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Examining E-Services and Citizen Engagement for Sustainable Local Governance. Lessons for South Africa in the Post-COVID-19 era

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ABSTRACT
The COVID-19 pandemic underscored the critical role of digital transformation in maintaining essential services and sustaining governance processes. This paper thus sought to examine the nexus between e-services and citizen engagement for sustainable local governance in South Africa during the post-COVID-19 era. It employed a qualitative approach encompassing document analysis and literature review as data collection techniques. The study examined how e-services were utilised for service delivery and citizen engagement during the pandemic and examined their effects on service delivery. The paper highlights that while some local governments made strides in deploying e-services and engaging citizens through digital channels, a considerable portion faced limitations due to digital inequality, lack of infrastructure, and limited digital literacy. Furthermore, the study discusses the key pandemic lessons, including enhancing the responsiveness of e-services mechanisms in local government. The paper strongly recommends a comprehensive approach to digital inclusion, entailing technological access, skills development, and budgetary support, underlining the urgency and importance of this issue. While emphasizing the lessons learned in the post-COVID-19 recovery phase, this research contributes to the discourse on building resilient local governance systems through digital transformation.

Keywords: *E-Services, Citizen Engagement, Sustainable Local Governance, Digital Inclusion, Post-COVID-19 Recovery, South Africa.*

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INTRODUCTION
The COVID-19 pandemic exposed the critical role of digital technologies in maintaining essential services and sustaining governance processes. The pandemic spread rapidly in several countries, bringing new and unforeseen challenges.[1] The peak of the pandemic period underscored the need for resilient and adaptive governance structures.[2] Evidently, local governance faced unprecedented challenges, prompting a re-evaluation of service delivery mechanisms.[3] For example, in England, Arrieta highlights evidence showing the fragility and vulnerability of local governments when the pandemic hit, necessitating the

[1] H., Nachit and L. Belhcen, "Digital Transformation in Times of Covid-19 Pandemic: The Case of Morocco," 2020, https://ssrn.com/abstracts=3645084.
[2] Cormac Bryce et al., "Resilience in the Face of Uncertainty: Early Lessons from the COVID-19 Pandemic," in *COVID-19* (Routledge, 2022), 48–55.
[3] Tania Arrieta, "An Assessment of the Resilience of Local Government in England: Was It Well-Equipped to Overcome the Covid-19 Pandemic?," *The Political Quarterly* 93, no. 3 (2022): 408–15; Juraj Nemec and David Špaček, "The Covid-19 Pandemic and Local Government Finance: Czechia and Slovakia," *Journal of Public Budgeting, Accounting & Financial Management* 32, no.5 (2020): 837–46.

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adoption of innovative practices to respond.[4] As a result, e-services emerged as a critical pillar in maintaining continuity during the pandemic, reassuring citizens about the resilience of digital platforms.[5] These platforms, despite the challenges, facilitated the delivery of essential services, ensuring minimal disruption.[6] These digital platforms offered governments some mitigation measures during the COVID-19 pandemic. [7]

In the study, *COVID-19 pandemic: Shifting digital transformation to a high-speed gear,* Soto-Acosta observed that during the COVID-19 outbreak period, digital technologies made lives more manageable and permitted businesses to maintain a certain level of activity.[8] Soto-Acosta's study posed critical research questions about whether COVID-19 accelerated digital transformation.[9] He found out that the COVID-19 context has accelerated the digital transformation. For example, the "COVID-19 pandemic accelerated and extended the digital transformation of traditional education organisations at all levels as the only possible way to continue their activities during the lockdown, but also in the new normal."[10] In another study, *Has COVID-19 accelerated digital transformation? Initial lessons learned for public administrations,* Gabryelczyk illustrates that the COVID-19 pandemic has undoubtedly caused organisational changes, forced a redefinition of strategies, and acted as a catalyst for digital transformation in many sectors of the economy.[11]

Bojtor and Bozsó show that digital transformation is accelerating and intensifying an already growing demand for a well-functioning public administration that provides e-government services.[12] The scholars explain that the global COVID-19 pandemic accelerated such actions even further.[13] In the local government sector, observe rapid progress in local government websites, especially regarding service provision and resident engagement.[14] All the above scholarly submissions show that COVID-19 led to an expansive use of digital technologies that facilitated e-services for citizen engagement. The significant research gap lies in the extent to which these developments will be sustained, mainly in the local government sector. Gabryelczyk aptly raises this research concern: "Accelerating digitisation is a certainty, although only time will tell whether the forecasts of the growth rate will prove correct because, as of today, they are as unknown."[15] What is clear is that COVID-19 initiatives provided a pathway on how to apply technologies in a relatively short period, facing critical situations.[16] Emerging technologies enabling e-services and citizen engagement provide tools that can be used to solve critical urban problems.[17] However, despite the ability of e-services and citizen engagement to serve as critical components for building resilience, the importance of drawing lessons for the COVID-19 pandemic period to build sustainable local governance is somewhat overlooked.

The experiences encountered during the pandemic highlight the importance of e-services and citizen engagement in building resilient governance systems. Hence, this paper examines how e-services were undertaken during the pandemic, the service delivery effects and how citizen engagement evolved post-COVID-19. It aims to draw some key lessons for sustainable local governance in South Africa.

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[4] Arrieta, "An Assessment of the Resilience of Local Government in England: Was It Well-Equipped to Overcome the Covid-19 Pandemic?"

[5] Vjeran Bušelić, Miroslav Slamić, and Amelia Kovačević, "Complex Digital Citizen Services in Coronavirus Age," in *Central European Conference on Information and Intelligent Systems* (Faculty of Organization and Informatics Varazdin, 2020), 89–96.

[6] P P Blom and D E Uwizeyimana, "Assessing the Effectiveness of E-Government and e-Governance in South Africa: During National Lockdown 2020," *Research in World Economy* 11, no. 5 (2020): 208–19.

[7] David Mhlanga and Tankiso Moloi, "COVID-19 and the Digital Transformation of Education: What Are We Learning on 4IR in South Africa?," *Education Sciences* 10, no. 7 (2020): 180.

[8] Pedro Soto-Acosta, "COVID-19 Pandemic: Shifting Digital Transformation to a High-Speed Gear," *Information Systems Management* 37, no. 4 (2020): 260–66, 260.

[9] Soto-Acosta, "COVID-19 Pandemic: Shifting Digital Transformation to a High-Speed Gear."

[10] Soto-Acosta, "COVID-19 Pandemic: Shifting Digital Transformation to a High-Speed Gear," 261.

[11] Renata Gabryelczyk, "Has COVID-19 Accelerated Digital Transformation? Initial Lessons Learned for Public Administrations," *Information Systems Management* 37, no. 4 (2020): 303–9.

[12] András Bojtor and Gábor Bozsó, "Comparative Analysis of Evidence Based Policies in the Era of Digitalization," in *Central and Eastern European EDem and EGov Days*, 2020, 477–85.

[13] Bojtor and Bozsó, "Comparative Analysis of Evidence Based Policies in the Era of Digitalization."

[14] Dimitrios Sarantis et al., "Local E-Government Development: Results of an International Survey," in *Proceedings of the 15th International Conference on Theory and Practice of Electronic Governance*, 2022, 391–96.

[15] Gabryelczyk,"Has COVID-19 Accelerated Digital Transformation? Initial Lessons Learned for Public Administrations," 303.

[16] Sarantis et al., "Local E-Government Development: Results of an International Survey."

[17] Gabryelczyk, "Has COVID-19 Accelerated Digital Transformation? Initial Lessons Learned for Public Administrations."

Unveiling the Paradigmatic Framework for E-Services and Citizen Engagement in Local Government

Early literature on e-services in the public sector can be linked to the New Public Management period and writings such as Reinventing Government.[18] This is the 1990s, where Yang captures e-government entering "the public administration era with the utilisation of ICT, beginning with straightforward services: official government websites, mayor's mailboxes, hotlines and online forums".[19] This New Public Management thinking of focusing "on costs and performance is especially relevant when considering the adoption of e-services that seek to enable the government to do more with less and use technology to increase efficiency, and thus are often a response to reinventing government and other reform efforts."[20]

E-services and citizen engagement can also be located within the paradigmatic changes in the discipline of Public Administration. For example, in studies announcing new paradigms in Public Administration or those agreeing on a transition making the end of the New Public Management period and heralding successor paradigms like Digital-era governance,[21] New Public Governance, and New Public Service.[22] These studies stand on the intersection of technologies and citizen engagement. These three influential studies provide the philosophical grounding for e-services and citizen engagement in local government. For example, Chigova argues that the New Public Service might have some different frames of reference from the New Public Governance.[23] However, the two approaches agree on the centrality of citizens. These approaches believe that in local government, "public servants do not deliver customer services; they deliver democracy."[24] Hence, efficient service provision and e-services are significant aspects of e-governance and good governance.[25]

Dunleavy et al.'s work is instructive in giving the basis for e-services and citizen engagement.[26] Their seminal work highlights "the central importance of information technology (IT)–based changes in management systems and in methods of interacting with citizens."[27] They describe these changes as "digital-era governance," where digital technologies are used to run the government like a democracy. E-services and citizen engagement in local government can also be theoretically espoused through the lenses of the democratic theory, which is "premised on the notion of an active and involved citizenship."[28]

E-services and Citizen Engagement in Local Government

E-services are basal, primary and connected to citizens' daily life.[29] An integral part of e-services is the digitalisation of the public sector and its basic routines that involve processing documentation with an enormous amount of data.[30] E-services are frequently presented via institutional web portals where citizens can complete forms to register for access to services, engage in two-way communication with city hall and participate in democracy (e-democracy).[31]

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[18] Zhiyong Lan and David H Rosenbloom, "Public Administration in Transition?," *Public Administration Review* 52, no. 6 (1992): 535–37; D. Osborne and T. Gaebler, *Reinventing Government.* (Reading, MA: Addison Wesley, 1995).

[19] Yao Yang, "Towards a New Digital Era: Observing Local e-Government Services Adoption in a Chinese Municipality," *Future Internet* 9, no. 3 (2017): 53.

[20] Meng-Hao Li and Mary K Feeney, "Adoption of Electronic Technologies in Local US Governments: Distinguishing between e-Services and Communication Technologies," *The American Review of Public Administration* 44, no. 1 (2014): 75–91, 77.

[21] Patrick Dunleavy et al., "New Public Management Is Dead—Long Live Digital-Era Governance," *Journal of Public Administration Research and Theory* 16, no. 3 (2006): 467–94.

[22] Stephen P Osborne, "The New Public Governance?," *Public Management Review* 8, no. 3 (2006): 377–87; Robert B Denhardt and Janet Vinzant Denhardt, "The New Public Service: Serving Rather than Steering," *Public Administration Review* 60, no. 6 (2000): 549–59.

[23] L. E. Chigova, " Civic Crowdfunding for Community Infrastructure Rehabilitation: The Case of the City of Harare" (North-West University (South Africa), 2020).

[24] S. Gupta, *Perspectives on Public Administration:New Public Service Approach* (New Delhi: University of Delhi, 2016), 3.

[25] Ingrid Pappel, Valentyna Tsap, and Dirk Draheim, "The E-LocGov Model for Introducing e-Governance into Local Governments: An Estonian Case Study," *IEEE Transactions on Emerging Topics in Computing* 9, no. 2 (2019): 597–611.

[26] Dunleavy et al., "New Public Management Is Dead—Long Live Digital-Era Governance."

[27] Dunleavy et al., "New Public Management Is Dead—Long Live Digital-Era Governance," 468.

[28] Mark Robinson, *From Old Public Administration to the New Public Service: Implications for Public Sector Reform in Developing Countries* (UNDP Global Centre for Public Service Excellence, 2015).

[29] Ulrica Lfstedt, "E-Government Services in Local Governments a Study of Development in Swedish Municipalities," *Journal of Organisational Transformation & Social Change* 4, no. 2 (2007): 157–76.

[30] Pappel, Tsap, and Draheim, "The E-LocGov Model for Introducing e-Governance into Local Governments: An Estonian Case Study."

[31] S. Bayona-Oré and V. Morales Lozada, " E-Government and e-Services in Local Government: A Case Study," 2021, 733. https://repositorio.autonoma.edu.pe/handle/20.500.13067/1593.

Notable contributions to e-services are linked to Elin Wihlborg's work on e-government and digitalisation in the public sector, Marijn Janssen's extensive research on electronic government (e-government) and its impact on public services, Yigal Arens' work in artificial intelligence and information systems as well as research on e-services and the application of technology in the public sector; Miriam Lips' research covering various aspects of e-government, including digital inclusion and the impact of technology on public services and Vishanth Weerakkody's research on the adoption and impact of e-government services. Other contributors to studies on e-services are influential institutions such as the Organisation for Economic Corporation and Development (OECD), the International Monetary Fund (IMF), the World Bank and other United Nations-linked organisations.

Equally, e-services literature continues to be linked to advancements in ICTs and increased governmental initiatives to digitalise.[32] For example, Dunleavy et.al. used the "central role that IT and information system changes now play in a wide-ranging series of alterations to how public services are organised as business processes and delivered to citizens or customers" to announce a new paradigm as discussed above. Damanpour and Schneider have submitted that the development of ICT has impacted every aspect of society, including how governments interact with citizens. Likewise, observe studies of adopting and using e-government technologies rooted in the policy innovation adoption and diffusion literature.[33] Studies have attempted to distinguish e-services and communication technologies using goals. For example, Ahn, cited in Li and Feeney, reasons that "the goal of e-services adoption is often for cost savings, but the adoption of communication technologies aims to respond to public needs."[34] This thin distinction line was shredded during the pandemic. The advent of the Fourth Industrial Revolution (4IR) discourse stands as the current apex of scholarship advocating for e-services as part of digital transformation in the public sector.[35] One study explains that governments worldwide are in "the midst of an unprecedented transformation as they rethink their operating models and abandon analogue systems in favour of digitally updated ones." They describe this transformation as linked to the 4IR (Industry 4.0). Moreover, the COVID-19 pandemic period galvanised the thinking that digital transformation, in which e-service and citizen engagement emerged, was a viable way for public service delivery.

METHODOLOGY

The study examined e-services and citizen engagement in the context of sustainable local governance, drawing lessons from the post-COVID-19 pandemic era in South Africa. It employed a qualitative research approach grounded in the interpretive paradigm. The qualitative methodology allowed for an in-depth exploration of the complexities and nuances associated with the adoption and impact of e-services on citizen engagement within the specific socio-political and cultural context of South Africa. Data collection for this study involved a dual-pronged strategy consisting of document and literature reviews. The document review involved scrutinising official reports, policy documents, and relevant administrative records to understand the development, implementation, and evolution of e-services in the context of local governance in South Africa before, during and after the COVID-19 pandemic. Concurrently, a thorough literature review was conducted on peer-reviewed studies related to e-services and citizen engagement. Following data collection, content analysis was employed as the primary data analysis method, allowing for identifying critical insights that emerged from the reviewed documents.

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[32] J Dunleavy, P., Margetts, H., Bastow, S., Tinkler, "New Public Management Is Dead - Long Live Digital-Era Governance," *J. Public Adm. Res. Theor.* 16, no. 3 (2006): 467–494; Richard Heeks, "Understanding E-Governance for Development," 2001; Richard Heeks, "Reinventing Government in the Information Age," in *Reinventing Government in the Information Age* (Routledge, 2002), 31–43; Yang, "Towards a New Digital Era: Observing Local e-Government Services Adoption in a Chinese Municipality."

[33] F. Damanpour and M. Schneider, "Characteristics of innovation and innovation adoption in public organizations: Assessing the role of managers." *Journal of Public Administration Research and Theory*, 19(3), (2009); 495-522; J. T. Hage, "Organizational innovation and organizational change." *Annual Review of Sociology*, 25(1), (1999); 597; E. M. Rogers *Diffusion of Innovations*. (New York, NY: Free Press, 2003).

[34] Taehyun Ahn and Kyong Duk Choi, "Grandparent Caregiving and Cognitive Functioning among Older People: Evidence from Korea," *Review of Economics of the Household* 17 (2019): 553–86; Li and Feeney, "Adoption of Electronic Technologies in Local US Governments: Distinguishing between e-Services and Communication Technologies," 77.

[35] Everisto Benyera, *The Fourth Industrial Revolution and the Recolonisation of Africa: The Coloniality of Data* (Taylor & Francis, 2021); Elvin Shava and Costa Hofisi, "Challenges and Opportunities for Public Administration in the Fourth Industrial Revolution," *African Journal of Public Affairs* 9, no. 9 (2017): 203–15.

E-services adoption and implementation in South African Local Government during the COVID-19 Pandemic Period

The use of e-services and citizen engagement has increased in South Africa and many developing countries, somehow because of the crisis created by the COVID-19 pandemic.[36] COVID-19 hit South Africa and resulted in the government declaring lockdown regimes as was advised by the World Health Organisation and done by many countries worldwide. As a result of the lockdowns and restrictions on the movement of people, local government service delivery initially came to a halt. City halls were closed for both residents and workers. Alternative ways of delivering services and engaging citizens had to be adopted. One of the ways implemented was e-services. Nachit and Belhcen aptly captured the phenomenon: "The Covid-19 crisis cannot be perceived only as a period of instability, but also as a period of high rates of digital technologies adoption."[37]

An international survey of 42 cities demonstrates how local governments organise their web presence and service provision by applying various e-government strategies based on their needs and priorities.[38] E-services in South African local governments during COVID-19 included the use of a variety of digital or online interventions such as online service portals, virtual town hall meetings, digital communication channels, mobile applications, online permit applications, remote council meetings, e-consultation platforms, digital payment solutions and remote working for staff. The 2021 Local Government SETA Report reveals that most e-government services in South Africa are offered at the municipal level more than at the national or provincial spheres of government.[39]

In South Africa, governmental organisations and departments increased the use of digital communication channels during the COVID-19 pandemic period. According to the 2021 Local Government SETA Report, using electronic technologies in administrative and organisational aspects of municipal work is essential for successfully and efficiently delivering public services.[40] For instance, local governments established official digital communication channels, including social media platforms and email newsletters, to keep citizens informed about updates, guidelines, and changes in local policies related to the pandemic. The United Nations Division for Public Institutions and Digital Government also observed this situation globally.[41] According to the United Nations Division of Public Institutions and Digital Government, as cited in, MJ Mafunisa Consulting "many governments increased their use of social media platforms such as Facebook and Twitter to further connect with their people and enable them to receive accurate and up-to-date information about the pandemic."[42]

Service Delivery Effects

The 2021 Local Government SETA Report stresses that effective service delivery depends on good governance, which includes accountability, effective rule of law, transparency, participation and responsiveness.[43] Studies and activities of local government discussed above show that e-services contributed positively to service delivery outcomes. Hedlund states that everything the municipality does should be transparent and easily accessible to residents in some way.[44] E-services provide higher transparency.[45] E-services increased accessibility to government services, allowing citizens to access information and complete transactions remotely. Shava and Vyas-Doorgapersad capture the Polokwane Municipality using e-services to guarantee services during the lockdown.[46] It was illustrated that adopting

[36] Justine Gangneux and Simon Joss, "Crisis as Driver of Digital Transformation? Scottish Local Governments' Response to COVID-19," *Data & Policy* 4 (2022): e26.
[37] Nachit and Belhcen, "Digital Transformation in Times of Covid-19 Pandemic: The Case of Morocco."
[38] Sarantis et al., "Local E-Government Development: Results of an International Survey."
[39] MJ Mafunisa Consulting., "The Viability of E-Techniques towards Service Delivery in the Local Government Sector," 2021, https://cdn.lgseta.co.za/resources/Research/E-Techniques Final Report 31_03_2021 (Rev) (3).pdf.
[40] Nachit and Belhcen, "Digital Transformation in Times of Covid-19 Pandemic: The Case of Morocco."
[41] Nachit and Belhcen, "Digital Transformation in Times of Covid-19 Pandemic: The Case of Morocco."
[42] MJ Mafunisa Consulting., "The Viability of E-Techniques towards Service Delivery in the Local Government Sector."
[43] MJ Mafunisa Consulting., "The Viability of E-Techniques towards Service Delivery in the Local Government Sector."
[44] Elin Hedlund, "Citizen's Perspectives on Municipalities' E-Services: A Study about How a Municipality Works with Their E-Services and How They Involve the Citizens," 2020.
[45] Bušelić, Slamić, and Kovačević, "Complex Digital Citizen Services in Coronavirus Age."
[46] Shikha Vyas-Doorgapersad and Ayola Bangani, "The Implementation of Gender Equality within the South African Public Service (1994–2019)," *Africa's Public Service Delivery and Performance Review* 8, no. 1 (2020): 1–10.

e-government technologies through e-services enhances work processes.[47] Thus, e-services facilitated quicker processing of requests and transactions than traditional methods in the City of Cape Town.[48] The use of social media communication and virtual town hall meetings enhanced transparency. Digital platforms increased transparency by providing real-time updates on service statuses and government actions. Further, in South Africa, the 2021 Local Government SETA Report noted that e-services streamlined administrative processes, reducing paperwork and manual interventions.[49]

A study focussing on the Polokwane Municipality has shown that e-services enhance the efficiency of local governance, reducing bureaucratic delays.[50] By allowing increased accessibility to government and governance, they allow citizens to access services remotely, fostering inclusivity. Furthermore, e-services enable local governments to interact with and deliver service to citizens, answering enquiries, and automating services and election processes.[51]

More so, e-services provided for data-driven decision-making in local governments. This makes decision-making evidence-based because e-services generate valuable data that can inform evidence-based decision-making.[52] Experiences from South Africa show that local governments were better equipped to make informed decisions and respond dynamically to emerging trends and challenges based on data analytics.[53] For example, a study by Siebritz captured the use of enterprise GIS systems in the City of Cape Town and Drakenstein Municipality.[54] In certain instances, the South African Department of Cooperative Governance's Smart Cities Framework observed the adoption of e-services as contributing to cost savings related to physical infrastructure, paper usage, and manual processing.[55] More importantly, online town hall meetings and social media options increased citizen engagement. Thus, e-services provided platforms for citizens to actively engage in local governance, contributing to decision-making processes. In most local authorities in South Africa, e-services fostered adaptability during lockdowns. The digital nature of e-services allowed local governments to adapt quickly to lockdowns and social distancing measures. Also, e-services enabled real-time feedback from citizens, allowing for continuous improvement. Citizen engagement through e-services encourages accountability, as actions are visible to the public.[56] E-services and citizen engagement firmly empowered communities to actively participate in local governance. This empowerment fostered a collaborative relationship between citizens and local governments, contributing to more effective and community-driven service delivery.

Challenges in Integrating E-Services into South African Local Governance

The COVID-19-linked developments proved that adopting and adapting to e-service "was more than an option."[57] It was the only way of proceeding with delivery services and engaging citizens—however, the resultant integration of e-services in the local government space exposed several challenges and fissures. The obvious was that organisations yet to attain "digital readiness" face a difficult transition towards a digital era due to their vulnerabilities to many hindrances that limit them to maximise the transformation.[58] While it looks pretty clear that e-services enhance work processes, Li and Feeney warn that they can also

[47] Li and Feeney, "Adoption of Electronic Technologies in Local US Governments: Distinguishing between e-Services and Communication Technologies."
[48] C. Wright et al., *Data and Research as Key Enablers of City Outcomes: A Case Study of the City of Cape Town (2000-2022)* (Cape Town: International Growth Centre, 2023).
[49] MJ Mafunisa Consulting., "The Viability of E-Techniques towards Service Delivery in the Local Government Sector."
[50] M. J. Malahlela and T. L. Malatji, "E-services as customer care resource and mode of service delivery during the epidemic: A case study of Polokwane Local Municipality, Limpopo province." *International Journal of Educational Review, Law And Social Sciences*. 3 (5), (2023); 1635-1643.
[51] Z. Engin and P. Treleaven, "Algorithmic government: Automating public services and supporting civil servants in using data science technologies." *The Computer Journal*, 62(3), (2019); 448-460.
[52] Heeks, "Understanding E-Governance for Development."
[53] Department Cooperative Governance (COGTA). 2023. Annual Report 2022/23. https://www.gov.za/sites/default/files/gcis_document/202310/cogta-annual-report.pdf.
[54] Lindy-Anne Siebritz et al., "Capacitating Local Governments for the Digital Earth Vision: Lessons Learnt from the Role of Municipalities in the South African Spatial Data Infrastructure," *International Journal of Digital Earth* 14, no. 12 (2021): 1897–1917.
[55] Department of Cooperative Governance, *A South African Smart Cities Framework* (Pretoria, 2021).
[56] Hedlund, "Citizen's Perspectives on Municipalities' E-Services: A Study about How a Municipality Works with Their E-Services and How They Involve the Citizens."
[57] Nachit and Belhcen, "Digital Transformation in Times of Covid-19 Pandemic: The Case of Morocco."
[58] Shuo-Yan Chou, "The Fourth Industrial Revolution," *Journal of International Affairs* 72, no. 1 (2018): 107–20; Nachit and Belhcen, "Digital Transformation in Times of Covid-19 Pandemic: The Case of Morocco."

slow decision-making by increasing contact and communication with multiple stakeholders.[59] Historically and in many cases, political and financial support for e-service projects have often been accompanied by political rhetoric and hype.[60] This situation is confirmed by the 2021 Local Government SETA Report, which revealed that some South African municipalities have resource challenges, especially finance.[61]

First, the COVID-19 pandemic revealed the realities of the digital divide in the country. Disparities in access to technology and internet connectivity across municipalities in urban and rural areas, as well as affluent neighbourhoods and poor townships, create a digital divide in South Africa. Unequal access limits the reach of e-services, hindering the inclusivity and equitable distribution of digital benefits.[62] Hedlund observes that citizens' readiness to adopt e-services is subject to where they reside.[63]

Hedlund, reasons that the degree of education can substantially affect the preparedness to adopt e-services.[64] They argue that there is a link between the education level and the easiness of adapting and using e-services. In South Africa, a significant portion of the population lacks adequate digital literacy skills, impacting their ability to use and benefit from e-services effectively.[65] Low digital literacy levels hinder the adoption of digital platforms, reducing the overall effectiveness of e-services.[66]

Further, insufficient technological infrastructure in certain regions, including limited internet connectivity and outdated systems, challenges the seamless integration of e-services.[67] Infrastructure gaps impede the delivery of reliable and efficient e-services, particularly in areas with inadequate technological support. In addition, heightened concerns about data security and privacy hinder trust in online government platforms.[68] Citizens may be reluctant to use e-services due to fears of data breaches, impacting the adoption rate and overall effectiveness of digital transformation efforts.[69] Hedlund notes that studies show that nonadopters of e-services do not trust the Internet and are concerned with their data and information security.[70] Also, studies show that resistance to change among government employees and citizens can impede the adoption and acceptance of e-services.[71] In other related studies, it is underscored that slow adoption rates and reluctance to embrace digital tools hinder the full realisation of the benefits of digital transformation in local governance.[72]

Bušelić argue that most local government interventions require quick regulatory interventions to move life online.[73] This situation remains a challenge the public sector struggles to counter. For instance, a study by Mayedwa and Van Belle indicated that the "lack of an e-government legislative framework for municipalities hampered implementing e-services for communities and discouraged their involvement in

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[59] Li and Feeney, "Adoption of Electronic Technologies in Local US Governments..."

[60] Mehdi Asgarkhani, "The Effectiveness of E-Service in Local Government: A Case Study," 2005.

[61] MJ Mafunisa Consulting., "The Viability of E-Techniques towards Service Delivery in the Local Government Sector."

[62] Nadia Refat, Muhammad Patwary, and Md Arafatur Rahman, "Digital Inclusion Towards E-Governance: Challenges and Issues," *Human Data Interaction, Disadvantage and Skills in the Community: Enabling Cross-Sector Environments for Postdigital Inclusion*, 2023, 135–50; B. Rodic, "Across the Digital Divide with Regional Strategies and E-Services," *Raziskave in Razprave* 4, no. 1 (2011): 44.

[63] Hedlund, "Citizen's Perspectives on Municipalities' E-Services: A Study about How a Municipality Works with Their E-Services and How They Involve the Citizens."

[64] Hedlund, "Citizen's Perspectives on Municipalities' E-Services..."

[65] Thubelihlelenkululeko Zonke Mashile, *Technology Integration and the Digital Divide: Understanding Factors That Impact on Educators' Ability to Integrate Technology in South African Classrooms* (University of Pretoria (South Africa), 2016); P Murenzi and C D Olivier, "E-Government Challenges Faced by Selected District Municipalities in South Africa and Rwanda," *Administratio Publica* 25, no. 1 (2017): 141–72.

[66] Bettina Distel, "Assessing Citizens' Non-Adoption of Public e-Services in Germany," *Information Polity* 25, no. 3 (2020): 339–60; Sahem Nawafleh, "Factors Affecting the Continued Use of E-Government Websites by Citizens: An Exploratory Study in the Jordanian Public Sector," *Transforming Government: People, Process and Policy* 12, no. 3/4 (2018): 244–64.

[67] Abid Thyab Al Ajeeli and Yousif A Latif Al-Bastaki, *Handbook of Research on E-Services in the Public Sector: E-Government Strategies and Advancements: E-Government Strategies and Advancements* (IGI Global, 2010); Ramzi El-Haddadeh, Vishanth Weerakkody, and Shafi Al-Shafi, "The Complexities of Electronic Services Implementation and Institutionalisation in the Public Sector," *Information & Management* 50, no. 4 (2013): 135–43.

[68] Richard Schwester, "Examining the Barriers to E-Government Adoption," *Electronic Journal of E-Government* 7,no.1(2009):113-122.

[69] Amna Al Marri et al., "Study on the Impact of Artificial Intelligence on Government E-Service in Dubai," in *2019 International Conference on Digitization (ICD)* (IEEE, 2019), 153–59.

[70] Hedlund, "Citizen's Perspectives on Municipalities' E-Services..."

[71] Mohammad Atwah Al-ma'aitah, "The Impact Of Employees'resistance To Change On E-Government Innovation And Value Creation," *International Journal of Ebusiness and Egovernment Studies* 14, no. 2 (2022): 166–98; B., Distel and N. Ogonek, " To Adopt or Not to Adopt: A Literature Review on Barriers to Citizens' Adoption of e-Government Services. ," in *Proceedings of the 24th European Conference on Information Systems (ECIS 2016)*, 2016, 1–17.

[72] Michael E Milakovich, *Digital Governance: New Technologies for Improving Public Service and Participation* (Routledge, 2012); D. M. West, *Digital Government: Technology and Public Sector Performance* (Princeton: Princeton University Press., 2005).

[73] Bušelić, Slamić, and Kovačević, "Complex Digital Citizen Services in Coronavirus Age."

local government."[74] Also, incomplete or outdated legal and regulatory frameworks related to e-service innovation create uncertainties and obstacles.[75] In many instances, as the OECD notes, a lack of clarity in regulations can impede innovation, hinder collaboration with the private sector, and limit the scope of e-service offerings.[76]

Another challenge that often arises in local governments is insufficient efforts to involve citizens in designing and improving e-services.[77] Without active engagement, e-services may not fully meet the diverse needs and expectations of the population, reducing their effectiveness.[78] Similarly, infrastructure constraints and interoperability issues may lead to inefficiencies and data silos, limiting the seamless integration of e-services across local government departments.[79] More so, resource constraints in budget and training may lead to incomplete digital transformation initiatives, limiting the overall impact on service delivery and efficiency.[80] From the analysis above, it is emphasised that financial constraints and regulatory hurdles limit opportunities for innovation, hindering the development of cutting-edge e-services that could significantly enhance local governance.

Citizen Engagement Evolvement in South Africa's Local Governance

The evolution of citizen engagement in South Africa's local governance, particularly in the context of e-services, has undergone notable changes following the COVID-19 pandemic. A previous pre-COVID-19 study by Li and Feeney captures e-service innovations that are developing in response to external pressures from businesses, citizens, lobbyists, and interest groups.[81] In this post-COVID-19 dispensation, several fundamental shifts and developments can be observed in the South African local government sector. First, there is a heightened emphasis on digital platforms. While some local governments had already started exploring digital platforms for citizen engagement before the pandemic, the overall emphasis was often on traditional methods.[82] However, the pandemic accelerated the adoption of digital platforms for citizen engagement.[83] Virtual town hall meetings, online surveys, and social media became essential tools for connecting with and gathering input from citizens. Second, local governments in South Africa have widely used e-consultation platforms before COVID-19 (See the 2017 National eGovernment Strategy and Roadmap). Despite the presence of these platforms, they were not universally adopted for decision-making processes. In the post-COVID-19 era, e-consultation platforms are becoming more widely used, allowing citizens to participate in decision-making from the comfort of their homes.[84] This shift enhanced inclusivity and expanded opportunities for citizens to voice their opinions on various local issues.

E-services allow for virtual public hearings and meetings. During the pre-COVID-19 era, public hearings and meetings were typically held in physical locations, limiting participation. However, post-COVID-19 times, virtual public hearings and meetings became the norm, enabling broader citizen

[74] Mziwoxolo Mayedwa and Jean-Paul Van Belle, "E-Government Actor's Perspective: A Case of Local Municipalities in South Africa," in *2021 Eighth International Conference on EDemocracy & EGovernment (ICEDEG)* (IEEE, 2021), 188–93.
[75] OECD, " Case Studies on the Regulatory Challenges Raised by Innovation and the Regulatory Responses," 2021, www.oecd-ilibrary.org/sites/70df2cab-en/index.html?itemld=/content/component/70odf2cab-en#wrapper.
[76] OECD, " Case Studies on the Regulatory Challenges Raised by Innovation and the Regulatory Responses."
[77] Jesper Holgersson and Fredrik Karlsson, "Public E-Service Development: Understanding Citizens' Conditions for Participation," *Government Information Quarterly* 31, no. 3 (2014): 396–410.
[78] Wendy Olphert and Leela Damodaran, "Citizen Participation and Engagement in the Design of E-Government Services: The Missing Link in Effective ICT Design and Delivery," *Journal of the Association for Information Systems* 8, no. 9 (2007): 27.
[79] Ernani Marques dos Santos and Nicolau Reinhard, "Electronic Government Interoperability: Identifying the Barriers for Frameworks Adoption," *Social Science Computer Review* 30, no. 1 (2012): 71–82; Deo Shao et al., "Integration of IoT into E-Government," *Foresight* 25, no. 5 (2023): 734–50; Vishanth Weerakkody, Marijn Janssen, and Kristian Hjort-Madsen, "Integration and Enterprise Architecture Challenges in E-Government: A European Perspective," *International Journal of Cases on Electronic Commerce (IJCEC)* 3, no. 2 (2007): 13–35.
[80] Marzenna Cichosz, Carl Marcus Wallenburg, and A Michael Knemeyer, "Digital Transformation at Logistics Service Providers: Barriers, Success Factors and Leading Practices," *The International Journal of Logistics Management* 31, no. 2 (2020): 209–38; Kirk R Karwan and Robert E Markland, "Integrating Service Design Principles and Information Technology to Improve Delivery and Productivity in Public Sector Operations: The Case of the South Carolina DMV," *Journal of Operations Management* 24, no. 4 (2006): 347–62.
[81] Li and Feeney, "Adoption of Electronic Technologies in Local US Governments..."
[82] Danielle Nel-Sanders and Aaron Malomane, "Challenges and Best Practices for E-Municipalities," *Africa's Public Service Delivery & Performance Review* 10, no. 1 (2022): 11.
[83] Juliet Eileen Joseph and Robyn Williams, "A Retrospective Analysis: ICT for Improved Municipal Service Delivery amidst COVID-19," *EUREKA: Social and Humanities* 2 (2022): 70–85.
[84] Nare Mahwai et al., "A Scoping Review for Proposing an EParticipation Framework for South African Local Municipalities," in *2023 IST-Africa Conference (IST-Africa)* (IEEE, 2023), 1–8.

participation. This approach has removed geographical barriers and allowed citizens from various locations to engage with local government initiatives. One of the most significant requirements of citizen's day-to-day life, such as their grievances against the government systems, officials, organisations, and bureaucratic structures in a country, is the availability of platforms.[85] Nowadays, local governments in South Africa are implementing and expanding online feedback mechanisms for e-services, allowing citizens to report issues, provide feedback, and contribute to improving digital services. Metropolitan city governments such as the City of Cape Town and the City of Ekurhuleni have increased their footprint on social media platforms such as X, Facebook, and WhatsApp to interact with residents. In many instances, senior local government executives and officials use personal social media platforms to communicate and engage in government business with citizens residing in their jurisdictions. Further, in many local authorities, after the restrictions on movement and gatherings imposed during the height of the COVID-19 pandemic, local officials or communities created WhatsApp groups for community interaction and engagement, where, for example, a Ward councillor would be a participant.

Furthermore, e-services are enhancing information sharing through digital channels. In the pre-COVID-19 era, information dissemination relied heavily on traditional channels for critical local government issues, such as budgeting processes.[86] The situation drastically changed post-COVID-19. During this period, local governments have increased the use of digital channels, including official websites, social media, and email newsletters, to share timely and relevant information about government activities, policies, and service updates. Moreover, there is no doubt that community engagement initiatives were present pre-COVID-19, but the depth of involvement varied.[87] During COVID-19, Sitto et al. observed governments relying on digital media to disseminate as much information as possible.[88] However, there was a notable increase in community empowerment initiatives facilitated through digital platforms post-pandemic.[89]

Citizens co-create solutions, suggest improvements and participate in collaborative governance efforts. Recognisable areas include community policing, safety and security. Schneider, et al. agree that the trust relationships, governance structures and standard data systems established during COVID-19 can be leveraged for future intersectoral collaboration.[90] Critically, e-services can aid in responsive decision-making in the post-COVID-19 era. For instance, Sarantis found that social media platforms are tools with an increasing application perspective, especially in residents' engagement in decision-making.[91] Integrating e-services and digital citizen engagement platforms led to more transparent decision-making in municipalities. Local governments are demonstrating elevated responsiveness to citizen input, fostering a sense of inclusivity and collaboration. As Roztocki succinctly sums up:

> The availability and utilisation of effective and efficient e-government services produce multiple benefits, such as increased operational capability and reduced cost, greater transparency, less likelihood of corruption, more timely processing of citizens' requests, and more reliable information for politicians, government officials, and other decision-makers. Thus, they are important factors in enduring socio-economic development.[92]

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[85] Nripendra P Rana et al., "Investigating Success of an E-Government Initiative: Validation of an Integrated IS Success Model," *Information Systems Frontiers* 17 (2015): 127–42.

[86] Zvimekria Clive Mukushwa, Jephias Mapuva, and Edson P Mutema, "The Practice of Participatory Budgeting during the COVID-19 Pandemic in Zimbabwe's Local Government Sector: A Case of Chitungwiza Municipality," *The African Review* 48, no. 2 (2021): 597–620.

[87] Farisha Sestri Musdalifah, Annada Nasyaya, and Anang Dwi Santoso, "Communicating the Crisis: Study on the Local Government's Twitter Accounts During the Covid-19 Pandemic in Indonesia," *Ultimacomm: Jurnal Ilmu Komunikasi* 15, no. 1 (2023): 77–94; Karabo Sitto et al., "Evaluating South African and Namibian Governments' Use of Digital Media during Covid-19," *World Medical & Health Policy* 14, no. 2 (2022): 325–42.

[88] Sitto et al., "Evaluating South African and Namibian Governments' Use of Digital Media during Covid-19."

[89] Marijana Pantić et al., "Challenges and Opportunities for Public Participation in Urban and Regional Planning during the COVID-19 Pandemic—Lessons Learned for the Future," *Land* 10, no. 12 (2021): 1379.

[90] H. Schneider, I.L Okeyo, A. Du Toit, B. Engelbrecht, L. London, E. Pegram, G. Reagon, and K. Cloete, Intersectoral collaboration before and during the COVID-19 pandemic in the Western Cape: Implications for future whole-of-society approaches to health and wellbeing. *South African Health Review*, (1), (2021)1-8.

[91] Sarantis et al., "Local E-Government Development: Results of an International Survey."

[92] Narcyz Roztocki, Wojciech Strzelczyk, and Heinz Roland Weistroffer, "Impact of Pandemics on e Government Services: A Pilot Study," 2021, 2.

Lessons drawn from South African Local Government Experiences

The paper has discussed how e-services and citizen engagement have evolved after the COVID-19 pandemic. From the discussions above, some key lessons can be drawn. Figure 1 below summarises the generic lessons drawn from experiences of the United Nations Development Programme that the transformation brought by e-services and citizen engagement in fostering sustainable local governance.

Source: Zhang and Cho, "Lessons from Evaluations: UNDP Support to e-Governance," [93]

In addition, the pandemic demonstrated the significance of building resilience and adaptability. The pandemic showcased the importance of digital resilience, with local governments demonstrating adaptability in rapidly implementing e-services to ensure continuity. Secondly, the COVID-19 pandemic accelerated digital transformation. The urgency of the pandemic accelerated digital transformation initiatives, prompting local governments to adopt e-services more rapidly than initially planned.[94] Further, e-services encouraged a citizen-centric approach, focusing on meeting the public's immediate needs and preferences. More so, the data generated by e-services provided valuable insights into citizen behaviour, needs, and service usage. Besides the above, e-services improved accessibility, allowing citizens to use government services remotely. Finally, e-services boosted institutional readiness and local government finances. For example, a study conducted by Shava and Vyas-Doorgapersad illustrates that in the City of Tshwane, the digital transformation of local government contributed to institutional readiness and improved revenue streams.[95]

Discussion Summary

The discussion has revealed that e-services transformed citizen engagement using online platforms, social media, and virtual meetings in South Africa during the COVID-19 Pandemic. Further, the paper has illustrated several challenges limiting the efficacy of e-services, such as digital inequalities. More so, insights drawn from the COVID-19 experiences speak to the importance of building resilience, accelerating digital transformation, and enhancing the accessibility of e-services in local governments. Furthermore, for sustaining e-services into the future, the importance of addressing digital inequalities, cyber security issues, technology infrastructure and digital literacy amongst citizens has been emphasised. The COVID-19 pandemic has definitely underscored the critical role of digital transformation in maintaining essential services and sustaining governance processes.

RECOMMENDATIONS

Achieving long-term sustainability of e-services and citizen engagement in local government

Building and activating some of the lessons discussed above should address the key challenges highlighted in this paper. Hence, the paper recommends that e-services and citizen engagement be sustained in local government in South Africa if the following issues are addressed:

[93] X. Zhang and C. Cho, "Lessons from Evaluations: UNDP Support to e-Governance," 2022, 2. https://www.sparkblue.org/system/files/2022-11/Reflections UNDP Support to E-Governance.pdf.

[94] Gabryelczyk, "Has COVID-19 Accelerated Digital Transformation? Initial Lessons Learned for Public Administrations"; Soto-Acosta, "COVID-19 Pandemic: Shifting Digital Transformation to a High-Speed Gear."

[95] Vyas-Doorgapersad and Bangani, "The Implementation of Gender Equality within the South African Public Service (1994–2019)."

- Digital inequality
- Cyber-security concerns
- Technology infrastructure gaps
- Digital literacy concerns
- User experience improvements

Most importantly, the paper reiterates the recommendations stated in the 2021 Local Government SETA Report that municipalities "must budget for adequate resources, especially financial resources, to ensure effective and efficient e-service delivery" and "be capacitated with experienced and qualified people to enable them to provide e-services effectively and efficiently to community members."

CONCLUSION

The COVID-19 pandemic era presented local governments in South Africa with the task of speeding up the adoption of e-services. In this paper, e-services and citizen engagement were traced and located within the paradigmatic changes of public administration. In addition, the paper highlighted how advancements in ICTs birthed e-services and fostered citizen engagement. Since service delivery is the cornerstone of citizen engagement, the paper demonstrated how e-services positively improved access, enhanced transparency, optimised processes, and cut costs. The South African COVID-19 experience illustrated how e-services transform citizen engagement, the service delivery processes and the centrality of addressing some of the challenges hindering the efficacy of e-services in the local government space. This study adds to accumulating inquiries demonstrating that digital tools central to e-services are heralding the entrance of a new public administration paradigm whose foundation was set by Dunleavy et al., but its scope and new context require future studies to distil.

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