% of South Africans using social media regularly. When assessing that only 34% of users in Gauteng understand e-government while 66% of these users access these services, it is clear that 66% of South Africans do not know what is e-government and its services. In the instance when they need government services, they interface with the services in their offices which can be tedious, in contrast to logging a query or visiting the website of the specific service and get assisted immediately. Thus, one can conclude that there is limited public awareness on e-government services.

In the case of City Power, the low queries could be caused by the limited awareness of Johannesburg residents regarding their customer portal and query system. Data from City Power's foot traffic in their service delivery centres would provide insight to compare between the foot traffic and the queries data to determine if residents prefer to visit the SDC's or they are not aware of the customer portal. City Power did not report data on visits to SDC's.

Administrative Approach

The low queries can be attributed to City Power focusing on addressing queries based on the frequency in one street, one area or one SDC. In the event City Power experiences multiple queries in one area, they address the first query logged in the area, then ignore the rest. Once the query has been resolved, the remaining queries are either discarded or addressed as resolved. This reduces or undercounts the number of queries logged and reported in the reports

4.3. Different trend in addressing queries.

In Chapter Three, it is evident that City Power has not reached its target in addressing public lighting queries within 6 days. In contrast to meter-related issues, the power

utility can address these issues within the 30-day target period with over 95% of the calls being addressed from FY2022/2023 to Third Quarter of 2023/2024.

Based on this pattern, there is more urgency to address meter-related queries when City Power is given a longer period to address the issue. While less urgency to address a public lighting query which is targeted to be addressed within 6 days. This can be contributed by the urgency of making sure electricity supply is restored to homes and businesses urgently as power interruptions negatively impact on business operations thus the economy, and the way of life for households.

4.4. Gaps in Reporting

It is important to note that there have been gaps in City Power's reporting, specifically in Public Lighting reporting whereby City Power's reports do not report on the logged queries for public lighting. Rather reports on the addressed queries in public reporting.

Regarding meter-related queries, City Power's reporting does not disclose the queries according to suburban, township and informal settlements, which will greatly assist in assessing the effectiveness of City Power's customer query systems, thus the effectiveness of technology in poorer communities.

But, what this absence of targeted reporting emphasises on the need for public institutions to push for broader reporting to be geared towards targeting poorer areas to ensure that there can be policy action, especially in addressing social issues such as electricity, health and technology.

Chapter Five: Analysis, Conclusion and Recommendations

5.1. Introduction

In this study, the effectiveness of technology to a make government accessible to poorer communities was investigated, with a specific focus on City Power. This investigation came with a hypothesis that service delivery in South Africa which is riddled with racial and economic inequality perpetuated by colonialism and apartheid, still exists despite the use of technology which aimed to address this issue. However, this investigation fell short of addressing this hypothesis due to the gaps in City Power's data collection and reporting. Though this research was not able prove its hypothesis, it was able to uncover the inefficiencies in City Power's reporting which can provide a basis for further research into technology in government, and reporting.

5.2. Analysis

As stated in the findings, the report finds that though there is strong indication of usage of technology by the public, and by the Government, it fell short from concluding that technology usage in government contributes to reducing inequality in the access to electricity services from City Power. .

Within the period studied, City Power's customer query system received 16 325-meter related queries. While, there are 378 852 customers who certainly have meters connected to City Power's grid. City Power's reporting does not give reasons for low queries. Rather the entity accounts for the sharp increase in the third quarter of 2023/2024 Financial Year when the grid was strained due to load shedding, causing an increase in unplanned outages for homes and business areas. This accounts to the increase in queries.

The low queries and engagement could be a result of the lack of public awareness of e-Government services including in Johannesburg and City Power. South Africa has a high technological penetration rate at 96% (Kronke, 2020; p.3). Only 34% of citizens are aware of e-Government services. While over 90% have access and make use of social media services.

Another reason for low queries is an administrative approach whereby City Power only considers the calls initially logged. If they all are in one area already reported, they get discarded or closed.

City Power was not able to achieve its public lighting target of 6-days to resolve public lighting issues. While, the entity was able to meet its meter-related queries target of 95% addressed queries within 30-days. This pattern shows that City Power urgently addresses meter-related queries

Based on this pattern, there is more urgency to address meter-related queries when City Power is given a longer period to address the issue. Less urgency is given to a public lighting queries; specifically, 6 days.

This investigation was impacted by the gaps in the reporting of City Power whereby there was limited information available which can directly address the hypothesis, nor aid the report to have a clear conclusion. This is caused by the absence of reporting in public lighting queries which were received, within specific areas and not SDC's. The specific areas which had a number of meter-related queries and the time they were addressed. Lastly, their reporting does not breakdown which area's largely use City Power's customer query systems.

5.3. Conclusion

This research provided insights into the effectiveness of technology to a make government accessible to poorer communities. This investigation came with a hypothesis that service delivery in South Africa which is riddled with racial and economic inequality perpetuated by colonialism and apartheid, still exists despite the use of technology which aimed to address this issue.

The key lessons from this research were not reached. The report fell short of addressing this hypothesis due to the limitations caused by City Power in failing confirm their participation in the research, and an eventual cessation of communication with City Power. Additionally, gaps in City Power's data collection and reporting were evident.

Though this research was not able prove its hypothesis, it was able to uncover the inefficiencies in City Power's reporting which can provide a basis for further research into technology in government, and reporting. Firstly, there were low queries logged into the website. This research that this could be caused by the lack of public awareness of 'citypower.mobi' and an administrative approach which captures only one or less calls in the same area and ignores the rest of the calls. Secondly, there

were different trends in addressing issues, City Power prioritises repairing meter related queries thus services there are quicker in contrast to repairing public lighting which takes longer. Lastly, City Power's Annual and Quarterly reports provide a lack of information which led to gaps in reporting. There are no public lighting queries, rather City Power includes the quantity of addressed queries. Meter related queries do not provide a report of areas where queries are lodged in order to assess who utilises this platform in terms of their economic class.

While this study focused narrowly on the effectiveness of technology to make government accessible to poorer communities, the insights extend more broadly to the need for reporting to be geared towards social impact and inclusivity, and public awareness of e-government services need to be reviewed.

5.4. Recommendations

Public Awareness

City Power needs to review its communication strategy to ensure there is boarder awareness and interaction with their customer portal and citypower.mobi to lodge queries. This is also a more feasible alternative for customers, compared to visiting an SDC, which consumes time and money. The review of the communication strategy should target mainstream media platforms on social media, radio and television to inform residents and commuters in the region regarding the services, participate in roadshows to visit areas and provide services to them while they use their cell phone. Additionally, a trip to the SDC or municipal offices can be used as an opportunity to teach visitors about the services by guiding them through their cell phones to log their queries and to interact on other matters. This allows the visitors to go to their areas, train and inform other residents on customer portals, leading to a multiplier effect.

Enhance reporting on addressing queries and address gaps on reporting.

City Power needs to enhance their reporting on addressing queries and reporting gaps and shift its reporting approach to focusing on social impact. Currently, reporting does not address the remaining electricity service delivery issues in the City and encourage public action for customer to reduce consumption and be able to liaise with City Power to address their issues. Therefore, City Power should consider providing a breakdown customer queries and servicing according to the area in which these occur. This insight

can provide analysis on whether informal settlements and townships know about these services, and whether they are accessible to local government.

Enhancing Collaboration between public institutions and researchers

The role of research in the public sector is critical in order to provide data and information to decision makers and bureaucrats to ensure that resources are adequately allocated to departments and operations. For this research, this report and its limitations underscore the problems academic institutions and researcher's experience when doing research with the public sector. These challenges such as lack of communication, lack of financial support and the lack of transparency from public institutions and entities make research difficult as the research objectives will not be met, research questions will not be answered, therefore, the impact of research which is to create sustainable and positive impact within organisations and institutions, will not be realised.

Therefore, this research recommends that there needs to be enhanced collaboration between the public sector and researchers through training and access.

Training

Higher Education and Research institutions must be given the opportunity to provide training at knowledge or information management departments in the public sector from provincial to local government to provide training in research ethics and methods. Importantly, support to these departments on the importance of collaboration between research institutions and the public sector.

Access

Public Sector Institutions are encouraged to create open access information or knowledge management platforms in their websites which have data, information and research to make it easier and accessible for researchers and education institutions to acquire data. Alternatively, provide information of a dedicated official on these platforms in the instance their research requires data or information beyond these platforms.

5.4. Further Research

Due to the limited availability of primary and secondary research sources, and lacklustre assistance from City Power, this research was not able to show that technology does perpetuate inequality and limit access for poorer areas to local government services in South Africa. Therefore, further research is necessary to focus on:

- The reporting systems and methodology of public sector institutions in addressing service delivery issues.
- The impact of data costs in limiting interaction between public institutions websites and citizens in South Africa.

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