

South Africa - Pilot LOSI Study

Application of Local Online Service Index Methodology in 3 Major Cities



Executive Summary

This pilot study explores the application of the Local Online Service Index (LOSI) methodology to assess the e-government landscape of three South African cities, including Johannesburg, whose assessment was part of the 2024 LOSI United Nations E-Government Survey. The study serves as a preliminary step toward a broader and more comprehensive analysis of South Africa's local e-government environment. It aims to provide initial insights into the readiness and capacity of these cities to deliver digital services effectively.

While this pilot is limited in scope and does not replicate the traditional LOSI methodology applied globally, it highlights the importance of digital governance at the local level and its role in advancing sustainable development, bridging the digital divide, and ensuring inclusive access to services. The findings underscore the need for more expansive research, infrastructure investment, and strategic partnerships to create a comprehensive overview of South Africa's e-government ecosystem.

Introduction

The Role of Cities and Local Governments in Digital Transformation

Cities are the most immediate layer of governance, directly interacting with citizens and addressing their needs. Local governments play a pivotal role in ensuring equitable access to public services, fostering socio-economic development, and improving quality of life. The digital transformation of local government services is crucial in making these services more efficient, accessible, and inclusive, aligning with global aspirations such as the Sustainable Development Goals (SDGs) and the Global Digital Compact.

The Potential of Digital Services

Digital services offer significant potential to bridge the digital divide, provided they are underpinned by strong connectivity, affordability, and digital literacy initiatives. By reducing barriers to access and enhancing service delivery efficiency, digital governance can empower communities, foster transparency, and promote inclusive growth. However, achieving these outcomes requires robust infrastructure, widespread internet access, and coordinated efforts to ensure no one is left behind.

Introducing the LOSI Framework

The LOSI is a globally recognized framework that assesses the quality and availability of local online services. Developed by the United Nations Department of Economic and Social Affairs (UN DESA), LOSI enables cities to benchmark their digital governance performance, identify gaps, and implement strategies for improvement.

Scope and Objectives of the Pilot Study

This pilot study applies the LOSI methodology to three South African cities, including Johannesburg, which was assessed as part of the 2024 UN E-Government Survey. Unlike the conventional LOSI methodology—where two independent volunteers assess each city and a senior reviewer ensures quality control—this pilot was conducted by a single expert consultant, Ms. Angelica Zundel. This deviation acknowledges potential limitations,

including errors and oversights, and frames the study as a foundational step rather than a definitive analysis.

The primary objective of this study is to provide initial insights into South Africa's local e-government landscape, serving as a catalyst for future research and policy development. It also aims to build momentum for formalizing partnerships and expanding the assessment to more cities, ultimately creating a comprehensive overview of the country's local e-government capabilities.

Chapter 1 Assessment methodology

This chapter will include features about the applied methodology including references to the global LOSI methodology.

1. Study responsible

This study was conducted by an expert consultant, Ms. Angelica Zundel, with extensive experience in the LOSI methodology and the wider LOSI network, as well as longstanding engagement with the responsible division at UN DESA. While it is generally preferable to adhere to the standard LOSI procedures, Ms. Angelica Zundel's expertise and familiarity with the process ensured the necessary skills and rigor were applied during the study.

2. The instrument

The LOSI is an integral part of UN DESA's E-Government Survey. First introduced in 2018, the LOSI framework evaluates local e-government services, progressively expanding its scope and refining its indicators to align with global trends. Key developments include:

- 2018 Pilot: 40 cities assessed using 60 indicators.
- 2020 Edition: Expanded to 100 cities with 80 indicators.
- 2022 Edition: Assessed 193 cities using 86 indicators, focusing on the most populous cities in each Member State.
- 2024 Edition: Features 95 indicators across six dimensions, re-assessing the same 193 cities to track progress over time.

Dimensions of LOSI 2024

The 2024 LOSI expands its scope by including an additional criterion—e-government literacy—and deepening the evaluation within existing criteria. The 95 indicators are distributed as follows:

2024 Criteria	2024 Number of Indicators
Institutional Framework	5
Content Provision	30
Services Provision	30
Participation and Engagement	10
Technology	10
E-Government Literacy	10

The assessment relies on a binary scoring system (1 for presence and 0 for absence), ensuring objectivity and reproducibility. The final LOSI value is calculated by dividing a city's total score by the maximum of 95, resulting in a range from 0 to 1.

3. The process

- Assessment Steps

The LOSI methodology for 2024 maintains continuity with previous editions while incorporating enhancements for a more robust evaluation. Key steps include:

1. Selection of the most populous city in each Member State, based on the United Nations Demographic Yearbook and The World's Cities Data Booklet.
2. Evaluation of city portals using 95 indicators grouped into six thematic areas.
3. Classification of cities into performance tiers—very high, high, middle, or low—based on their LOSI value.

- Local Government Questionnaire (LGQ)

The LGQ, a preparatory survey, supports the LOSI process by helping assessors verify web features and reference the latest policy documents. Although the LGQ does not influence LOSI rankings, it provides valuable context, covering eight clusters of information such as strategy implementation, user satisfaction, and crisis management.

For this study, the LGQ was not administered. Future editions may include the LGQ to facilitate a more comprehensive evaluation and enhance the depth of the analysis.

Local considerations

Challenges in the Assessment Process

- **Authentication Barriers:** Access to certain online services required South African passports or IDs, restricting the ability to comprehensively assess functionality and availability.
- **Contextual Knowledge:** As a non-national assessor, there was limited familiarity with the distinctions between national and local service provision. This posed challenges in accurately evaluating the appropriateness and scope of certain services.

LOSI Global vs. Local Application

All LOSI indicators were assessed uniformly in this study. However, future editions may benefit from contextual adaptations, such as excluding indicators systematically provided at the national level. This would ensure a clearer focus on genuinely local e-government capabilities.

Chapter 2 – LOSI Application in South Africa

2.1 Local government in South Africa

Local administration in South Africa operates across three spheres: central, provincial, and local, as established by the Constitution. Each of the nine provinces has its own legislature,

with the Department of Co-operative Governance and Traditional Affairs overseeing both provincial and local government.

Local government consists of eight metropolitan and 44 district municipalities, with 228 local municipalities in the second tier. Elections occur every five years, with authorities managing services like public health, waste, utilities, and transport.

Municipalities

South Africa has 257 municipalities: eight metropolitan, 44 districts, and 205 local. The eight metropolitan municipalities are:

- City of Cape Town
- City of eThekweni (Durban)
- City of Johannesburg
- Buffalo City (East London)
- Ekurhuleni Metropolitan Municipality (East Rand)
- Mangaung Municipality (Bloemfontein)
- Nelson Mandela Bay Metropolitan Municipality (Gqeberha)
- City of Tshwane (Pretoria)

Types of Municipalities

There are three categories:

- Metropolitan municipalities (Category A): Major cities with over 500,000 voters
- Local municipalities (Category B): Areas outside metropolitan municipalities
- District municipalities (Category C): Comprising several local municipalities

Powers and Functions of Municipalities

Municipalities manage:

- Electricity and water supply
- Sewage and sanitation
- Refuse removal
- Municipal roads
- Public transport

- Parks and recreational areas

Councils can pass by-laws, approve budgets, and impose rates and taxes.

Elections and Structure

Councils are elected every five years, with voters selecting political parties and ward candidates. Each council has:

- A mayor
- An executive committee
- A speaker
- Council meetings
- Committees

Ward Committees

Ward committees enhance community participation and communication between council and community. They assist ward councillors and are elected by the community.

2.2 Assessed municipalities

This pilot study focused on three major South African cities, selected based on population size and breadth of online services provided. These municipalities include Durban, Cape Town, and Johannesburg, the latter, drawing on 2024 UN E-Government Survey LOSI data. Johannesburg was chosen in the LOSI 2024 study as the most populous city, while Cape Town and Durban were added in this current study for their significant population sizes and diverse online offerings.

City	Population (2024)¹	Area (km²)	City Portal	Key Characteristics
Johannesburg	5,635,127	334.81	https://www.e-joburg.org.za/	Largest city by population; Gauteng's provincial capital, known as "The City of Gold."

¹ <https://www.worldometers.info/world-population/south-africa-population/>

Cape Town	4,710,000	2,445	https://www.cape.gov.za/	Forms the local government of Cape Town and adjacent areas, renowned for its coastal setting.
Durban	3,120,282	2,291.31	https://www.durban.gov.za/	Part of eThekweni Metropolitan Municipality, encompassing surrounding towns in KwaZulu-Natal.

This targeted selection provides a snapshot of local e-government development in South Africa, laying the groundwork for a more comprehensive study in future editions.

2.3 Results

Ranking of Municipalities by LOSI Average

The three municipalities assessed are ranked based on their LOSI average scores. Cape Town performs the strongest overall, while Johannesburg and Durban share the same average score.

City	Average LOSI	Score (Indicators Marked)	LOSI Category
Cape Town	0.695	66/95	High
Johannesburg	0.611	58/95	High
Durban	0.611	58/95	High

Results by Criterion

Each city was evaluated across six key criteria. Below are the results for each criterion, highlighting strengths and weaknesses:

Criterion	Cape Town (Avg)	Johannesburg (Avg)	Durban (Avg)	Highest Scorer	Lowest Scorer
Content Provision	0.767	0.700	0.733	Cape Town	Johannesburg
E-Government Literacy	0.900	0.800	0.800	Cape Town	Durban/Johannesburg
Service Provision	0.273	0.364	0.318	Johannesburg	Cape Town
E-Participation Index	0.933	0.467	0.600	Cape Town	Johannesburg
Technology	0.750	0.750	0.500	Cape Town/Johannesburg	Durban
Institutional Framework	0.833	0.833	1.000	Durban	Cape Town/Johannesburg

Strongest Criterion per Municipality:

- Cape Town: E-Participation Index (0.933)
- Johannesburg: Technology (0.750)

- Durban: Institutional Framework (1.000)

Weakest Criterion per Municipality:

- Cape Town: Service Provision (0.273)
- Johannesburg: E-Participation Index (0.467)
- Durban: Technology (0.500)

Commonly Less Marked Indicators

Certain indicators across all three cities consistently scored zero. These include services likely provided at a national level or entirely absent.

Criterion	Indicator	Description
Technology (TEC)	#208	Non-compliance with W3C markup validity standards
	#209	Non-compliance with W3C CSS style sheet standards
	#210	Non-compliance with Web Content Accessibility Guidelines (WCAG2.1)
Content Provision (CP)	#218	No information on emergency situation updates/notifications
	#289	No web usage statistics provided
	#292	No real-time air pollution data/statistics
	#294	No portal user satisfaction data
Service Provision (SP)	#253	Cannot make online declarations to municipal police
	#254	Cannot apply for driver's licenses online
	#256	Cannot apply for environment-related permits online
	#258	Cannot apply for residency permits online
	#259	Cannot apply for birth certificates online

	#260	Cannot apply for death certificates online
	#261	Cannot apply for marriage certificates online
	#263	Cannot apply for land title registration online
	#264	Cannot register vehicles online
	#268	Cannot file business tax online
	#269a	Cannot pay online for services like passport/driver's license
	#298	No lost and found services online
E-Government Literacy (ELI)	#270a	No live chat support functionality

Indicators Marked by 2/3 Cities

Some indicators were present in two cities but absent in the third, often due to localized limitations or reliance on national government systems.

Criterion	Indicator	Cities	Description
Content Provision (CP)	#212	Cape Town, Johannesburg	Information in more than one language
	#239	Cape Town, Johannesburg	Indication of emergent technologies use
	#293	Johannesburg, Durban	Mechanisms to measure user satisfaction
Service Provision (SP)	#255	Johannesburg, Durban	Online building permit applications
	#257	Cape Town, Johannesburg	Online business license applications
	#262	Cape Town, Durban	Online address change notification

E-Participation (EPI)	#267	Johannesburg, Durban	Online discrimination reporting
	#277	Johannesburg, Durban	Information about upcoming e-participation activities
	#278	Johannesburg, Durban	Outcomes of e-consultation leading to policy changes
	#279	Johannesburg, Durban	E-voting services for local government decisions

Indicators Marked by All Three Cities

The strongest and most common indicators reflect foundational e-government capabilities:

Criterion	Indicator	Description
Technology (TEC)	#201	MGP compatible with different web browsers
	#202	MGP link findable on first search engine results page
	#204	MGP designed with responsive web design
	#246	Can access own data recorded by local government
	#247	Can modify own data recorded by local government
Institutional Framework (IF)	#216	Information on department heads/functions
	#224	Information on citizens' rights to access government information
	#242	Links to local/regional/national government agencies

Content Provision (CP)	#217	Information about municipality (history, demographics, economy)
	#220	Announcements of procurement/bidding processes
	#221	Results of government procurement/bidding processes
	#222	List of municipal services
	#226	Information on health matters
	#227	Information on environmental matters
	#229	Information on social welfare matters
	#230	Information on leisure, culture, and sports
	#231	Information relevant to vulnerable groups
	#232	Information on justice matters
	#243	Data on progress of SDGs in the city
	#283	Information on mobile government apps
	#284	Information on waste reduction/recycling
	#285	Information about road safety
	#291	Information about air pollution policies
	#296	City news section

E-Government Literacy (ELI)	#206	Search feature available
	#234	Privacy policy available
	#240	Help feature or FAQs
	#241	Guidance/tutorials for online services
	#245	Authentication required for restricted services
	#273	Social networking features
Service Provision (SP)	#265	E-procurement platform for tenders
	#266	Online application for local government jobs
	#297	Services/information about homelessness
	#299	Online consultation for affordable housing
E-Participation (EPI)	#219	Budget/policy information
	#271	Ability to send complaints/feedback
	#274	Reporting occurrences in public spaces
	#280	Information on municipal council public meetings

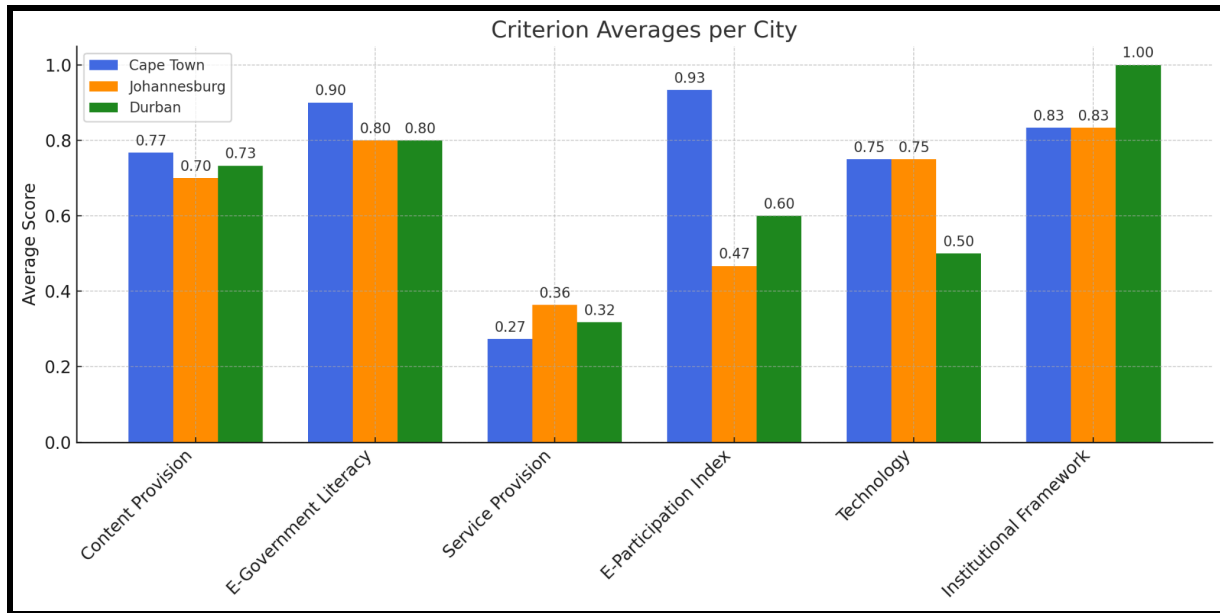
Grouping Municipalities by Performance

- High Performers: Cape Town leads overall due to higher scores in E-Participation and E-Government Literacy.

- Mid Performers: Johannesburg and Durban show consistent but slightly lower averages.

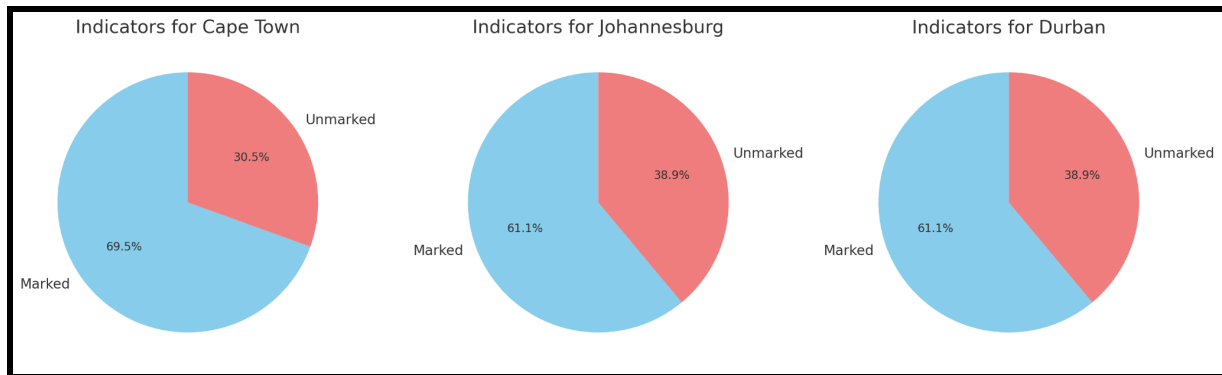
All three cities fall into the High category, showing strong institutional frameworks and basic content provision. However, weaknesses persist in service provision and advanced technology implementation, areas where global leaders excel.

Figure 1.1. Criterion Averages per City



A bar chart comparing average scores across all criteria for the three cities.

Indicators by City



A pie chart showing the proportion of marked, and unmarked indicators for each city.

Analysis of Results

The assessment of e-government performance across Cape Town, Johannesburg, and Durban highlights variations in strengths and weaknesses across key criteria. Below is an interpretation of the results and potential explanations for the observed performance:

Performance Overview by Criterion

1. Content Provision

Cape Town scored the highest, Durban and Johannesburg trailed slightly, indicating a need to expand the breadth and detail of information available on their municipal platforms. The cities excel at providing comprehensive municipal information, including details about history, demographics, economy, and various sector-specific content like health, environment, and social welfare. Multilingual services and emergent technology information are implemented in two out of three cities. Critical gaps exist in emergency updates, web usage statistics, and specialized data reporting like air pollution metrics.

2. E-Government Literacy

All cities performed relatively well, with Cape Town leading. Authentication mechanisms, help features, and free internet access are well-established. The most notable deficiency is the absence of live chat support across all municipalities.

3. Service Provision

This criterion was the weakest across all municipalities, with the average score below 0.4. While cities have established e-procurement platforms and support online job applications, transactional services like permits, certificates, and specific administrative processes remain largely unavailable online.

4. E-Participation

Cape Town excelled with the highest score, driven by extensive online engagement features such as e-consultations and feedback mechanisms. Durban and Johannesburg, while functional, displayed fewer participatory features, indicating a gap in fostering citizen involvement. Cities have implemented feedback channels, public space reporting, and municipal council information sharing. However, e-participation activities and consultation processes are only developed in two out of three cities, indicating potential for more comprehensive digital democracy tools.

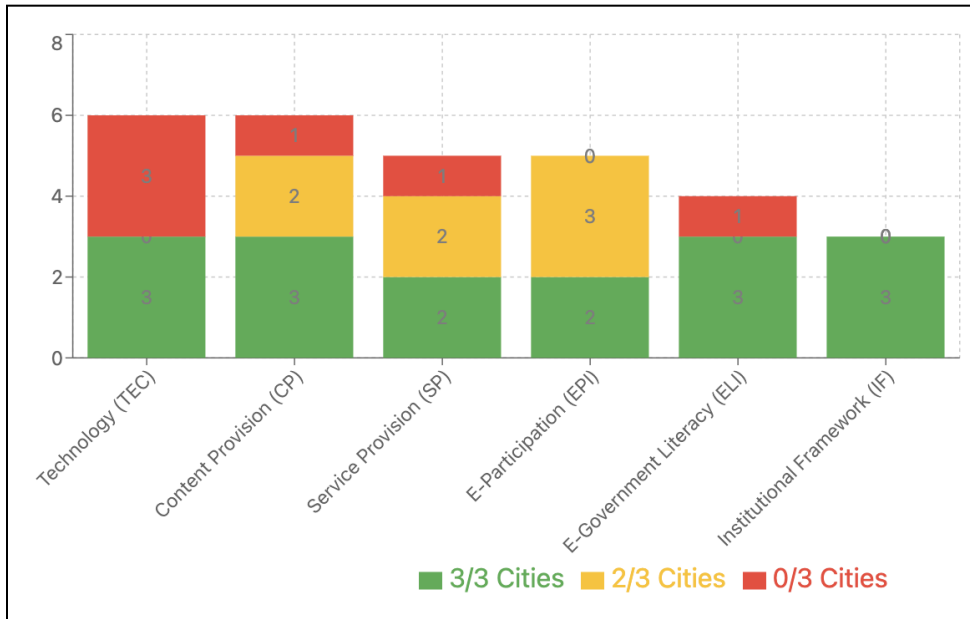
5. Technology

Johannesburg and Cape Town performed well, while Durban scored lower. The municipalities have successfully implemented basic web technologies, achieving full compliance in browser compatibility, search engine findability, and responsive design. However, they struggle with technical standards compliance, particularly in markup validity, CSS standards, and web accessibility guidelines.

6. Institutional Framework

This emerges as the most robust domain, with full compliance in transparency measures such as department information, citizens' information access rights, and government agency linkages. Durban achieved a perfect score, indicating well-defined structures and governance for its e-government framework.

The digital governance landscape across the three municipalities reveals a nuanced picture of technological adoption and service delivery. While some areas demonstrate robust digital infrastructure, others show significant room for improvement.



Possible Reasons for Differences

1. Resource Allocation

Cape Town's leading position could be attributed to its comparatively higher budgetary allocation for digital transformation and strong economic base.

Johannesburg and Durban may face resource constraints or competing priorities that limit investments in their digital platforms.

2. Population and Urban Dynamics

Cape Town's relatively smaller population and better-regulated urban spread might allow for more targeted and efficient service delivery compared to Johannesburg's sprawling urban expanse.

Durban's moderate performance across criteria might stem from its emphasis on other developmental priorities beyond e-government.

3. National vs. Local Responsibilities

Many online services, such as driver's licenses and residency permits, are likely managed at the national level in South Africa. This centralization could explain the low service provision scores across all cities.

Implications

- For Municipalities

Service Gaps: Addressing weaknesses in service provision is critical for improving overall e-government performance. Municipalities should consider decentralizing some services or working with national agencies to streamline online accessibility.

Citizen Engagement: Cities like Durban and Johannesburg can benefit from adopting Cape Town's approach to e-participation by introducing features such as e-consultation platforms and real-time feedback systems.

- For Citizens

Limited online services can hinder citizen convenience and reduce trust in digital governance. Enhanced efforts to provide user-centric services will encourage greater adoption and satisfaction.

- For Policymakers

Investments in technology and institutional frameworks are yielding dividends, but gaps in service provision suggest the need for policy reforms to delegate authority and funding to local governments for digital service expansion.

Chapter 4 Conclusion

While Cape Town leads overall, each municipality demonstrates unique strengths that can be leveraged. Collaborative efforts between municipalities and national authorities, combined with targeted investments in weak areas, can create a more cohesive and citizen-friendly e-government landscape in South Africa.

Key Findings and Global Implications

The pilot study of the LOSI in South African cities reveals critical insights for both local digital governance and global e-government assessment methodologies. By applying the LOSI framework to Johannesburg, Cape Town, and Durban, the study demonstrated the methodology's adaptability and potential for understanding digital service readiness across varied urban contexts.

Global LOSI Methodology Learning Points

The study highlighted several important considerations for future global LOSI implementations. First, the research underscored the need for contextual flexibility in indicator assessment. The challenges in distinguishing between national and local service provisions suggest that future LOSI frameworks might benefit from more nuanced categorization of services. Additionally, the pilot revealed the importance of local authentication mechanisms and the potential barriers they can create in comprehensive service evaluation.

Benefits for Pilot Cities and Future Expansions

Participating cities gain significant advantages from LOSI assessments. The methodology provides a structured framework for identifying digital governance strengths and weaknesses, offering a clear roadmap for improvement. For South African municipalities, the study exposed critical gaps in service provision and technology implementation, creating opportunities for targeted investments and strategic digital transformation.

Policy Recommendations

Recommendations for enhancing e-government capabilities include:

- Develop more localized online services to reduce reliance on national-level platforms
- Invest in technology infrastructure and web accessibility standards
- Enhance citizen engagement through more robust digital participation tools
- Create cross-municipal collaboration mechanisms for sharing best practices

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- Allocate dedicated resources for digital literacy and service innovation

Future Research Directions

The pilot study calls for more comprehensive assessments, including:

- Expanding LOSI evaluation to more South African municipalities
- Developing more context-specific assessment criteria
- Investigating barriers to digital service adoption
- Exploring funding models for digital governance improvements

Broader Implications

This study represents a crucial step in understanding digital governance in emerging economies. By providing a detailed assessment of municipal digital capabilities, it offers valuable insights for policymakers, technology developers, and international organizations focused on bridging digital divides and promoting inclusive technological development.

References

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