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Factors Influencing the Viability of e-Participation in the Integrated Development Planning in South African Rural Municipalities: A Conceptual Model

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Abstract

In recent years, public practitioners and academic scholars have shifted their focus to digital governance to resolve challenges associated with traditional public participation mechanisms. Electronic Participation (Heareafter reffered to as e-participation) is increasingly used globally as a mechanism for community engagement in planning. In South Africa, the government use various social media platforms to gain public opinion, distribute information, and support community participation in different local contexts. However, there are concerns about potential digital divides, population bias, lack of digital tools, information credibility, privacy concerns, lack of institutional capacity and resources, and unequal outcomes. Therefore, this study aims to conceptually explore challenges that hinder the success of e-participation in the planning process, such as the integrated development plan and further intends to analyse the key factors that influence the success (used interchangeably with viability) of

e-participation in the integrated development planning within rural South African regions. The study adopted a qualitative research methodology in the form of a desktop design. The data was collected from secondary sources and was analysed using the thematic content analysis approach. The study findings revealed that e-participation has both challenges and potential benefits. It is argued that e-participation enables municipalities to reach a wider audience and collect data more efficiently during the IDP process. Digital literacy plays a paramount part in the successful implementation and adoption rates of e-participation. Moreover, it was also found that in rural municipalities, especially in developing countries such as South Africa, there is a lack of effective e-participation due to a lack of digital literacy, the digital divide, limited financial resources, poor infrastructure (e.g., electricity and ICT tools), inefficient research and development of ICT infrastructure, language barriers, the high costs of internet access and lack of political will, which hinders the success of e-participation initiatives. Based on the study's findings, it is recommended that municipalities should embrace the combination of online and offline participation mechanisms to engage a wide range of citizens and promote community inclusiveness. The study suggests that investing in community Wi-Fi access can improve e-participation in the IDP process and bridge the digital divide caused by insufficient technological resources in the municipality. The study also developed a model on factors influencing the success of e-participation in South African rural areas.

Keywords: *Digital divide, Digital literacy, E-participation, Integrated development planning, Municipalities, Social Media, South Africa.*

1. Introduction

In recent years, scholars, civil society and practitioners have shifted their focus to digital governance to overcome challenges associated with traditional public participation mechanisms (Lin and Kant, 2021). The World Bank (2012) and Mamokhere and Meyer (2022) imply that electronic participation (hereafter e-participation) in integrated development planning (IDP) refers to using digital technologies to engage citizens, stakeholders and communities in the process of planning, implementing and evaluating development projects and programmes. E-participation is also analysed from a technology perspective to enhance digital governance and move towards the digital era (Peixoto and Fox, 2016). Androniceanu and Georgescu (2022:7)

identify three core components of the e-participation framework: e-information, e-consultation and e-decision making". Therefore, the United Nations (2018) defines e-participation as "providing citizens with more e-information for decision-making, promoting e-consultation for participation and deliberation processes and strengthening e-decision-making by improving citizen input". Besides, Adnan et al. (2022) define e-participation as using Information Communication Technology (ICT) to disseminate information to populations about public policies and government initiatives. Muzenda and Chikukwa (2023:7) indicated that "e-participation is classified into three forms, namely, G2C (government to citizen), C2G (citizen to government) and C2C (citizen to citizen). In G2C e-participation, the activity of citizens is not directly required; the government disseminates information and data to citizens, informing them on issues of concern. In C2G (Citizen-to-Government) e-participation, citizens actively engage in municipal affairs through various platforms, including discussions, surveys, elections, and forums. Citizens provide feedback to the local government on various issues, from reporting on service delivery to designing, defining and prioritising to offering solutions. The C2C is the do-it-yourself class of e-participation. In this form of e-participation, local government's participation is not necessarily required; citizens organise themselves into digital communities that improve their communities". Muzenda et al. (2023), in their study about municipal e-participation, smart cities and digital governance, indicated that smart cities are redefining the relationship between citizens and local municipalities by empowering communities to actively engage in their democratic responsibilities. Traditionally, methods of participation included in-person involvement in public hearings, citizen boards, focus groups, and municipal elections. However, digitalisation has introduced e-participation, which leverages ICT to connect citizens and local governments. E-participation platforms enable citizens to deliberate on issues, participate in decision-making, and access public services through digital channels. These innovations simplify public participation, which is mandated by the Municipal Systems Act, making it more efficient and transparent. The benefits of e-participation include enhanced interaction between citizens and their local government, transitioning from mere service-driven involvement to active participation in decision-making and collaborative problem-solving on broader societal challenges. Additionally, citizens can offer valuable

insights to their local government that may not be accessible through traditional participation avenues (Muzenda et al., 2023).

Moreover, Lin and Geertman (2019) stated that using e-participation through social media platforms has become increasingly used in planning practices to support citizen participation, as it is increasingly important for contemporary planning due to increasing complexity and diverse interests. Bennett (2015) suggests that the South African government utilises various social media platforms to gather public opinion, disseminate information, and support citizen participation across different local contexts. Lin and Kant (2021) stated that the European local governments and Chinese authorities are utilising social media for decision-making and policy-making. Facebook and Twitter (currently referred to as X) are being used for top-down participation, collective planning practices and promoting community participation. However, Mergel (2012) and Lin and Kant (2021) further stated concerns about potential digital divides, population bias, opinion polarisation, information incredibility, privacy concerns, social relations impact, political and social bias and unequal outcomes. Scholars argue that combining online and offline participation may be necessary to engage a wide range of participants and promote social inclusion (Lin and Kant, 2021). In the situation of e-participation, Dlamini, Plantinga, Davids, Ayodele, Sanchez and Dlamini (2025:2) indicate that the digital divide refers "to the unequal access to technology, the internet, and digital literacy training, which can hinder citizens' ability to participate in online civic processes and potentially lead to social and economic disparities". Despite the growing scientific and practical relevance of e-participation, the field still suffers from a diffuse, heterogeneous state of knowledge, and the understanding of successful e-participation strategies and implementation is limited (Wirtz, Daiser and Binkowska, 2018). Therefore, this study aims to conceptually explore challenges that hinder the success of e-participation in the planning process, such as the integrated development plan and further intends to explore the key factors that influence the success of e-participation in the integrated development planning within rural South African regions through the development of the conceptual model.

2. Problem Statement

Le Blanc (2020) indicated that e-participation is a subfield of public participation and e-government. Electronic participation (hereafter e-participation), especially in integrated development planning, is seen as using digital technologies to engage citizens, stakeholders, and communities in planning, implementing and evaluating development projects and programmes. South African municipalities are obligated by the Municipal Systems Act of 2000 to ensure public participation, either using traditional or electronic mechanisms. During public participation, all municipalities are obligated to compile and adopt a formal IDP for a given 5-year period, and it should legally be reviewed annually. However, Bennett (2015); and Mawela, Ochara and Twinomurinzi (2017) opined that in rural municipalities especially in developing countries like South Africa, there is a lack of effective e-participation due to a lack of digital literacy, the digital divide and limited financial resources, poor infrastructure (e.g., electricity and ICT tools), inefficient research and development of ICT infrastructure, language barriers, the high costs of internet access and lack of political will. Lin and Kant (2021) stated that these challenges call for cooperation and capacity-building using an appropriate mix of strategies (traditional and electronic modes). Equally, Marston, Renedo and Miles (2020) and van Koppen, Nohayi, Jacobs-Mata and Nortje (2024) indicated that the Municipal Systems Act (2000) mandates South African municipalities to involve communities in integrated development planning. However, the COVID-19 pandemic has made traditional methods challenging. E-participation has emerged as an alternative, but there is a knowledge gap in rural areas like Greater Tzaneen Municipality due to limited access to technology, infrastructure, digital literacy, and the Internet. The pandemic and lack of resources and capacity have also led to poor public participation in local government development processes. Some rural municipalities struggle to design and implement IDP and public participation, while others transition to virtual participation (Lues, 2014; Marston, Renedo and Miles, 2020). Adnan, Ghazali and Othman (2022) opined that e-participation is a key component of e-governments, offering significant potential for better-informed decisions. By involving communities in e-participation, they can provide valuable suggestions and opinions, leading to a more efficient government. However, there is a lack of empirical studies demonstrating positive results and improvement in this aspect. Wirtz, Daiser and Binkowska (2018) indicated that despite the growing scientific and practical relevance of e-participation, the field still suffers from a

diffuse, heterogeneous state of knowledge, and understanding of successful e-participation strategies and implementation is limited.

The study contributes to the literature by addressing key barriers to e-participation in rural South African municipalities, such as digital illiteracy, infrastructure limitations (e.g., electricity and internet access), the digital divide, and socio-political factors that hinder effective participation. These challenges are not often deeply explored in the South African context about the integrated development plan; this study is a valuable addition to the discourse on digital governance and public participation in rural municipalities. Thus, this study is underpinned by the following objectives:

- To conceptually explore challenges that hinder the viability of e-participation in the planning process, such as integrated development planning.
- To analyse the key factors that influence the viability of e-participation in integrated development planning within rural South African regions through the development of a conceptual model.

3. Materials And Methods

Tenny, Brannan, Brannan and Sharts-Hopko (2022) indicate that research methodology is selecting, identifying, and analysing data to respond to a research question. It involves utilising specific techniques and procedures to collect, measure and interpret data. The research methodology can be divided into different types, such as quantitative, qualitative or mixed methods. Therefore, this study embraced a qualitative research methodology. Qualitative research, according to Tenny et al. (2022), is a type of methodology that provides deeper insights into real-world problems by examining participants' experiences, perceptions and behaviour. It focuses on the "hows" and "whys" rather than the numbers. Qualitative research collects and analyses non-numerical data, such as words and images and generates hypotheses to investigate and understand quantitative data, unlike quantitative research, which collects numerical data points or introduces treatments.

Moreover, the study adopted a desktop research design to conceptually explore challenges that hinder the success of e-participation in the planning process, such as the integrated development planning,

and further intends to analyse the key factors that influence the success of e-participation in integrated development planning within rural South African regions. To achieve these objectives, the study collected secondary data from different databases, also known as a literature review. Search engines and databases such as Google, Google Scholar and Scopus were used to search for relevant materials. The journal articles, conference papers, internet sources, books, book chapters and other readable sources were used to validate the study. Themes and study keywords guided the electronic search for relevant data**.** The data collected in this study were analysed using thematic content analysis approaches, and the findings of this study are presented in themes. Ethically, this study is low-risk and did not involve human or animal participants. However, the ethical clearance for this study was granted by the University of Johannesburg, College of Business and Economics Research Ethics Committee, in 2024.

3.1 Case Study

This conceptual study or model emanated from the author's dissertation. The empirical dissertation study was conducted at the Greater Tzaneen Municipality about "The viability of e-participation in rural South African regions". The empirical study adopted a mixed-methods research approach; however, this study only adopted qualitative research in the form of a desktop study. The study conducted at Greater Tzaneen by the authors revealed the following key findings:

- Language barrier associated with the e-participation in the IDP process (e.g., IDP invitation always printed and disseminated in English). These implications undermine the indigenous language of the citizens within the municipality's jurisdiction.
- Digital divide and literacy. In a municipality dominated by 125 rural villages, it is revealed that there are inequalities in terms of access to the internet, infrastructure and tools to participate meaningfully in the platform. Moreover, the municipality is dominated by illiterate citizens who cannot use the e-participation tools, and some are not even aware of e-participation mechanisms.
- Through the interview, it was found that the municipality does not have adequate resources, such as monetary and human resources, to channel to the e-participation.

- Municipality recognised poor public participation caused by human behaviour and resistance to change.
- The municipality acknowledged that citizens are also sceptical about e-participation due to security and privacy issues.
- The e-participation mechanisms are not inclusive, therefore undermining the democratic rights of the citizens.
- There is a lack of political will to facilitate effective e-participation in the IDP.

Despite various obstacles, e-participation offers significant benefits. E-participation tools enhance citizen involvement by making participation simpler, faster, and more transparent. This transparency is evident in various features, such as allowing citizens to report service delivery issues, engage in online voting for decision-making, complete satisfaction surveys, and participate in discussion forums on municipal websites.

4. Literature Review

4.1 Challenges hindering the implementation success of e-participation in the planning process

This section examines existing literature on e-participation success and challenges. It begins with a global perspective followed by the South African context.

4.1.1. Global Perspective

The United Nations Annual Report (2018) reveals that the e-participation rate is still low in most developing countries and hesitates in the top-ranked countries such as the United States of America, Estonia, the Republic of Korea and Japan. Adnan et al. (2022) stated that despite adopting e-participation to support communities' e-participation, municipalities regularly have problems getting enough citizens to participate, and this is established by the assessment of the e-participation index for all countries in the world that was conducted by the United Nations. In the Hashemite Kingdom of Jordan, Alarabiat, Soares, and Estevez (2020) indicated that recently the limited level of

citizens' participation has gained scholars' attention, who have begun to question if citizens truly wish and are interested in getting involved and taking part in government initiatives such as the integrated development planning and budgeting process, particularly in those participation initiatives performed by municipalities through new media platforms also referred to as e-participation in this study. This concern is backed up by the fact that not all citizens are willing to participate; some citizen segments have shown weak willingness to participate, despite their ability to do so (Alarabia et al., 2020).

The success of e-participation initiatives might depend on attracting and involving diverse types of citizens with different social, economic and environmental preferences, cultural backgrounds, ages and capabilities. E-participation literature shows that most e-participation initiatives and projects led by the government have not accomplished their intended promise to attract more citizens and enhance their involvement. Governments achieve less success in e-participation projects whose intent is to draw citizens into the democratic process, compared to e-government projects that mainly focus on providing "traditional" e-services (e.g., birth registrations or driving license/vehicle registrations) (Alarabiat, Soares and Estevez, 2020). In the Netherlands, Lin and Kant (2021) found that there are criticisms about the implementation of e-participation in rural regions. It is found that e-participation tools may create digital divides and population bias, excluding certain social groups who lack access to digital tools.

There is also debate on whether e-participation has led to opinion polarisation, and potential problems include information credibility, privacy concerns, social relations impact, political bias, and unequal outcomes due to unequal use of social media tools. Similarly, Bennett (2015) stated that in South African rural municipalities, there is a lack of effective e-participation due to lack of digital literacy, the digital divide, limited financial resources, poor infrastructure (e.g., electricity and ICT tools), inefficient research and development of ICT infrastructure, languages barrier, lack of trust, security and privacy, the high costs of internet access and lack of political will. In Africa, Muzenda and Chikukwa (2023); Mamokhere and Meyer (2023) stated that the COVID-19 pandemic has forced municipalities to adopt e-participation to ensure citizens can voice their concerns and shape their development. Van der Waldt (2023) stated that e-participation offers benefits such as increased accessibility, convenience and cost-effectiveness. It allows citizens to

participate in the IDP process from their homes or workplaces, allowing municipalities to reach a wider audience and collect data more efficiently.

In Zimbabwe, Qina (2015); Gwakwara and Niyitunga (2024) stated that e-participation is recognised as an important tool for promoting public participation in the IDP process. However, the gap in e-participation is the lack of real-time feedback. Municipalities should ensure e-participation is accessible to all citizens, regardless of their digital literacy, access to technology, or geographical barriers. Challenges in rural South African municipalities include a lack of digital literacy, limited financial resources, poor infrastructure, inefficient research and development, language barriers (failure to include indigenous knowledge), high illiteracy, and high internet access costs.

4.1.2. South African Perspective

In South Africa, the Municipal Systems Act of 2000 mandates municipalities to establish a culture of participatory governance, empowering citizens to contribute to municipal matters. The act also mandates councillors and officials to promote appropriate public participation mechanisms. However, Ngamlana (2019) argues that the current legislative framework is too prescriptive and lacks informal, unrestricted and creative ways for public engagement to flourish. Ng, Li and Wong (2012) disagree, stating that despite the mandated public participation exercise, it is the government's prerogative to decide on community needs or services. They believe that engaging diverse views from the community before making decisions is crucial for enhancing the integrity and trustworthiness of outcomes in a democracy.

Managa (2012) and Matosse (2013) stated that local municipalities in South Africa face challenges in implementing integrated development plans due to limited public participation, budget constraints, and inadequate skilled human resources. Insufficient public engagement can lead to inadequate service delivery and financial sustainability. Pagatpatan and Ward (2017); Plantinga, Dlamini, Pienaar, Davids and Dlamini (2024) implied that the municipalities often lack the resources and expertise to effectively implement e-participation platforms and engage with citizens in meaningful ways. Insufficient training or lack of experience can impede effective contributions to discussions, leading to some participants withdrawing from the participation process.

Municipality faults in employment selection and hiring candidates with inadequate skills also adversely impact participation.

Le Blanc (2020); Akbar, Flacke, Martinez and van Maarseveen (2020) opined that many rural citizens lack access to technology and digital devices, making it difficult for them to participate in e-participation initiatives. Age group and geographical barriers also hinder the use of online tools, as most village people are elderly, and younger members hold insignificant positions. Internet connections in rural regions are unstable. Moleko (2022:26) posited that digital literacy, which involves accessing, managing, understanding and creating information using digital technologies, is crucial for public participation, employment, and entrepreneurship. In South Africa, rural and township areas face unemployment and a lack of public participation due to a lack of ICT skills. Many residents lack the technical skills necessary to engage with e-participation platforms effectively, leading to decisions that do not accurately reflect community needs. Moleko (2022) further implied that language barriers also hinder participation in e-participation processes, as many rural communities speak indigenous languages, which are not always accommodated in e-participation processes. The historical legacy of marginalisation in South Africa has made digital literacy even more challenging. To promote equitable advancement, e-participation tools should be translated into local languages for all citizens (Moleko, 2022).

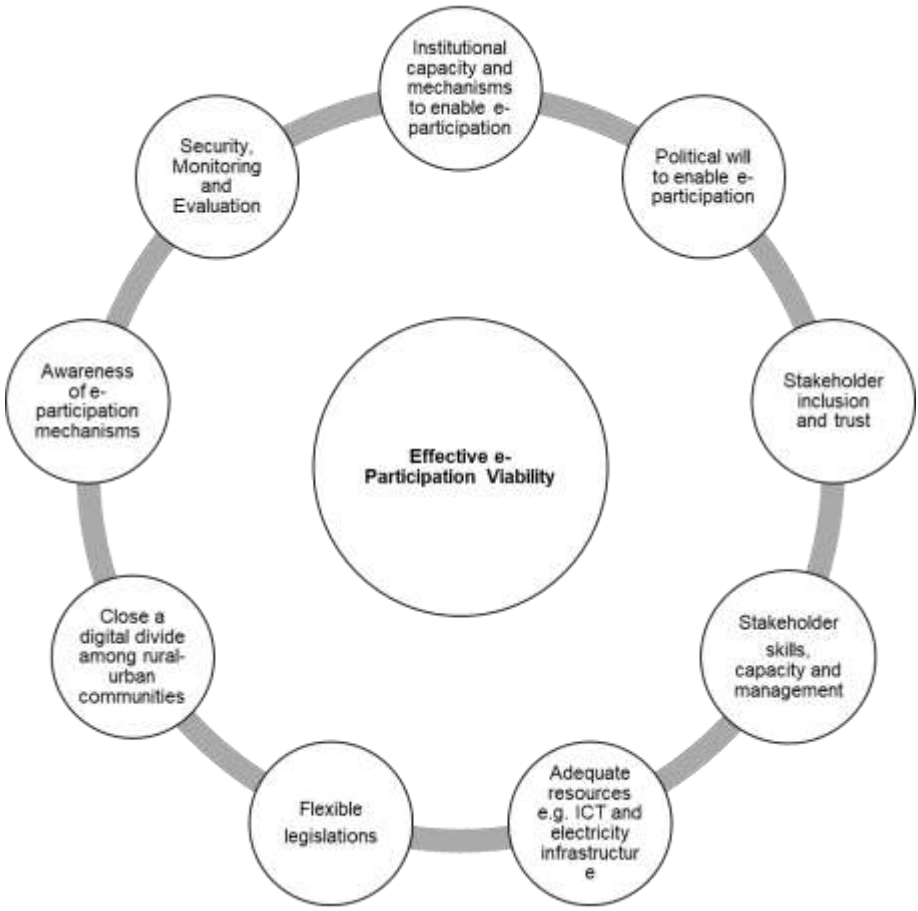
5. Results And Discussion

5.1. Model on Factors to Enable Viability and Effective E-Participation in South African Municipalities

South Africa faces challenges in implementing effective e-participation in local government matters, despite the Constitution of the Republic of South Africa, 1996, which aims to involve communities and other stakeholders. In this study, it was theoretically found that e-participation in the IDP process faces common challenges such as insufficient resources, lack of political support, poor public participation, digital divides, lack of digital literacy, prescriptive legislation, inclusivity, consideration of language diversity, security concerns, and trust issues. To promote effective e-participation, many factors can be considered to influence the viability of e-participation in the IDP process. Thus, this study designed a model to ensure that successful and effective e-

participation is implemented during the IDP phases. The designed model is presented below in Figure 1, based on factors influencing viability.

Figure 1: Effective e-Participation Viability



Source: Compiled by the Researcher (2024)

5.1.1. Institutional Capacity and Mechanisms to Enable E-Participation in the IDP Process

The first factor affecting e-participation effectiveness in many developing countries, such as South Africa, is the institutional capacity and

mechanisms that facilitate e-participation in the IDP process. Zindi (2024) indicates that South African municipalities lack the necessary technological expertise to effectively develop, execute and manage digital governance initiatives. Thus, the South African municipalities must strengthen their institutional capacity and mechanisms to enable e-participation. Lues (2014); Thusi, Mahlatse and Matyana (2023) indicated that strengthening institutional frameworks, human resources capacity building, and ICT development are crucial for equitable service delivery. Municipalities need to improve their capacity to plan, integrate and embed innovation and technology and create an enabling environment for e-participation tools to persist. Shava and Vyas-Doorgapersad (2022); Zindi (2024) opine that municipalities need to invest in staff technical expertise, digital literacy programmes and partnerships with external stakeholders to effectively manage digital governance initiatives. Collaborating with educational institutions and industry partners can offer specialised training in data analytics, cybersecurity and digital project management. Establishing a centralised training hub or online learning platform can provide ongoing support and resources. Fostering a culture of innovation and knowledge sharing through digital projects and cross-departmental collaborations is also recommended.

5.1.2. Promote Political Will to Enable E-Participation

The second factor identified to enable e-participation viability is the promotion of political will. Murenzi and Olivier (2017) indicate that one of the obstacles to e-participation viability is a lack of political support and will to harness the opportunities of digital governance initiatives. Plantinga, Dlamini, Pienaar, Davids, and Dlamini (2024) opined that using digital mechanisms for public participation in government decision-making is generally acclaimed as paramount. However, "the use of technology can result in new forms of inequality and harm, so e-participation adoption may need to be embedded within a wider digital rights framework" (Plantinga et al., 2024). Therefore, there is a need to encourage political leaders to support e-participation and integrate it into decision-making processes. The political leaders can support this initiative by closing the digital divide and providing reliable electricity and ICT infrastructure.

5.1.3. Stakeholders' Inclusion and Trust

The third factor identified to enable effective e-participation is to promote stakeholders' inclusivity and trust in municipal affairs. Zindi (2024) opines that the digital divide, lack of infrastructure, inequalities and language barriers hinder inclusive digital governance in most South African municipalities. Thus, this study believes that for e-participation to be viable, there is a need to bridge the digital divide and ensure equal access to digital services for all. Municipalities should enhance their internet connectivity infrastructure and provide training and support to marginalised communities to ensure equitable access. Finally, this model recommends that the municipalities engage a diverse range of stakeholders, ensuring marginalised groups are included. Lastly, e-participation should be honest and trustworthy. This can be achieved by building trust through transparent and consistent communication (Mahwai, Phiri, Dlamini, Herselman and Meyer, 2023).

5.1.4. Stakeholders' Skills, Capacity and Management

The fourth identified factor that influences the viability of e-participation is strengthening stakeholders' skills, capacity, and effective management. This study empirically found that there is low digital literacy among the citizens in the Greater Tzaneen Rural Municipality. Thus, this model recommends providing training for citizens on how to use digital tools for participation. This can be achieved by developing programmes to improve digital literacy and capacity building. Municipalities should manage the stakeholders respectfully and honestly. Digital literacy plays a paramount part in the implementation and adoption rates of e-participation (Lues, 2014).

5.1.5. Ensure Adequate Resources To Enable E-Participation

The fifth identified factor that influences the viability of e-participation is ensuring providing adequate resources such as ICT infrastructure, electricity, monetary resources and human resources. Ndebele and Enaifoghe (2024) indicated that municipalities have limited ICT infrastructure, electricity and internet connectivity. This challenge often hinders rural municipalities from effectively implementing e-participation in the IDP process. Moreover, the financial difficulties also hinder the

implementation of digital governance programmes. To address these issues, the model recommends that municipalities conduct comprehensive assessments of their e-participation infrastructure, identify gaps, prioritise investment in critical areas, and work together with private providers. Marie-Luise (2014) directly states that the "e-participation process requires sufficient resources, such as expertise, time, funding and technology, as well as staff to provide guidance and advisory services". Equally, South African municipalities should invest in ICT infrastructure and ensure access to electricity and reliable internet, especially in underserved areas.

5.1.6. Flexible Legislation to Enable Innovative Public Participation

The sixth identified factor that can influence the viability of e-participation is to promote the flexibility of relevant legislation to allow informal, unrestricted and creative ways of public participation. Through the review of existing literature, it is found that the existing legislations are too prescriptive, with limitations for providing informal, unrestricted, creative and innovative ways for public participation to prosper. Therefore, it is recommended through this model that South Africa as a whole and municipalities should review and adapt legislation to support innovative forms of e-participation.

5.1.7. Close the Digital Divide

The seventh identified factor to influence the viability of e-participation is closing the digital divide gap between those in urban and rural areas, as well as those who have and have not. Sanders and Scanlon (2021) indicate that the digital divide "is a simplistic phrase used to explain the gap between people who can easily use and access technology and those who cannot. For over a decade, "digital divide" has been a common term for the technologically privileged and underprivileged. In other words, some people are privileged in their access to and use of technology compared with others. This is due to various factors, including computer ownership, high-speed Internet access and adoption and digital literacy". Zindi (2024) identified that despite significant e-participation interventions in South Africa, challenges such as the digital divide and linguistic and cultural diversity persist. The model suggests that municipalities should enhance internet connectivity in rural areas to

bridge the digital divide and enable rural communities to participate in municipal affairs. Public policies should be implemented to reduce the gap between rural and urban access to digital technologies, including affordable internet and devices. Finally, the digital divide gap should be addressed by embracing traditional and electronic public participation mechanisms.

5.1.8. Awareness of e-Participation Mechanisms

The eighth identified factor to influence e-participation viability is the promotion and awareness of e-participation mechanisms. It was found through surveys at GTM that most of the citizens, especially those in rural areas, are not aware of the available public participation mechanisms. It was found that community members are not aware of e-participation mechanisms due to digital literacy and the digital divide. The model suggests that municipalities should ensure that their digital governance initiatives are accessible and inclusive for all residents (Mahwai, Phiri, Dlamini, Herselman and Meyer, 2023).

5.1.9. Guarantee Security, Monitoring and Evaluation

The ninth identified factor that needs to be considered for e-participation to be viable and effective is guaranteeing stakeholders' security. The monitoring and evaluation should also be at the centre of the initiative. Zindi (2024) indicated that e-participation must prioritise data privacy and security to prevent data breaches, identity theft, and loss of public trust due to the sensitive nature of collected and processed information. This model concurs with the findings and suggests that to enhance e-participation in municipal planning, it is essential to prioritise security, privacy control and ongoing feedback. By implementing measures such as data encryption, user authentication, privacy controls, secure infrastructure, real-time activity tracking and feedback collection, municipalities can establish a reliable, inclusive and effective e-participation environment. This approach safeguards citizens and ensures their contributions meaningfully influence the planning process (Wirtz et al., 2016).

6. Discussion

The model outlines a comprehensive framework illustrating how several interconnected factors influence the effectiveness and viability of e-participation in South African municipalities, particularly within the integrated development plan process. Central to this framework is the institutional capacity and mechanisms that enable digital governance, where municipalities must strengthen technological expertise, human resource capacity, and ICT infrastructure to foster inclusive participation (Zindi, 2024; Lues, 2014; Thusi et al., 2023). Equally critical is the promotion of political will, as the lack of commitment by political leaders often hinders digital engagement; fostering this support involves integrating e-participation into decision-making and addressing structural barriers like infrastructure gaps and the digital divide (Murenzi and Olivier, 2017; Plantinga et al., 2024). Furthermore, stakeholder inclusion and trust must be prioritised by ensuring marginalised communities have equal access and are actively involved, supported by transparent communication (Mahwai et al., 2023; Zindi, 2024). Alongside this, enhancing stakeholders' digital skills/literacy and capacity, particularly in rural areas such as Greater Tzaneen, is essential through targeted digital literacy programmes and respectful stakeholder management (Lues, 2014). The model also emphasises the importance of adequate resources, including electricity, funding, human expertise, and technological infrastructure (e.g., smart devices and WiFi), as a foundational requirement for meaningful e-participation (Marie-Luise, 2014; Ndebele and Enaifoghe, 2024). In addition, flexible legislation is needed to allow for more creative and informal participation methods, as existing rigid legal frameworks limit innovation. Bridging the digital divide is another pillar, with municipalities urged to provide equitable access to digital tools across urban and rural settings, using traditional and digital methods to ensure inclusivity (Sanders & Scanlon, 2021). The model also identifies the necessity of promoting awareness about e-participation mechanisms, particularly in rural communities where low digital literacy limits engagement (Mahwai et al., 2023). Finally, the model underscores the significance of guaranteeing security, monitoring and evaluation and advocating for robust cybersecurity measures, privacy protections, and feedback systems to safeguard trust and ensure that citizen contributions are meaningfully integrated into governance processes (Wirtz et al., 2016; Zindi, 2024). These factors form a cohesive and interdependent model

for advancing participatory digital governance in South African municipalities.

7. Conclusion and Recommendations

In conclusion, this study aimed to conceptually explore challenges that hinder the success of e-participation in the planning process, such as the integrated development plan and further intends to analyse the key factors that influence the success of e-participation in the integrated development planning within rural South African regions. These objectives are achieved in sub-section 4.1 and section 5 of this study. The study found that South Africa faces challenges in implementing effective public participation (e-participation) in local government matters, despite the Constitution of the Republic of South Africa, 1996, and the Municipal Systems Act, 2000, which encourage the involvement of communities and other stakeholders in municipal affairs. Furthermore, it was theoretically found that e-participation in the IDP process faces challenges such as insufficient resources e.g. financial and skilled human resources, lack of political support, poor public participation, digital divides, lack of digital literacy, prescriptive legislation, inclusivity, lack of consideration of language diversity, security and privacy concerns and trust issues. Scientifically, this study intends to contribute new knowledge and literature to public management and governance. The study acknowledges that e-participation holds significant potential for enhancing public engagement in integrated development planning, particularly in rural South African regions, but numerous challenges remain. These include digital literacy gaps, poor infrastructure, limited financial resources, and a lack of inclusive strategies that accommodate language barriers and marginalised communities. This limitation of this study revolves around the research methodology adopted by the researchers. The study is limited to a qualitative research methodology. Future research will focus on qualitative and quantitative research methodologies to understand the various hypotheses. The other future research will focus on a comparative study whereby the researcher will assess the successful implementation of e-participation in municipal planning in developing and developed countries. By studying this, the researchers will understand the disparity between those who have (developed) and those who have not (developed).

Based on the findings of this study, the study recommends the following practices:

- It is recommended that municipalities adopt a hybrid approach combining traditional and digital participation mechanisms.
- The study recommends that the municipality enhance its institutional capacity and resources by investing in public Wi-Fi access. This initiative can improve effective e-participation in the IDP process and help bridge the digital divide caused by insufficient technological resources.
- Municipalities to develop targeted capacity-building initiatives and investments in digital infrastructure. These initiatives are essential to ensure broader, more equitable access to e-participation platforms, ultimately fostering more inclusive and effective governance. It is clear that the past two decades of experience have shown the critical importance of linking e-participation initiatives with formal institutional processes (i.e., the institutionalisation of e-participation and reform legislation to accommodate e-participation) for people to see that participation has an impact.
- The municipalities should ensure that citizens' data, especially personal data, is secured with limited access to only authorised municipal officials. This initiative will promote trust between the municipality and the citizens. Furthermore, it is recommended that the municipalities practise the conditions of the POPIA Act during their online meetings by asking for consent from participants when recording the meetings.
- To ensure the language barrier is in e-participation for the IDP process, municipalities should translate e-participation platforms (including invitation pamphlets) into local languages, ensuring effective public engagement. Thus, e-participation should specifically tackle accessibility and digital literacy issues for citizens with special needs, disabilities, women, other previously marginalized groups, and varying language preferences within the municipality.

Lastly, it is recommended that the municipalities promote effective e-participation by adopting the model proposed in this study. Different factors proposed in the model can be considered to influence the viability of e-participation in the IDP process.

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