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INCLUSIVE PARTICIPATION IN INFORMATION AND COMMUNICATION TECHNOLOGIES (ICTS) PROCESSES FOR SMART SERVICES IN THE CITY OF JOHANNESBURG

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Abstract: Governments everywhere must focus on rethinking service delivery as inclusive involvement in Information and Communication Technologies (ICTs) procedures for smart services has become unavoidable. Metropolitan municipalities in South Africa have joined the technology revolution that embraces smart services delivery through various ICTs and advances the idea of e-governance using the Stakeholder Inclusive Approach. To comprehend how the City of Johannesburg (CoJ) encourages inclusion in smart services, the researchers use an explorative qualitative design that works well with the inclusive stakeholder approach, which supports a collaborative process in ICT adoption. The study discovered through qualitative thematic analysis that inclusiveness is a comprehensive process that considers the demands of different stakeholders in the adoption and implementation of ICT. One issue that leads to ICT efficiencies in the CoJ is data fragmentation from numerous municipal agencies. Inclusionary participation has been widespread in virtual Integrated Development Planning (IDP) forums and other cutting-edge services provided by the CoJ. There have been some exceptional examples of free wifi supply. The study's conclusion reiterates the importance of comprehensive inclusion in ICT adoption and implementation as it links communities with the municipality and stresses the need for city officials to commit to upskilling programmes to improve the delivery of public goods and services delivery.

Keywords: Inclusive Participation; ICT processes; Smart Services; City of Johannesburg

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1. Introduction

Reforms in public administration are necessary to improve the calibre of public services. ICT has proliferated in Africa and can enhance marginalized citizens' livelihoods through smart service provision (Bello, Renai, Hassan, Akadiri & Itari, 2022). However, for the successful, efficient, and seamless delivery of services in South Africa, another paradigm shift—technological reform—is required. African countries, particularly South Africa, need this paradigm change, as it closes the ICT and information dissemination gap faced by traditional, tribal, and rural groups that are often geographically dispersed (Vyas-Doorgapersad, 2011:243 in Maseko, 2018:30).

The digital divide associated with ICT was confirmed in a study conducted by Karam (2019:154) who view the African continent as marginally divided along race, gender and class hence ICT penetration in can widen the existing social and economic inequalities. O'Callaghan (2018) study noted that smart service delivery through ICT is linked to the broader e-governance discourse where governance is going 'smarty'; to render public goods and services while anticipating positive economic turnaround or bad outcomes. Whereas inclusive participation in smart services is encouraged, critical scholars warned of the impending digital divide (Carlson and Isaacs, 2018:247) triggered by ICTs across countries and communities (Chetty et al., 2018). South Africa is a country marred by existing socio-economic disparities. Collins et al. (2016:68) warn of the minimal inclusion in smart services. Low-income families may not have access to digital devices, meaning they are excluded from attaining smart services, which local government may offer. In South Africa, the inclusion of smart services using ICTs is propagated in the National Development Plan Vision 2030, where revamping infrastructures for economic development is emphasized to run an industrial and increasingly service-based economy.

The ICT action plan prioritizes building a national, regional, and municipal fibre-optic network to support broadband access, with public funds supplementing private investment to meet social goals. The Skills Development Act of 1998 aims to improve public officials' skills in South Africa. The National Integrated ICT Policy White Paper (2016:1) sees ICTs as tools for socio-economic development. ICTs encompass computing and information technology, fixed and wireless telephones, data communications, audio and visual material, broadcasting, the Internet, and traditional ways of communication and post-delivery.

Nevertheless, South Africa's ICT strategy must outline municipalities' capabilities to exploit e-governance prospects. Local municipalities face many problems that could hinder service delivery through smart services. Robinson (2015:15) argues that to drive municipal smart services, strict adherence to New Public Management (NPM) principles that solve disjointedness and disintegration with a "whole-of-government" approach and that digital municipal governance is required to ensure efficacy and transparency. This observation stems from various service delivery challenges in South African municipalities (Kemp, 2020). Although recent research accredits ICT-enabled governance in local municipalities as relevant to service delivery improvement, other studies dispute that. For instance, Tomor et al. (2019); Yaetano & Royo (2015) refute the capacity of ICTs to change state-citizen relationships in service delivery holistically. This argument is drawn from the exclusion of citizens in ICT options and implementation processes in many local governments. Further utilizing digital tools can be affected by limited citizen participation. The poor or citizens without access to smart digital devices are excluded from providing their input in government affairs.

Mdlongwa (2014:39) laments the absence of inclusive participation as an obstacle to attaining inclusive participation in smart service delivery using ICTs. In most cases, service delivery could be improved because communities still determine who or how to turn to when faced with service provision problems in their constituency. Since understanding legal rights or the procedures to be followed is a plight for many communities, municipal officials can operate with impunity in the knowledge that no one will question them when they violate the rights of citizens (Mdlongwa, 2014:39). It can be argued that if unresolved such 'unholy' tendencies can deter inclusive participation whenever ICT project adoption and implementation arise in local municipalities.

Masibigiri (2022) also conducted a study on the same topic exploring service delivery challenges at the grass- roots level. Stating the opinions of Reddy (2016:7), Masibigiri (2022:18) stressed that "to date, several government initiatives have been introduced to address service delivery challenges and the dysfunctionality of municipalities, but none have led to any significant improvement in the local governance emergency."

Community members, meanwhile, have been unnerved to the point of violence due to poor service delivery. The article hypothesizes that service delivery challenges may be linked to the need for more inclusive participation in

general and ICT processes. This challenge may affect the delivery of smart services in the City of Johannesburg, a case under study. Guided by the Stakeholder Inclusive approach that promotes stakeholder involvement, this study answers the following questions:

- Is there any stakeholder inclusivity in ICT adoption in the CoJ?
- Which ICTs programmes have been used to promote stakeholder inclusivity in ICT adoption in the CoJ?
- What are the implementation gaps in ICT-related programmes to improve employee participation in smart service delivery in the CoJ?

After the introduction, the following section discusses the theoretical and empirical literature, followed by a discussion section on inclusive participation in ICT processes and a discussion on ICTs and Smart services. The fourth section contextualizes smart cities to show how they influence smart service delivery, followed by the methodology adopted for this study. The sixth section presents and discusses the qualitative findings of this study, while the last section concludes and offers recommendations and directions for further research.

2. Theoretical and Empirical Literature

The article adopts the Stakeholder Inclusive approach as a theoretical framework. Stakeholder inclusivity implies that organizations give stakeholders a right to be heard and simultaneously accept the responsibility to account for them (Slabbert, 2015:8). The article further adopts a stakeholder engagement tool to achieve stakeholder inclusivity. Stakeholder engagement represents the organization's endeavours to involve strategic stakeholders in decision-making, [and] to encourage participation in organizational activities (Slabbert, 2015:8). The Organisation for Economic Co-operation and Development (OECD)(2022:2) agrees with the idea and emphasizes that stakeholder inclusiveness in terms of involvement is an essential part of an inclusive and transparent policymaking process. It is a structured approach to interacting with stakeholders at any moment in the policy cycle about any policy decisions and the design and delivery of public services.

Stakeholders can be a person or a group. In this article, stakeholders comprise internal and external citizens of the CoJ. The project developers and owners may appear more credible by approaching stakeholder involvement and engagement with diversity. Acceptance of a proposal can rise if all members of society are considered. The development of a common, binding mission may also be aided. Everyone's sense of duty, ownership and belonging may increase if they comprehend how the development would benefit them. This increases the project's long-term sustainability, as highlighted by the Global Infrastructure Hub (GIH) (2021:2). In addition, the GIH (2021:2) emphasizes that by looking at individual results, stakeholders might consider the effect that the project has on the society and the economy. The project will more effectively meet their requirements if vulnerable stakeholders or those advocating for the interests of vulnerable groups have a say in how it is ultimately designed. There will probably be more support and buy-in for a project if the developer proactively makes steps to meet demands. Stakeholder involvement may cause long-term behavioural changes and affect people's perceptions at the policy or project level. A higher level of involvement raises awareness and indicates a greater social responsibility.

2.1. Inclusive participation in ICT processes for smart services

Inclusive participation means giving people a voice and presence in social life and in democratic processes, which enables socially just processes and outcomes (IGI Global 2022:1). Constantly fostering a group committed to identifying and resolving public issues is what "inclusion" is all about, while "participation" highlights the need of public input on the substance of programs and policies (Quick & Feldman, 2011:272). Inclusive participation can thus be considered as the involvement of "public employees, experts, the public, and politicians in collaboratively addressing public problems" (Quick & Feldman, 2011:274).

Politicians, policymakers, civil society organizations, and citizens have been considering how collective public decisions should be made in the twenty-first century considering the growing complexity of policymaking and the inability to find solutions to some of the most critical policy issues. There is a need for novel approaches to reach a consensus and act (OECD, 2020:2). This is particularly true for values-based issues, which require trade-offs and demand long-term solutions. The OECD has gathered evidence that citizen participation in public decision-making can generate better policies, promote democracy, and create confidence (OECD, 2020:2).

Inclusive participation can be conducted at employee participation (internal citizens) and community participation (external citizens). The current article only focuses on employee participation. The community participation aspect will be explored in future editions. However, it is important to note that for both citizens, successful inclusive citizen participation involves the following (The Hague Academy, 2022:3):

1. Empowered citizens: Citizens who can organize themselves and have the necessary abilities, knowledge, and attitudes to participate.
2. Effectively implemented laws, regulations, and policies that enable participation and social accountability.
3. Commitment to genuine inclusive participation by the government (political leadership and civil service) and citizens: willingness to incorporate citizens' needs and suggestions in the policy.
4. The identification, understanding and involvement of all relevant stakeholders, particularly marginalized and vulnerable groups.
5. A well-planned process with clear objectives and sufficient allocation of resources (financial and human). All stakeholders should understand the plan and its limitations.
6. A transparent government: the publication of understandable and useable information.
7. Trust between government and citizens.

A participatory democracy that demands that local inclusion, equal opportunities for all, and a gender perspective in local policy be implemented to remove prejudice can be seen as having inclusive citizen involvement as one of its essential components (Council of Europe [CoE] 2022:1). This inclusion is required at every level affecting people's lives, hence can be categorized as social, economic, human, financial, and technological inclusion. Tomor et al. (2019:3) argue that public engagement in ICT development in urban areas fosters what he refers to as a democratic and legitimate decision-making process; hence citizen inclusive is regarded as an intelligence gathering. His view support citizens' inclusion in a decision affecting them, which is also supported by Voorberg et al. (2015), who view citizens as bearers and users of local knowledge and expertise, which is vital in resource allocation. Citizen inclusion, as added by Tomor et al. (2019:4), is fundamental as it assists cities in an explosion of new ICTs that promote public engagement in development issues. As the Fourth Industrial Revolution (4IR) has gathered momentum in many countries, ensuring ICT-enabled governance instils a sense of ownership as communities can participate knowing the dialogue with a service provider mainly council authorities, may benefit their lives while promoting socio-economic sustainability. To achieve a collaborative relationship, the socio-technical approach that aligns with technology development is crucial for local government as citizens' voice is considered in ICT development, making it easy to address community service provision issues (Meijer & Thaens, 2016). Deriving inspiration from these arguments, the current article is focused on technological inclusion. The other categories of inclusion will form part of future publications.

2.2. ICTs and Smart services

ICTs are required to offer digitalized services through electronic mode. These services are called e-services. These services aim to bring comfort and convenience to the everyday lives of community members. The municipalities with the resources and infrastructure to offer these e-services are transformed into smart cities and can provide smart services. These highlighted significant concepts are explained below.

Although many aspects of a "smart city" have been discovered, a consensus on a definition remains elusive. Among these are a "smart economy" (concerning competitiveness), "smart mobility" (concerning accessibility and connectivity), "smart environment" (concerning natural resources), "smart human capital" (affecting people), "smart living" (concerning the quality of one's daily life), and "smart" (Giffinger, Fertner, Krammar, Kalasek, Pichler-Milanovic and Meijers, 2007: 45). These attributes of smart cities as Maseko (2018:3) posited are based on traditional regional and neo-classical theories of urban development and growth.

ICT utilizes "digitalized means to create a networked society, networked cities and networked governance associated with ICTs" (Castells, 2008, in Sadoway & Shekhar, 2014:1). The application of ICTs enables municipalities to become smart cities, resulting in smart residents, smart mobility, smart networks, smart grids, smart parking, and smart energy, to name a few consequences. The goal is to establish a municipality with the necessary digital tools to provide citizens with smart services. As explained by Ncamphalala (2019:6) in Vyas-Doorgapersad & Shava (2021:43), ICT, therefore, can be considered as a paradigm shift in public administration whereby the governance paradigm (1990 to date) is the current paradigm through which Public Administration and service delivery are being studied and performed, respectively has become solidly linked to e-governance through to rapid globalization and 21st-century information and communications technology (ICT) advancement. ICTs can improve the efficiency of service delivery. Few research works were conducted that authenticate this statement. A study by Maseko (2018) in the CoJ has put into practice an intelligent city strategy to improve Johannesburg's capacity to offer simple and easy-to-use services and be effective and transparently responsive. The CoJ concentrates on [several] essential smart city initiatives, as explored by Maseko (2018:103). One of the effective programmes is called "creation of a fully functional integrated Intelligent Operations Centre for well-coordinated, integrated and responsive service delivery [highlights that] the goal is to establish a cutting-edge data analysis centre to assist municipal administration in making better decisions and to offer a 360-degree picture of strategic and operational challenges through efficient information gathering, processing, and dissemination (Maseko 2018:103). The overall aim is to improve service delivery. Governmental institutions at all levels of governance, such as service providers, can enhance service delivery by interacting with their citizens through technology platforms. Notably, those who use these services could speak with a helpful governing body privately to voice concerns and get answers to questions, as emphasized by Maseko and Vyas-Doorgapersad (2018:176). This interaction is important for successful inclusive participation.

A further study by Ncamphalala (2019) in the City of Ekurhuleni (CoE) revealed various potential advantages of ICT inclusion as it promotes smart governance in local municipalities. This is attributable to the multiple benefits of technology connected to more effective service delivery. The study concludes that there are several ways in which data ICTs have a cross-cutting impact on municipal government. According to the data gathered, ICTs have the potential to significantly alter municipal government at the macro level by enhancing issue diagnostics, billing system solutions, queue removal, and official community interaction, as highlighted by Ncamphalala (2019:106). Smart governance refers to the participation of a range of stakeholders in decision-making and the provision of public services. It also refers to using new technologies, such as social media, the Internet, open data, citizen sensors, and serious games, to improve communication between urban governments and their constituents (Weiss, 2000:799, in Ncamphalala & Vyas-Doorgapersad, 2019: 207-208).

An advanced study on ICTs and smart services was conducted by Soga (2022) in the Cities of Tshwane and Johannesburg. While quoting Twizeyimana and Andersson (2019:175-177), the results of Soga (2022:75) indicate the benefits of e-government, which include "improvement in public service quality; increased government capacity to provide public services; better management and use of public economic resources; reduction of government operational costs; increased transparency and openness on the part of government; effectiveness of government policies; increased convenience and wellbeing of the public; government efficiency; empowerment of citizens; and increased and improved communication between governments and citizens."

These advantages are important components of inclusive participation, ensuring that the flow of information and the feedback responses between the government and the governed is improved for efficient service delivery.

Since ICT inclusion is part of the broader e-governance paradigm, Masibigiri (2022:66) affirms that e-governance necessitates novel approaches to management, discussion, and decision-making regarding public resources, as well as expanded opportunities for citizens to receive and provide feedback on and participate in the development of public programs and services. This is achieved with the use of e-administration, which is a technological element of e-governance. According to *Balancing Act's News*, cited in Kwadeli (2011:3) and Masibigiri (2022:66), E-administration refers to any of several technologies that convert paper procedures into electronic activities in a traditional workplace to create a paperless office. Thus, using ICT, e-administration improves productivity and performance and indicates a shift in perspective in public administration.

Inclusive participation refers to a change in how the government operates, which the public can access and engage in governance for better service delivery. Community members who were previously excluded from administrative activities now have the right to speak up, contribute input, and play a vital part in decision-making processes, as Sefuli (2012:2) states. ICT systems that allow e-government processes make this type of engagement feasible. For instance, citizens may visit the government website, leave comments, or express issues. Sefuli (2012:2) also highlighted that the most advanced form of digitalized government is e-government, which offers the public internet tools to communicate with their representatives and speeds up service delivery. E-government also fosters a dialogue between the government and the governed, encouraging the idea of [inclusive] citizen participation.

2.3. Smart cities

The definition of smart cities in the literature varies, although three common elements emerge among scholars when describing these terms. These include smart people, smart technology and smart collaboration (Meijer & Rodriguez Bolivar, 2016). The key argument from these scholars' study is that the smartness of a city is associated with its attractiveness to adequate human and financial resources. At the same time, ICT collaborations are enabled to advance smart service delivery. Pereira et al. (2018:144) asserts that Smart cities are ICT-based urban innovations that employ ICTs to deliver improved urban services and deal with growing urban problems due to urbanization without well-being-focused policies. Shava and Vyas-Doorgapersad (2022:280) advanced the understanding of smart cities by stating that such a city is a technologically connected urban area that employs ICT to achieve efficiency in urban infrastructure, services, grid transportation, waste management, mobility and parking, including water treatment. This definition is made with the belief that smart cities in South Africa are expected and designed to help curb urban ills such as rapid urbanization, population growth and the rise in informal settlements. This study accepts the earlier definition by Meijer and Rodriguez Bolivar (2016), which places smart cities at the focal point of implementing smart services to render public goods and services.

As growing urban metro, CoJ is expected to render smart services in various economic sections such as transport, health and education. Good examples of such smart services implemented in the CoJ include the transportation systems where Gauteng, an effective metro rail system, is used to transport citizens between the two major metros of City of Tshwane and City of Johannesburg. Various smart services are being rendered through CoJ portal where e-billing is key in allowing citizens to pay for their rates online. President Ramaphosa in South Africa has reiterated the quest for smart cities to improve the delivery of public goods and services. At the same time, citizens remain digitally connected to the Internet, where services and other business opportunities can be obtained. In South Africa, metropolitan municipalities are undertaking smart city initiatives to increase public happiness, accelerate industry development, and promote a stable society. It attempts to unite governments, corporations, individuals, and public products and services through a Unified Management Model. The plans include improving infrastructure, utilities, health, environment, transportation, education facilities, and resources.

Public services include administrative, civil, crisis, rescue, and recovery (City of Johannesburg, 2016). Similarly, Gasco (2016) concurs that smart city governance requires innovative decision-making models, collaborative networks and new government capacities, while Timeus et al. (2020) warn that local government capacities and decision-making are critical to a city's smartness. Despite the whole strand of research in the area, there is still a need to fill a gap in understanding how the City of Johannesburg (CoJ) encourages inclusion in smart services.

3. Methodology

As a method of inquiry to understand how the CoJ promotes inclusivity in smart services, the researchers employ an explorative qualitative design. This design blends well with the Inclusive Stakeholder approach, which advocates for a consultative process in ICT adoption and implementation. Bangani (2019:30) adds that such an approach is interpretive and naturalistic toward its subject matter. This assists researchers in understanding the natural setting by interpreting the phenomena that bring meaning to them. Explorative qualitative research designs offer textual descriptions. The study compiled information through interviews (primary sources) and literature reviews (secondary sources) from the multiple benefits of qualitative research. Relevant literature sources that encompass IDP reports, peer-reviewed articles, dissertations, and websites were used to support the discussion of the findings.

Interviews were conducted with the purposively identified eight (8) municipal officials who worked in the CoJ in 2022. A pseudonym was provided to capture responses as P1-P8 (CoJ) representing participants. The study participants' recruitment included male and female municipal officials with a decision-making portfolio in the CoJ. Inclusion is significant to understanding the situation from a strategic point of view. The interviews lasted one hour each, and the responses were audio recorded with the participants' permission. Permission was obtained from the CoJ to conduct interviews with municipal personnel. The College of Business and Economic Research Ethics Committee (CBEREC) at the University of Johannesburg also cleared the study. The participants signed the consent forms. The interviews were conducted via Teams and over the telephone, avoiding face-to-face contact while observing the COVID-19 Health protocols. Thematic analysis was employed to analyze qualitative data as per the paper's objectives.

4. Results and discussion

This section thematically presents qualitative findings from CoJ municipal officials who were the key participants.

4.1. Understanding inclusive participation in ICT processes for smart services

Inclusive participation as a term has yet to gain a universal meaning. However, common scholarship on the subject agrees that inclusivity entails involving all relevant stakeholders in decision-making processes that affect them. The stakeholder theory of inclusivity, as posited by Slabbert (2015:8), provides for organizations to give stakeholders a right to be heard and simultaneously accept the responsibility to account for them. Manda and Backhouse (2018:465) suggest that to achieve smart service delivery, the digital inclusion of stakeholders must understand how people should have the skills to access digital technologies. Real et al. (2014) study reasons that, while inclusive participation is advocated for in smart service delivery, digital inclusion of policies and actions is fundamental for addressing digital illiteracy and division problems. Communities can include ICT adoption when they understand the power of ICTs and how they can promote various community groups' social and economic emancipation. From these preceding discussions, the researchers saw it fit to ask participants about their understanding of inclusive participation in ICT adoption in the CoJ. The response is stated below:

Not sure, but I think it includes people with disability [as well]. What is pressing for the CoJ is universal uptake of the system / not certain departments in silos – which impinges on good data management. To promote inclusive participation, we previously engaged in the ‘train the trainers’ approach (Participant 1). The participant further stressed that the process might become challenging due to a lack of coordination and commitment. A study conducted in South Africa by Aruleba and Jere (2020) confirms that coordination and commitment in ICT projects as detrimental to inclusivity in South African state departments. Stakeholder inclusion in ICT adoption to attain smart service delivery in the CoJ is understood by study participants as an encompassing concept that integrates various groups of communities and people in societies, such as the disabled. Training municipal officials on sound data management were reported to significantly promote inclusivity across departments, which some participants believe can drive smart services in the CoJ. Matli and Ngoepe (2020) concur that equipping public officials with technical skills enhances their capabilities and is fundamental for driving smart service delivery in South Africa. Still, on the same question of how inclusive participation is understood in the CoJ, participant 2 added:

This is a complicated question since Smart City is a cross-cutting/integrated programme. This includes GICT [Global Institute of Cyber Technology], Smart City, CGIS [Corporate Geo-Informatics], Entities, and Departments, e.g., Public Safety and Health (Participant 2).

The participant emphasized that smart services not only mean technology but speak to new ideas and models that can be used to improve the delivery of services in our municipality. The study of Ragnedda (2019) corroborates these views stating that smart service provision in a state institution is crucial for improving the delivery of services in an efficient and accountable manner. The above assertion has provided distinct lenses for approaching inclusivity in smart services at the local government level. As a broad concept, smartly rendering public services require coordinating various stakeholders and departments, as noted in the findings. The absence of integration can result in poor service delivery in communities, contrary to the Stakeholder Inclusive approach that advocates for coordination and integration. This is supported by Kud (2021), who perceives research on ICT as fragmented since it fails to integrate technology use in the functioning of public administration. Although his view dismisses technology use in government, the study findings show that CoJ strongly emphasizes technology use in service provision, although gaps in the implementation phase exist. Other studies (Legacy, Metzger, Steele & Gualini, 2019: 273) disregard inclusive citizen participation in ICT as a fallacy citing data manipulation in authoritarian regimes; hence stakeholder views cannot be adequately addressed.

4.2. ICTs adopted by the CoJ to promote inclusive participation in smart services

Van der Waldt (2020) study has shown some factors that may determine e-governance: regulatory framework, administrative leadership, financial resources, and ICT infrastructure. These factors are crucial as they help assess inclusivity in ICT adoption and implementation.

The study of Ghareeb et al. (2019) lamented the absence of ICT infrastructure and visionary leadership as a setback to inclusivity in ICT development. Local municipalities in South Africa are regarded as the closest spheres to the citizens; therefore, they are local; ICT projects are expected to be driven by them, although limited capacity and resources are the challenges (Shava & Vyas-Doorgapersad, 2021).

As a metropolitan municipality serving a vast client base, the CoJ has entered the technological fray where digital technologies have been adopted through its Smart City office to ensure employees' inclusivity toward smart service delivery. This is confirmed by one of the participants who affirms that: We have roll-out out free wifi to enable citizens in various communities to be smartly connected to city activities. This strategy was inclusive and promoted effective – education as learners could access their online homework and interact with one another on various social media platforms. From this free Joburg WIFI, online libraries are being run, and so are the expanded e-learning programmes (Participant 3).

While the assertion confirms the CoJ's efforts to promote inclusivity in ICT adoption, another participant reiterates that:

Through the implementation of free wifi, the CoJ promotes inclusivity by enlightening the residents on the need to participate in virtual IDP forums. This is important because the IDP is the most viable connecting tool between communities and the CoJ; hence, I can safely appraise the municipality for its efforts in this case (Participant 4). Another participant added:

We have online portals & applications such as– ESP [Emigrant Support Programme] Planning submissions, Debt relief, and account queries to promote inclusivity. These online platforms help citizens electronically obtain smart services from their homes (Participant 5). The preceding assertions confirm the efforts of the CoJ to promote stakeholder inclusivity in ICT adoption. Nonetheless, the IDP report (2021-2022) for the CoJ promoting inclusivity in ICT implementation uses the growing digital divide and community inequalities. While the COVID-19 pandemic equally contributes to the current plight, inclusivity is a complex task to achieve as misconceptions surrounding ICT and related digital technologies of the 4IR still grip communities and city officials, some regard adopting modern ICTs might trigger severe job losses.

These sentiments corroborate the study by Shava and Vyas-Doorgapersad (2021), which revealed the fears of automation in the CoJ as it could potentially threaten existing office jobs. Inclusivity in ICT is widespread in South African municipalities; integrating communities through IDP forums, and other digital engagements such as Imbizos is rampant. From this discussion, it is clear that ICT integration gaps require the CoJ to enhance its stakeholder engagement approach, which is vital for improving service provision.

4.3. Implementation gaps in ICT-related programmes for smart services

The use of ICT in a government department is used to address various service delivery issues while ensuring efficiency and effectiveness. Sutcliffe & Bannister (2020:4) noted that local governments employ technology to do things differently and improve service provision. The study participants were asked what challenges affect ICT-related programmes in the CoJ. One of the participants revealed that:

In our municipality, there is wide fragmentation and poor coordination among city departments, which dismisses the notion of inclusiveness in ICT. For instance, City power has data, GSPCR [Group Strategy, Policy Coordination & Relations], M&E [Monitoring & Evaluation] has data, Development Planning has data, CRUM [Citizen Relationship and Urban Management] & call centres have data, and subscriptions to external data portals are not all collated. If this various department is to coordinate and include each other in City projects, we can have a well-run City that is integrative. (Participant 6). While commenting on the implementation gaps, another participant added:

There is a need for an integrated system, clearly defined process pathways for information to be shared, [and] organization (Participant 7). AI structure and culture – hard and soft [to be established]. The CoJ Data Management Strategy – architecture should be able to support this. The National Treasury City Support Programme is working on a tailored data storage system for cities (nationally) to improve integrated reporting and intelligence decision-making (Participant 8). The above assertion indicates that despite any potential gaps identified by the preceding participant, the CoJ is excelling in ensuring smart services, as noted by the coordination of various institutions to ensure that data management, for instance, is improved for the provision of smart services. When questioned about inclusivity in skills development programmes, one participant admits that:

Upskilling bureaucrats is burdensome but necessary. The process involves procurement which has administrative hurdles and cost implications. In this case, the city must do more with less diminished resources, especially in the post-COVID-19 era (Participant 1).

Deducing from the above assertion, promoting ICT inclusion in bureaucratic institutions such as municipalities is a mammoth task enveloped in the cloud of new opportunities regarding public service delivery. The difficulties in ascertaining training programmes among bureaucrats are supported by Luthuli et al. (2019), who note that training development could be stronger in municipalities in South Africa due to poor coordination between workplace skills plans and developments. This argument corroborates the study findings as ICT programmers mean to capacitate local government officials' need for endorsement among officials who are the drivers of development programmes at the local government level.

Given this mounting evidence against the efficiency of ICT in service delivery, the study argues that local municipalities in South Africa should have inclusive ICT training programmes that consider community involvement as they are the end recipients of municipal service delivery actions. Harnessing such a relationship is fundamental for attaining maximum responsiveness of bureaucrats and communities in ICT programs seeking to transform the service delivery landscape.

4.4. Implementation of ICT-related policies to promote employee and community participation in smart service delivery

Smart service delivery in governments is connected to the smart city ideology. Yin et al. (2015) claim that smart service delivery seeks to enhance citizens' quality of life using data-centred technology and value-based information that produces knowledge. At the centre of smart service delivery is the enabling legal framework that ensures that South African municipalities subscribe to such legislation, which stipulates the need to provide goods and services smartly. One of the participants holds that:

The CoJ has tried to comply with the National Integrated ICT Policy White Paper 2016, which advocates for wide ICT use in government. This policy is widely used in the adoption and implementation of ICTs to improve the delivery of services. However, the CoJ does not employ a one size fits all ICT policy as it depends on which area of service delivery municipal officials require ICT training (Participant 2).

This assertion provides a precise analysis that, although a suitable policy environment, adopting ICTs sometimes depends on what such ICT will be used for. However, the common belief in literature is that ICTs are a prerequisite for attaining smart service delivery. The study by Kumar et al. (2020) revealed that the policy environment helps promote community participation in ICTs adoption; hence the integrative processes can help identify knowledge gaps, the need for human and financial resources, and how a municipality can reinforce its governance structures to ensure that ICTs are used to the benefit of communities being served. While this analysis is robust in the CoJ, as noted in the literature, modern ICTs are being adopted to ensure quality service provision, one of the objectives spelt in its CoJ IDP of 2021.

5. Conclusion and Recommendations

The study sought to address the presence of stakeholder inclusivity in ICT adoption and the ICT programmes used to promote stakeholder inclusivity in ICT, including the implementation gaps in ICT-related programmes to improve employee participation in smart service delivery in the CoJ. The analysis of study findings indicates that inclusivity in ICT adoption is one prominent aspect propagated by the Inclusive Stakeholder approach. The literature analysis has shown that inclusivity in the CoJ is practised mainly through Integrated Development Plans (IDP) forums where the municipality announces the relevant technologies used to attain smart service delivery to communities. While this is another dimension of inclusivity, empirical findings have shown the various efforts embarked on by the smart city office of CoJ to promote inclusivity in various municipal departments through the increased use of ICT to leverage service delivery. Apart from remarkable efforts to promote inclusive participation in ICT adoption and implementation, the study has pointed to various challenges that require attention. One downside of encouraging inclusive ICT adoption in smart services is the temptation to embrace the

newest digital technologies without proper engagement with the relevant department that may want to employ such technology. The findings pointed out there is no universal adoption of ICTs in the CoJ as this relies on the department and leadership or strategic decision-making levels and whether a certain ICT is required. Attending ICT training sessions is unique across departments; hence inclusivity may be invisible in smart services.

Nevertheless, relevant literature from the CoJ IDP Review report 2021/22 has shown that various efforts have been undertaken to ensure services are rendered using modern ICT as the CoJ strives to become a smart city. The CoJ implemented the ICT Standard, Policies and Procedures (SPPs) in 2017, which sets out the principles and standards that determine the acceptable use of computing resources of the CoJ. The SPP aims to enhance efficiency in business by using computing resources and related ICTs while safeguarding computing assets from damage (CoJ, 2017). Digital divide and existing inequalities are some setbacks, although efforts are being made to install free wifi in city hotspots and other public community centres such as libraries. This is done to ensure citizens actively engage the municipality in service provision. The findings are imperative to local municipalities in South Africa as they demonstrate the need for employee inclusivity in ICT implementation which is critical for enhancing public service delivery.

Based on the conclusion drawn from the study, the CoJ is recommended to adopt a holistic approach that promotes stakeholder inclusivity in ICT adoption programmes. Municipal officials must become innovative, implement strategic governance systems, and embrace smart service provision by adopting modern ICTs in various service delivery sectors. The government must create a conducive regulatory and policy environment that promotes creativity, accountability, and responsiveness to stakeholder requests for ICT that can be employed to facilitate socio-economic development.

Further, the South African government should encourage governance platforms and a growing technological trend allowing stakeholders to provide hi-tech digital solutions and ideas easily accessible via the Internet. Such a wide collaboration and embracement of diversified ideas and ICT solutions promote inclusivity and help the quest for CoJ to become a smart city that is resilient and effective in redefining smart services. The study recommendations can be applied to various local municipalities in South Africa experiencing challenges related to stakeholder inclusivity in ICT. Few limitations were experienced in the study. The research relied more on interviews to tap into municipal officials' narratives regarding inclusive ICT participation in the CoJ. The study did not include surveys that could have been fundamental to interrogating citizens' views on inclusive participation in ICT for effective public service delivery. Also, participants were not easily available due to tight work schedules. Therefore, the study findings cannot be generalized to all urban municipalities in South Africa. Therefore, future studies can explore the politics or governance of smart cities to see how bureaucracy can be deconstructed to allow innovation and participation of stakeholders in smart service provision using digital technologies.

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