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# Enhancing Local Government Efficiency: An Examination of E-government in Nelson Mandela Bay, South Africa

Gcina Mtengwane[1*] and Linda Mshumpela[2]

[1]Centre for Gender and Africa Studies, Faculty of Humanities, University of the Free State, QwaQwa Campus, South Africa. E-mail: MtengwaneG@ufs.ac.za

[2]Graduate School of Business Leadership, University of South Africa, South Africa. E-mail: lindamahambehlala@gmail.com

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## Abstract

Local government is responsible for the direct provision of services to citizens. The acceptance and use of digital technologies catalyses service delivery. The study aimed to examine the perceptions of employees in the Nelson Mandela Metropolitan Municipality on the role of E-government in enhancing local government efficiency. Interviews were conducted with a sample of 12 participants employed at the customer service unit ranging from senior managers to non-managers. The findings reveal that there is a limited understanding of digital technologies. The study found that opportunities for new learning pathways; timeliness, accuracy and enhanced productivity; precision and elimination of human error and effective presentation and preservation of data were ways in which e-government enhances local government efficiency. The study thus recommends ICT skills development and training, investment in expansion of internet access to citizens, the development and adoption of Apps with the end-user needs in mind, upgrading of cyber security and maximisation of digital technology as cost-effective communication tools.

***Keywords:*** *Digital transformation, benefits, local government, service delivery, Nelson Mandela Bay Municipality*



## 1. Introduction

Technological advancements due to the 4th industrial revolution have been argued to be a key factor at the center of the introduction of digital technologies at the workplace (Vial, 2019). International, national, provincial and local institutions have had to carry the burden of adapting to these changes. Digital transformation has many facets. This is because of debates that exist in what it means and should mean, especially for the public sector. It is thus that there is no consensus on the definition of what it is and what it is not. Digital transformation is not limited to the technical process of converting analog values into digital formats (Cameron and McLaverty,

* *Corresponding author: Gcina Mtengwane, Centre for Gender and Africa Studies, Faculty of Humanities, University of the Free State, QwaQwa Campus, South Africa. E-mail: MtengwaneG@ufs.ac.za*

2018). Digitalization or digital transformation are the terms used to describe all changes that are triggered by these technical processes, for example in industrial production (Ebert and Duarte, 2020). Moreover, the term "digital transformation" refers to the changes that digital technology may bring about in a company/ government's business model, such as changing products or organizational structures or process automation. These shifts can be seen in the growing demand for Internet-based media, which has resulted in the transformation of whole business structures (Khambule, 2022).

Rudd (2019) wrote on the potential benefits of digital transformation for the public sector. He posits that the efficiency of the public sector could be greatly enhanced by digital transformation as it is required to meet the needs of citizens at a smaller cost (Rudd, 2019). Digitalization also affects how local communities interact with the public sector through digital channels accessible that are desirably available at any time of the day or night. It is thus that digitalization of the public sector can have the benefit of changing a public service provision business model, provide new revenue and value-producing opportunities (Mekonnen, 2020).

Various publications address the benefits of digitalization from well-known traditional businesses that chose to adopt the use of Information Technology (IT) to radically change the way they do their businesses (Rudd, 2019). The findings of these studies reveal that success from digital transformation endeavor is realized when private and public organizations manage to make necessary adjustments to their business and IT strategies, organizational structure as well as their processes (Cameron and McLaverty, 2018).

Recently, public organizations found themselves under pressure from political leaders and citizens to digitally transform the provision of their services (Cheril, 2016). With digital transformation, there develops new power in relationships between public and private sector, and between the public sector and citizens. It is thus inevitable that new forms of governance emerge with consequences for how citizenship is understood and exercised with new technology-mediated processes supporting change processes (Biljohn and Lues, 2019). Mekonnen (2020) argues that for the most part, digital transformation efforts in the public sector often focus on the improvement of front-end services. This is done with a view to improve the interaction between citizens / businesses and public sector organizations like local government.

According to Bousdekis and Kardaras (2020), digital transformation in the public sector entails new methods of collaborating with stakeholders, developing new service delivery frameworks, and establishing new types of partnerships. The local sphere of government thus has the responsibility to adapt its methods of collaboration, delivery of new services, and establishment of new partnerships to the changes imposed by the transition into modern technologies. Because local government is closest to community members, it bears the bulk of service delivery responsibility. Though municipalities have daily direct contact to citizens, the adoption of digital technologies is quite slow (Khambule and Mtapuri, 2018).

At an international level, digital transformation is more than an aspiration. It is a lived experience in both the private and public sectors. To evidence this, Alvarenga *et al.* (2020) comment that it is necessary to digitize the public service beyond the frontline of service. For instance, in Asia, digital transformation has become one of the most urgent government priorities (Alvarenga *et al.*, 2020). Another study done in Portugal revealed that there is a deficiency of studies relating digital government to knowledge management effectiveness in the public sector (Da Rosa, 2018). The results of a further study done in Ghana show that the success of digital government ought to be related with the quality of the organizations' knowledge management, complementing each other for significant improvements in the public sector in relation to the delivery of public services to citizens (Adu, 2018).

It is thus crucial that that more studies are done in the African continent, particularly, South Africa to contribute and stimulate data-driven discussions regarding the impacts of the digital transformation in the public sector (Cicchiello, 2020). Literature in the South African context suggests that the private sector has made far better advances in terms of its digital transformation endeavours compared to the public sector (Pittaway and Montazemi, 2019). These findings are against the backdrop of the public sector being endowed with the responsibility to supply a myriad of services to the public. Biljohan and Lues (2019) postulates that public provision of goods and services can have positive spinoffs for private investment thus leading greater employment opportunities, investment, and economic growth at the local sphere of government. This observation positions acceleration of digital transformation in South Africa's public sector as a central objective of local governments.

## 2. Problem Statement

South Africa has the national, provincial, and local levels of government (Muller, 2018). Local government is "the sphere of government closest to the people" (Kreuser and Slade, 2021). It is thus tasked with the responsibility of directly providing services to citizens. Evidence from Europe and Asia suggests that digital transformation is one of the fundamental ways in which local governments can provide accelerated and cost-effective public services to citizens (Cheril, 2016; Rudd, 2019; Mekonnen, 2020). Though in South Africa and elsewhere, digital transformation has been evidenced to have benefits for accelerated and cost-effective service provision, there is a scarcity of studies on the perceptions of the officials that will be at the front-end of using digital technologies to render public services at the local government level.

The inherent consequence of this scarcity of studies is a lack of insights into the narratives of those who will be at the front-line of using digital technologies to provide public services at the local sphere of government. Research studies underscore the importance of a public workforce that is both knowledgeable and possesses the skills, attitudes, and knowledge to work with digital technologies (Bousdekis and Kadaras, 2020; Vial, 2019; Muller, 2018). The research problem to be addressed in this study is the dearth of studies in South Africa that explore the perceptions of local government officials on digital transformation in the local sphere of government. Moreover, there is little systematic empirical evidence about the extent to which public officials understand digital transformation in their day-to-day practices, how they are approaching digital transformation projects, and what the expected outcomes are (Bousdekis and Kadaras, 2020; Vial, 2019; Muller, 2018).

## 3. Literature/Theoretical Underpinning

### *3.1. Conceptualizing Digital Transformation*

Digital transformation is a term dubbed to have many facets. It is thus that there is no consensus on the definition of what it is and what it is not. It is argued that digital transformation is not limited to the technical process of converting analogue values into digital formats (Cameron and McLaverty, 2018). Digitalization or digital transformation are the terms used to describe all changes that are triggered by these technical processes, for example in industrial production (Ebert and Duarte, 2020). Moreover, the term "digital transformation" refers to the changes that digital technology may bring about in a company's business model, such as changing products or organizational structures or process automation. These shifts can be seen in the growing demand for Internet-based media, which has resulted in the transformation of whole business structures (Khambule, 2022).

On the benefits of digital transformation, studies highlight enhanced wellbeing; more effective data collection, use, and sharing; improved market intelligence; faster and more successful innovation; new opportunities for complementary investment; creation of value for small businesses and sustained protection against digital disruption (Vial, 2019). In the public sector, digital transformation entails new techniques of collaborating with stakeholders, developing new service delivery mechanisms, and building strong types of partnerships (Panagiotopoulos *et al.*, 2019).

A study by Twizeyimana and Andserson (2019) suggests that there is no systematic empirical information concerning how public administrations define digital transformation in their daily activities, how they approach digital transformation initiatives, and what the expected consequences are. In the literature, terminology like digitization, digitalization, and digital transformation are used interchangeably. This demonstrates a strong impetus for further research into digital transformation in government (Damascene and Andersson, 2019).

### *3.2. Digital Transformation and E-governance*

Electronic governance or e-governanmce can be defined as the usage of Information and Communication Technology (ICT) by the government to provide and facilitate government services, exchange of information, communication transactions, and integration of various standalone systems and services (Manoharan and Ingrams, 2018). Over the past two decades, governments have used Information and Communication Technologies (ICTs) to integrate their internal functions and improve their delivery of services (Maleka, 2016).

E-Government is a complex phenomenon and is composed of various dimensions such as e-information, e-transaction, and e-participation (Manoharan and Ingrams, 2018). The concept and practice of e-government have also been defined using various terms such as digital government, online government, and nowadays with advanced terminologies such as mobile government, ubiquitous government, and smart government (Blom and Uwizeyimana, 2020).

E-Governance is the mechanism of transforming the way government operates, engages with citizens, and provides services to citizens (Uwizeyimana, 2015). E-Governance comprises e-Democracy, e-Service, and e-Citizen to empower citizens to take part in policy decisions. E-Governance effectively provides people with online tools for accessing government resources and information (Schwab, 2017). Providing services electronically is called e-Service. The ability to provide e-Services to the citizens is particularly important in rural areas of developing countries such as South Africa because that is where most poor people live. People in rural areas of developing countries are facing many challenges, such as a lack of transport infrastructure, which make it difficult and expensive to travel to government offices because they are located far from the villages where most of the citizens live (Uwizeyimana, 2015)

### 3.3. Critical Success Factors for Digital Transformation in the Public Sector

Mergel *et al.* (2019) argues that governments are under pressure to adopt digital technologies because of pressure from non-government organizations who have made greater progress in their migration to digital technologies. Furthermore, the study revealed that because of supranational agreements, such as the Tallinn Declaration on eGovernment, governments are changing their mode of operation in order to improve service delivery, be more efficient and effective in their designs, and achieve objectives such as increased transparency, interoperability, and citizen satisfaction (Mergel *et al.*, 2019).

A recent analysis of the existing e-government literature by Meijer and Bekkers (2015) shows that the focus on the use of technology in public administration and e-government helps to explain what e-government is, analysing entire systems and on incremental change in terms of "objective knowledge" or "indicators". However, what is missing according to the authors is an understanding of the social constructions, the behaviour, attitudes and cognition of individual actors or transformational change. They clearly state that research should consider "explaining how individuals transform government." or "how new technologies transform our social construction of government?" to better understand how individual behaviours impact the system they are part of, how they impact change, and how individual interests, values, positions, local and institutional contexts are linked to developments and changes in public administration. We, therefore, need to set out to understand the digital transformation from a whole organization perspective. This includes the notion that IT is not the means to support change, rather, processes, people, policies, and especially leadership need to be fundamentally changed to accomplish digital transformation in the public sector (Meijer and Bekkers, 2015).

### 3.4. Challenges of E-government in South Africa

There are still significant barriers to implementing successful e-government in Africa. In many places of Africa, South Africa's ICT infrastructure is undeveloped or underdeveloped (Batara *et al.*, 2017). African nations lack the resources and methods required to address objectives such as cybersecurity, privacy protection, power supply (electrification), Internet access and connection, interoperability and collaboration technologies, and data infrastructures (United Nations, 2020). Despite more than three decades of technical progress, the African continent remains behind other regions in terms of ICT infrastructure, access, use, and skills (Mpinganjira, 2012)**.**

Mawela *et al.* (2017) conducted a study to understand the challenges municipalities had in their E-government endeavours. The study revealed that there has been a sharp and rapid increase in investment in ICT by large organizations including local governments. They attribute this to growth in the population creating a heightened need for service delivery.

A study by Blom and Uwizeyimana (2020) sought to evaluate the performance of e-Government and e-Governance services in South Africa during the national shutdown. The study focused on the delivery of e-Health, e-Education, and e-Municipal Services, as they are the most in-demand e-Services during the national

lockdown caused by the COVID-19 (coronavirus) pandemic in 2020. According to the conclusions of the study, the government failed to realize its goal of constructing an inclusive Information and Communication Technologies (ICTs) infrastructure in South Africa. Despite the government's efforts to offer free access to basic e-Services, network coverage, and ICT infrastructure, poverty and inequality remain key concerns in rural regions (Blom and Uwizeyimana, 2020).

## 4. Theoretical Framework

The study is anchored in the technology acceptance model. TAM has its foundations in the works of Davis (1989). It has since been adapted and altered as a framework to explain end-user experiences of new digital technologies (Ma and Liu, 2004). Davis's (1986) Technology Acceptance Model (TAM) is one of the most extensively utilized models to describe user acceptance behaviour. This model is based on broad social psychology theory and the Theory of Reasoned Action (TRA) in particular. According to TRA, beliefs drive attitudes, which lead to intentions and, as a result, generate behaviour (Davis, 1989).

This model will be very imperative in augmenting the end-user perceptions of their acceptance, or lack thereof of digital technologies

### *4.1. The Technology Acceptance Model (TAM) Source (Davis, 1989)*

Proponents of TAM suggest that perceived utility and perceived simplicity of use of a system will validate an individual's intention to use that system. Put differently, when someone establishes a performance objective, they will be free to implement it without constraint. Although certain constraints, such as limited competence, time, environmental or organizational constraints, and unconscious tendencies, will restrict the freedom to act (Granic and Marangunic, 2019). This model states that when users are given a new software package, perceived usefulness and perceived ease of utilize will influence their decisions about how and when they will use the new product (Ahmad, 2018).

## 5. Methodology

### *5.1. Geographic Location*

The study was conducted in Nelson Mandela Metropolitan Municipality located in the Eastern Cape Province of South Africa. Nelson Mandela Bay Municipality is one South Africa's eight metropolitan municipalities in South Africa (South African Government, 2022).

### *5.2. Research Paradigm, Design and Methods and Data Analysis*

The study adopts the interpretive paradigm. A case study design was used in the study sample and sampling procedures. The study was conducted qualitatively with a sample of 12 purposefully selected municipal officials in the Nelson Mandela Bay Municipality. Semi-structured in-depth interviews will also be used to gather data. The interview consisted of semi-structured, open-ended questions. The semi-structured interview is an interview that consists of a few key questions that directly address the focus area and allow for follow-up questions, to enable the researcher to get more in-depth knowledge of the question or idea. Thematic analysis was used to analyze the data. Analysing qualitative data using thematic analysis involves identifying patterns in the data to uncover underlying themes.

### *5.3. Demographic Profile of Participants*

To offer context for understanding the participant's responses, Table 2 provides their demographic profile of the participants. Considered in the demographic profile is characteristics that include gender, age, race, employment position level at the municipality, type of community.

Eight females and four male formed part of the study participants. Seven of the participants were in the category defined in South Africa as youth. South Africa defines youth as persons between age 15 to 34 years (van Breda and Theron, 2018). For this study, youth will be described as persons between 18 and 34 who are undergoing the transition between social and economic dependence to social and economic independence. Five of the participants were in a category of persons between 35 and above. These are persons considered as

**Table 1: Demographic Profile of the Participants**

| Variable | | Number | Percentage |
|---|---|---|---|
| Gender | Males | 4 | 58 |
| | Females | 8 | 42 |
| Age cohort | 18–35 | 7 | 75 |
| | 35 and above | 5 | 25 |
| Average | 18–35 | 27 | |
| | 35 and above | 43 | |
| Race | Black African<br>Coloured<br>White<br>Indian | 5<br>4<br>2<br>1 | 58<br>42<br>2 |
| Employment position level | Senior managers | 3 | 25 |
| | Managers | 4 | 33 |
| | Non-managers | 5 | 42 |
| Community type worked in | Rural | 2 | 58 |
| | Urban | 10 | 42 |
| Sample size = 12 | | | |

adults outside the category of youth. The average age for the cohort between age 18 and 35 was 27 and the average age between those in the 35 and above cohort was 43.

From a race perspective, the sample consisted of 5 black Africans, 4 coloured, 2 white and one Indian. There is a demonstration of a multi-racial work team in the Nelson Mandela Bay Municipality. Multiracialism can be described as the existence of people from different races, occupying the same space and being an effective unit based on tolerance of differences (Berg and Allen, 2020). Furthermore, Sullivan and Ghara (2014) content that the benefits of a multiracial workforce include more respect and tolerance for different racial identities; improved second and third language skills; better service to customers and clients and exposure to Different Cultures and Traditions. Three of the participants were senior and middle managers, 4 were junior managers and 4 were in non-managerial positions. Two of the participants worked in a rural setting and 10 worked in an urban setting.

## 6. Results/Findings

The participants were asked a series of questions with a view to exploring their perceptions on the benefits of digital transformation in their daily encounters with delivering and rendering services to citizens. This is for the purposes of getting some indication of what the benefits of digital technology are with a particular focus on the local sphere of government. Themes that emerged from the study include new learning opportunities, effective presentation and storage of information and quickness, effectiveness, and efficiency.

### *6.1. Opportunities for New Learning Pathways*

On the benefits of digital transformation, the participants highlighted that having to use digital technologies in their everyday work environment exposes them to new learning opportunities and for them to do well at work and outside it is important to keep a constantly positive attitude towards learning new things. As expected, the younger cohort has an easier time learning modern technologies than the older. Many studies, including that of Curtis (2019) indicate that the older generations have a harder time learning, adapting to and using modern technologies compared to the younger ones. To that effect, the following narratives were shared by the participants:

*Computers, laptops, and the municipal help us a lot in that they offer up skilling opportunities. For that reason, the department offers training in several courses that help us learn how to use them (Participant 8, male 34, years old).*

*The good thing about modern technology they require new skills for which training must be taken. It is always good being a certified user in modern technologies (Participant 7 male,37 years old).*

Digital technologies are rapidly spreading over the African continent. South Africa can be argued to be far ahead of other African countries in the transformation of government service from manual and analogue to the digital era (Osah and Pade-Khene, 2020). According to widely recognized data on adoption rates, digital technologies are permeating every aspect of life in African cultures (Ndemo and Weiss, 2017). This creates a great need for those in the forefront of proving services to citizens to become equipped with the necessary skills and competencies to successfully do so. The participants demonstrated great enthusiasm towards the possibilities that are availed by digital transformation of municipal services.

### *6.2. Timeliness, Accuracy and Enhanced Productivity*

The study found that digital technologies such as laptops, computers, tablets, Apps and the internet help the participants do more work with less effort and with the use of as few resources as possible (Hooijberg and Watkins, 2022). Though there were challenges with the older cohort of participants in adapting to these new technologies, there was consensus that they do indeed expedite work activity and get services rendered with efficiency. The following narratives were shared by the participants.

*These are devices that are faster to get a message across (Participant 3, female, 36 years old).*

*Email has no paper trail. Everything is digital so there is less heavy paperwork filling up my workspace. I can go through hundreds of work files just by clicking a few buttons (Participant 8, female, 40 years old).*

*Computers simplify work than the manual way of doing things. If things were done manually, it would take longer. Phones, laptops, and computers help us serve customers more effectively (Participant 12, male, 29 years old).*

*Using computers with pugged in headsets helps us attend to customers better and to hear them easier at the call centre (Participant 6, female, 37 years old).*

These narratives indicate that digital technologies are understood in relation to their utility. In other words, they are understood as being useful instruments in the delivery of services to citizens of the NMBM. Communication with customers is the main impetus behind the appreciation for digital technological devices and services. The older participants are able to use the different technologies, however they are slower in learnings these than the younger participants. Nonetheless, these digital technologies remain viewed as important vehicles through which to communicate and deliver a multiplicity of services to citizens.

*These machines are very good because now there is no need for customers to come here physically. They can pay their electricity, water, fines, and other bills online because of these digital tools (Participant 8, male, 34 years old).*

*I am now able to find time to do other things like spending time with my family instead of having to worry about the many customers I have to see. This helps me to balance my life and things that are not related work (Participant 4, male, 49 years old).*

The knowledge and understanding of the value of time is of vital importance to all human beings, as they are also social beings with commitments and responsibilities other than work. Nambisan (2017) points out that a psychosocially balanced human being is one of substantial knowledge, creativity, tact and expertise in maximising on the value of time (DeBeer, 2018). Verina and Titko's (2019) model for digital transformation identifies one of the key outcomes / results if digital transformation is faster and more successful innovation. This came out in the study as participants indicated that digital technologies play a hand in enhancing how they use time more efficiently and handle business related affairs faster.

The concern around queing and the time lost in queuing for services came up often. This is indicative that the traditional manual system is outdated and therefore a transition into the adoption of digital technologies could benefit both government employees and customers.

The study further revealed the benefits of digital tools for marketing and advertising. The phenomenon on the quote above is what is known as digital communication. From a historical outlook, the move towards digital communication was viewed as the transition from traditional practices to digital services to increase efficiency and effectiveness of government communication services (Mergel *et al.*, 2018). Regarding government communication, the transition to digital communication technologies is thus an endeavour aiming to redesign and reengineer government communication from the ground up to fulfil changing user needs (Mergel *et al.*, 2018).

### *6.3. Precision and Human Error Elimination*

Because digital technologies are programmed to work in a manner that is pre-planned and programmed, the risk of making costly mistakes is mitigated. To that effect, the participants gave the following selected narratives:

> *People will always make mistakes. They make count money incorrectly, forget to write down bills, and neglect to keep records of transactions. However, when things are done digitally, there is no chance of anything going missing without a grace, especially my hard-earned money (Participant 3, female, 36 years old).*

To the effect of limiting human error, Dutta and Crossan (2005) contend that digital processes stop errors by eliminating time-consuming manual data entry and human inefficiencies. Digital processes are inherently smoother and less risky than any process that involves error-prone humans (Duan *et al.*, 2002). There was also a view that digital transformation also has benefits for the future of the business and its operations. To that effect, digital transformation is the initial act that sets the stage for all subsequent business growth (Afolayan and de la Harpe, 2020).

Some of the risks associated with human error in business include loss of income and thus loss of profits (Proctor and Van Zandt, 2017). This can lead to the failure and an ultimate collapse of informal businesses.

### *6.4. Effective Presentation and Storage of Information*

The presentation and storage of information emerged as an important benefit of digital transformation. The participants postulated that before the adoption of digital storage devices and applications, they had to rely on paper-based files and that took up a lot of time and effort to store, present and use information. The participants shared the following narratives:

> *Files were a problem. Sometimes the files would go missing and we would struggle to find customer files. Now with the click of a button, you can easily find, use and store information (Participant 3 male, 29 years old).*

> *With these digital devices we can find both old and current information on clients and their issues. It is easier to intervene and advise the customers when you have a record of their files (Participant 7 male, 37 years old).*

Computer data storage is a technique that uses computer components and recording media to store digital data (Tajeddine *et al.*, 2018). It is an essential function and component of computers. A computer's central processor unit manipulates data by conducting computations. Among the central benefits of digital data storage in the literature is that it allows data to be stored with greater security. This came up among the participants as there was a shared view that it is possible to store confidential data by putting it on password protect. In that way, no one without the relevant security pin can access the file. This is contrary to the manual system wherein files are put into a room to which anyone has access. Another benefit identified is that it allows for the to be simpler document management.

## 7. Discussion

According to Gordon and Walter (2019), "the internet of things" will turn governments into efficient and productive machines, allowing for broader reach in terms of faster services. To elaborate, it is assumed that the desire to digitally alter modern-day cities is a logical proposal in which technical efficiency is the fundamental measure of success (Ndemo and Weiss, 2017). Furthermore, it stated that 'meaningful inefficiencies' are required for smart cities. When there is place for play in the systems with which we engage, individuals can forge connections, build trust, care for one another, and create shared meaning, all of which set the groundwork for resilient communities (Curtis, 2019). Digital technologies are rapidly spreading over the African continent.

South Africa can be argued to be far ahead of other African countries in the transformation of government service from manual and analogue to the digital era (Osah and Pade-Khene, 2020). According to widely recognized data on adoption rates, digital technologies are permeating every aspect of life in African cultures (Ndemo and Weiss, 2017). This creates a great need for those in the forefront of proving services to citizens to become equipped with the necessary skills and competencies to successfully do so. The participants demonstrated great enthusiasm towards the possibilities that are availed by digital transformation of municipal services.

The findings indicated that digital technologies save time. This is because the participants appear to believe that it takes away the need to go and queue at the NMBM offices to access services, raise queries and communicate with their municipality. Furthermore, it was discovered that there is a view that technology allows space and time to do things more efficiently and effectively. Moreover, the study revealed that digital technologies are used by some participants viewed to be beneficial for the purposes of record keeping. It was argued that it is easily and simple to for instance trace a bank transection than to remember who gave you whatever amount of money at a particular date and time.

The descriptions by the participants indicate some knowledge but it is inadequate knowledge about digital transformation in the grand scheme of things especially in relation to small government, and by extension service delivery. Telukdarie *et al.* (2022) views digital transformation as the process of using digital technologies including computers and the internet to generate new—or modify existing—business processes, culture, and customer capabilities to meet changing business and market requirements.

The findings suggest a divergence from the benefits of digital transformation that are included in the above definition. There is also a demonstration of a narrow understanding of digital transformation. Digital transformation is poorly understood in relation to its relevance and benefit for local government. In other words, one can argue that digital transformation is viewed by a large section of the sample as an alien concept to their daily practices.

Though digital transformation is not limited to digital devices such as tables, applications or apps can be installed in these devices or citizens themselves can register on online Apps to do self-services as far as municipal accounts are concerned.

At an international level, digital communication is more than an aspiration. It is a lived experience at both the private and public sector. To evidence this, Alvarenga *et al.* (2020) comment that it is necessary to digitize the public service beyond the frontline of service. For instance, in Asia, digital communication has become one of the most urgent government priorities (Alvarenga *et al.*, 2020). Another study done in Portugal revealed that there is a deficiency of studies relating digital government to knowledge management effectiveness in the public sector (Da Rosa, 2018). The results of a further study done in Ghana show that the success of digital government ought to be related to the quality of the organizations' knowledge management, complementing each other for significant improvements in the public sector concerning the delivery of public services to citizens (Adu, 2018).

A large magnitude of the data indicates that participants are not necessarily against the use of digital technologies. They just do not possess the necessary knowledge and skills to integrate them into their business operations. Technology acceptance and use stems from s level of knowledge and understanding about the technologies to be adopted Kane (2019). Duan *et al.* (2002) comment that one of these challenges is the demand for ICTs skills and expertise in adopting and implementing these emerging digital technologies (Duan *et al.*, 2002). Lehner and Sundby (2018) found that lack of ICTs skills and knowledge is more evident among the elderly. This was evident in the findings of this study as some of the businesses the older cohort of participants demonstrated greater difficulty compared to their younger counterparts. For effective service delivery and efficiency, skills and abilities to handle IT systems are an indispensable asset and success factor (Suhartanto and Leo, 2018).

A general definition of communication is that it is a transfer of messages from sender to receiver. If the message is not understood by the receiver, then the communication is impaired. That is the case when users of digital tools do not understand the communication that comes out of the digital tools. Buaaqoub (2019) posits that language is one of the most significant barriers to communication. It is further postulated that the use of

one language over others is exclusionary in that it excludes those who do not speak or understand the language used (Ikiseh, 2020).

## 8. Implication to Practice and Research

The study put forward the following recommendations. The recommendations focus on what can be done by the NMBM management, practitioners and researchers on digital transformation in the local government fraternity.

- Training on digital technologies should be offered to NMBM community service staff to expand in their ICT skills. The NMBM human resources unit can spearhead this, with the support training agencies such as colleges and universities. The needs of the employees are not homogenous. The training should be clustered in accordance with a set criterion that includes the level of knowledge on digital transformation, age, and ICT literacy levels.
- To close the digital divide, there must be greater investment in internet connectivity and access to rural areas. There must also be greater expansion of opportunities for the older employees to benefit from the vast spectrum of digital tools.
- ICT developers must develop technologies with the needs of the end-user in mind. Digital technologies must be developed with the end-user in mind. This means that the technologies produced should be accommodative to the language and culture of the user.
- To address the fear of fraud and technology mistrust, digital technologies must be developed with enhanced security features. The NMBM also need to exercise greater caution with their security passcodes and pins. The NMBM employees must consistently update their knowledge on cyber-safety.
- The NMBM must maximise on the communication technology available to them. They must use the internet to its full potential in attracting, keeping, and communicating with new, old and a potential customer.

## 9. Conclusion

This study underscores the transformative potential of e-government in supporting efficiency at the local government level. The findings indicate that the understanding of digital technology among the participants that it is mainly the computerising of work tasks. This means that digital technology was the inclusion of computer technology in the operations and service provision at NMBM. There was a view that some of these computerised technologies (digital technologies) are more difficult to use than others. There appeared to be consensus that digital technologies are an accelerated communication tool. The study identified new learning opportunities; timeliness, accuracy and enhancement of productivity; precision and elimination of human error as well as effective presentation and storage of the data as ways in which e-government enhances local government efficiency.

## 10. Future Research

This research was conducted on small scale. The sample was very small. The study recommends a larger scale study on digital transformation in local government. Additionally, the study was cross-sectional in nature. It was done at a single point in time. The researcher recommends a longitudinal study where all the variables can considered over a lengthened period of time. It would also be interesting to study the extent to which the recommendations of this study would help the employees of the community services unit of the NMBM in their digital transformation endeavours.

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