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Using a Public Value Management theory to identify features of citizen-centric e-governance in Namibia

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Background: The utilisation of e-government by citizens in Africa remains limited due to resource constraints and various socioeconomic challenges. Nevertheless, Namibia, for example, has shown a strong interest in adopting and implementing e-government, as evidenced by the periodic release of policy frameworks encouraging this use.

Objectives: The aim of this research was to comprehend the expectations of Namibian citizens regarding e-government. Specifically, the study focused on identifying the key components of a citizen-centric e-government framework. A citizen-centered e-government can generate value for citizens according to Public Value Management.

Method: A mixed methodology (qualitative and quantitative) was used to gather data. Namibian government officials were engaged through interviews while a questionnaire survey was used to collect data from citizens. Exactly 196 respondents took part in the study.

Results: The findings show that citizen-centric e-government could be attained by using information and communication technologies (ICTs) in meeting socially desirable outcomes, enhancing the efficiency of public organisations and the delivery of public services.

Conclusion: Governments need to embrace citizen-centric e-government and avail a supportive infrastructure to improve adoption. Citizens need to see the opportunity of deriving value from e-government use for early adoption.

Contribution: This study extends the public value theory to e-government. The study found minor differences or additions in terms of what participants value in this context. For instance, participants in this study value a complete e-service for e-government, efficiency that saves time and money, openness that promotes data government, and a need for funding for such projects.

Keywords: e-government; information and communication technologies; ICTs; public value management theory; citizen-centric; e-services.

Introduction

The adoption and use of electronic government (e-government) by citizens remains a challenge for African governments (Froehlich, Ringas & Wilson 2020; Verkijika & De Wet 2018). Failure to meet the expectations of citizens is one of the reasons why e-government adoption is low (Verkijika & De Wet 2018). Interestingly, little effort has been made to understand the needs of citizens from e-government (Friedland & Gross 2010; Jaeger & Bertot 2010; Karunasena, Deng & Singh 2011; Mellouli, Bouaziz & Bentahar 2020; Vincent, Dombeu & Rannyai 2014). Instead, governments appear to be pushing e-government ideas to citizens without considering if such ideas would generate value for their citizens (Karkin & Janssen 2014; Sigwejo & Pather 2016). Citizens are the most important e-government stakeholder as they determine its success (Jaeger & Bertot 2010; Sorn-in, Taumsuk & Chaopanon 2015). To address this problem, this study uses the Public Value Management (PVM) theory proposed by Moore (1994) to establish features of a citizen-centric e-government. The study aims to address the following research question.

What are the characteristics of e-government that promotes public value creation?

Public sector shareholders are unique and their needs are often driven from the collective demands of citizens – something that makes the PVM suitable for this study (Karkin & Janssen 2014; Moore 1994). Findings from this study can contribute towards the formulation of e-government policy. Dias (2020) notes that e-government policy is one of the stepping stones towards successful

implementation even for middle-income countries such as Namibia.

The following section presents a literature review where the study's theoretical constructs are presented. The study goes on to present the research methodology used followed by study's findings and a presentation of a citizen-centric e-government model.

Literature review

E-government in Africa

The literature shows that governments are finding it difficult to promote e-government adoption and use by the citizens (Verkijika & De Wet 2018). This is arguably down to a misalignment between the interests of the citizens and those of the governments something that Nkomo and Moyane (2021) arguably perceived as 'grassroots' e-government. Besides, most e-government initiatives are still at an infancy stage as reflected by dominant research that is focused on navigating e-government challenges (Vincent, Dombeu & Rannyai 2014):

> A digital divide among the people, poorly offered e-Government services, and availability and access to the technology by the people are some of the critical issues faced with e-Government projects. (Joshi & Islam 2018:1)

The United Nations (2014) shows that most African countries are yet to adopt an e-government that can transact electronic services. In addition, African countries' e-governments are yet to be networked to reflect a 'one-stop shop' – something that is common in Europe. However, some of the African countries, including Namibia, have shown a commitment towards e-government with the development of an e-government roadmap (Verkijika & De Wet 2018). Nonetheless, e-government developments on the ground do not appear to complement propositions in these policy frameworks. In terms of e-services, the top eight countries that have adopted e-service in e-government include South Africa, Uganda, Rwanda, Mauritius, Kenya, Tanzania, Senegal and Lesotho (Verkijika & De Wet 2018). Overly, Africa remains as a low adopter of e-government according to the e-government Development Index proposed by the United Nations (2016) and as reported by Froehlich et al. (2020). African countries were the major contributor (81.2%) of all the countries that were rated low in terms of e-government development (Froehlich et al. 2020; United Nations 2016).

The Public Value Management theory

Moore is credited for introducing the public value concept in 1994 (Cordella & Bonina 2012; Karunasena, Deng & Singh 2011; Karunasena, Deng & Singh 2012). What constitutes 'public value' is context-driven; as such, it changes from one context to another – something that complicates universally defining PVM (Cordella & Bonina 2012; Karunasena, Deng & Singh 2011). Cordella and Bonina (2012) made an effort to define public value using a statement that was made by the then United States President Barrack Obama on his inauguration:

> 'The question we ask today is not whether our government is too big or too small, but whether it works, whether it helps families find jobs at a decent wage, care they can afford, a retirement that is dignified.'

These views appear to be in synch with Gupta and Suri's (2017) perception that public value is the value that is created for the citizens as the government performs its roles of creating opportunities. On the other hand, Sufna and Fernand (2015) appear to perceive public value as the ability of the government to efficiently deliver services, among others, to citizens. This study assumes all these definitions and focuses on the delivery of service (that is of value) to citizens with efficacy. It should be observed that the public value concept proposes that governments operate completely different from private companies – something that is assumed by the New Public Management (NPM) theory. Instead, the public value paradigm focuses on understanding the roles of the state, public managers and citizens in a society when creating something that is of value (Cordella & Bonina 2012). Thus, citizens derive value from consuming public services (Karunasena, Deng & Singh 2011) where the use of information and communication technologies (ICTs) is expected to help the state create and deliver something of value to the citizens. This is in stark contrast to expectations of ICT use under the NPM and joined-up governmental theories where technologies are used with a primary view of helping the state to earn economic gains, a perception that is driven from the way technology is conceived in the private sector.

Putting all this together, according to the PVM theory, citizens decide what they value through elections, and public managers are tasked with the roles of delivering citizen's expectations (Cordella & Bonina 2012). Here, public goods creation and the way they are consumed by citizens are different from traditional customer behaviour where focus is on individual gains rather than advancing societal visions, goals and aspirations (Soe, Sarv & Gasco-Hernandez 2022). Subjects of interest from a public value point of view arguably promote fairness, equity and equality that cannot be measured and realised using economic models (Cordella & Bonina 2012). Hence, ICTs are seen as enablers of public value creation, not tools for benefiting the government economically. The use of ICTs or e-government for economic benefit will promote inequality among citizens (Cordella & Bonina 2012), but using e-government from a public value perspective will enable the delivery of a solution that is inclusive where views and contextual factors around the public managers, government and citizens are valued (Cordella & Bonina 2012; Jaeger & Bertot 2010; Ochara 2008).

Extending the Public Value Management to e-government

The PVM is specifically for the public sector (Moore 1994), and its use in understanding the value of e-government to citizens has been growing of late (Deng & Karunasena 2018; Twizeyimana & Andersson 2019). This study extends the PVM towards understanding features of a citizen-centric e-government. Less than 50% of sub-Saharan African countries'

e-government scored less than 50% in terms of e-service provision, and there is no agreed approach to solving this low e-government adoption (Dias 2020; Verkijika & De Wet 2018). Hence, understanding features of a citizen-centric e-government using the PVM theory may provide an alternative solution to this challenge. This study is guided by a framework for evaluating public value in e-government that was proposed by Karunasena, Deng and Singh (2011). Besides evaluating citizen-centric e-government, this framework also proposes features of a citizen-centric e-government. The framework was evaluated in Sri Lanka: a developing country that is faced with e-government challenges that are comparable to those of Namibia. Karunasena, Deng and Singh (2011) and Deng and Karunasena (2018) proposed that e-government can be used to create public value by using it to enable the following:

• deliver public services (DPS)
• promote the efficiency of public organisations (EPO)
• assist in the achievement of socially desirable outcomes (ASO).

The aforementioned areas for creating public value are also confirmed by a literature review that was conducted by Twizeyimana and Andersson (2019). With respect to DPS, it can be realised by focusing on the quality of information that is disseminated to citizens, e-services and user orientation of e-government (Deng & Karunasena 2018; Twizeyimana & Andersson 2019). For instance, the quality of information attribute suggests that Namibian citizens expect to find e-government platforms with information that is accurate, timely disseminated, relevant and simple to understand (Deng & Karunasena 2018; Karunasena, Deng & Singh 2011). Furthermore, a citizen-centric e-government is expected to facilitate e-services. Lastly, citizen-centric e-government should be user-orientated in terms of its usability, easy to remember, user-friendly sites, common look and feel websites, and the existence of frequently asked questions (Deng & Karunasena 2018; Verkijika & De Wet 2018). According to Mergel (2012), Shea and Garson also noted the need for a 'one-stop shopping or transaction-oriented websites'.

Efficiency of public organisations could be realised through public organisational efficiency, openness and responsiveness (Twizeyimana & Andersson 2019). For example, Karunasena, Deng and Singh (2011) found improving the access of ICT infrastructure that focuses on enhancing public operations to be a key element for generating public value. These views are consistent with perceptions by Froehlich et al. (2020) to remove various obstacles that promote the digital divide such as lack of access to hardware, poor internet speed, affordability and age. It was also noticed that equipping public organisation employees with ICT skills and re-engineering public organisation business processes around principles of citizen-centric add to public value. For instance, the lack of ICT skills was found impeding the adoption and use of e-government in municipalities (Mayedwa & Van Belle 2021). The Namibian government should therefore look into critical factors that focus on improving efficiency and effectiveness in its service delivery while using e-government. For instance, the government can align its e-government programmes with grassroots level social activities such as the traditional approaches to governance participation such as the regularly held indaba, 'a council or conference for deliberations' (Nkomo & Moyane 2021; Ochara 2012). Furthermore, the government can improve its responsiveness to citizens by using e-government – something that will result in value creation. Thus, the government can make use of ICTs such as mobile phones to reach out to citizens based in different locations such as giving feedback for applied services.

Lastly, e-government could be used to enable the creation of public value through ASO. These socially desirable outcomes may differ from country to country. For instance, the Namibian government can use e-government to advance socially desirable goals such as those in training, promoting equality, education and research, and other major government reform programmes such as the Harambee Prosperity Plan. In addition, citizens can derive benefit from using e-government by benefiting from reduced travelling costs, service accessibility 24 hours seven days a week, etc.

Research methodology

The literature suggests that quantitative (positivist) and qualitative (interpretivist) are the oldest research philosophies and paradigms (Leech & Onwuegbuzie 2009; Venkatesh, Brown & Bala 2013). These two research paradigms' histories are mainly characterised by opposing views on what constitutes the truth and how the truth could be understood (Venkatesh et al. 2013). This study used a mixed-method research, a methodology that allows for these two philosophies to be used in the same study. The literature presents guidelines in favour of using qualitative and quantitative research methods together (Leech & Onwuegbuzie 2009; Venkatesh et al. 2013) with pragmatism seen as a more subtle research philosophy. There is a lack of a holistic model of citizen-centric e-government that addresses features that characterise e-government and adoption factors. As a result, a mixed-method research was used as it provides 'a holistic understanding of' the phenomenon under study (Venkatesh et al. 2013:23), as well as to ensure completeness as suggested by Venkatesh et al. (2013). A need to attain completeness pointed to a need for 'qualitative data and results' that can provide 'rich explanations of the findings from the quantitative data' (Venkatesh et al. 2013:26). A concurrent design in the implementation of mixed methods was used whereby 'qualitative and quantitative data are collected and analysed during a similar timeframe' (Fetters, Curry & Creswell 2013; Leech & Onwuegbuzie 2009; Venkatesh et al. 2013). This study's use of the concurrent design assumes Leech and Onwuegbuzie's (2009) view of a 'fully mixed concurrent dominant status design: F2'. Thus, while findings from quantitative data are given more weight, findings from qualitative data were used to explain and justify findings from quantitative data. By so doing, this study attempts to offset limitations of either quantitative or qualitative research. The design of the questionnaire and interview questions was guided by the public value attributes discussed in the previous section, namely DPS, EPO and ASO. In addition,

this questionnaire and interview questions were adapted from Karunasena, Deng and Singh (2011). A copy of the questionnaire and schedule of interview questions are attached in Box 1-A (Appendix) and Online Appendix 1 (entitled: *The Questionnaire: Survey on Perceived Citizen Centric of e-Government Initiatives*).

Data were gathered from Namibia's seven regions. These included poor and often rural-dominated regions in the north and urban-dominated regions in the central and western parts of Namibia (Namibia Statistics Agency 2012). Interviews and a questionnaire survey were used for data collection. Employees at selected Namibian government agencies were engaged. Further data were gathered from citizens who were waiting for services at selected government departments. Once the data were gathered, the study proceeded to data analysis. This study followed a recommendation by Venkatesh et al. (2013) of separately analysing qualitative and quantitative data in mixed methods, following standardised approaches within the methodologies. However, the data were later analysed collectively. Qualitative data analysis started with the transcribing of tape-recorded interviews followed by open coding. Strauss and Corbin define open coding as 'the process of breaking down, examining, comparing, conceptualising and categorising data' Smolander (2017:14). This was carried out to identify key themes and categories emerging from interview questions. Descriptive statistics were used for analysing quantitative data. These include the mean, median and standard deviation. The distribution of respondents was used to arrive at a decision.

Ethical considerations

This study's methodology was submitted for ethics clearance at the Namibia University of Science and Technology. Following a review of the study's methodology, a written ethical clearance certificate was issued by the Namibia University of Science and Technology, reference number: 04/17. To comply with the university ethical requirements, participants and respondents were required to complete and sign an informed consent form. The identity of participants is strictly confidential and all that data gathered were used for research purposes.

Results

This study aimed to engage 250 respondents in the questionnaire survey. Of the 250 questionnaires that were sent out, only 188 completed the questionnaire survey giving a response rate of 75%. Furthermore, eight participants were engaged through interviews. The next section reports on demographics focusing on gender and the level of education of respondents. This is followed by a presentation of findings on ICTs owned by respondents and features of a citizen-centric e-government.

Gender distribution and level of education

Most of the respondents were females (59%) when compared with males (41%). This result could be explained by the fact

that Namibia has more females than males in its overall population. Most of the respondents (55%) indicated that they had a degree and/or diploma. This was followed by those with a postgraduate degree (28%) and those with a high school qualification (15%). None of the respondents indicated that they had no educational qualifications. These results reflect a high literacy among respondents; hence, it can be argued that the respondents were capable of understanding and interpreting questions from the questionnaire.

E-government use and information and communication technologies owned by respondents

Respondents were asked to indicate if they use any e-government services in Namibia. About 66% of the respondents indicated that they have never used e-government. Only 34% of all respondents indicated that they use e-government. Furthermore, respondents were asked to indicate the ICTs they own. Most respondents indicated that they own a mobile phone (feature phone), smartphone, tablet and laptop. Feature phones mainly have voice and text message facilities for communication and are usually sold below USD$40. Most respondents own a smartphone (43%) followed by those who own a feature phone (33%). The remaining 24% own a laptop or tablet.

Features of a citizen-centric e-government

This section presents findings on features expected by respondents on the e-government platforms. Citizen-centric e-government features that were evaluated include features for DPS, EPO and ASO. Figure 1 shows that most respondents agreed that e-government platform features that enable the realisation of DPS, EPO and ASO are important, with ASO seen as the most important feature of an e-government platform. The next sections present detailed information on respondents and interviewees' feedback regarding these features.

Delivery of public service

Features for delivering public services that were evaluated are the quality of information, e-services and user-oriented e-government. With reference to the 'quality of information', citizens are interested in accurate information that is relevant, up-to-date and understandable. More than 70% of
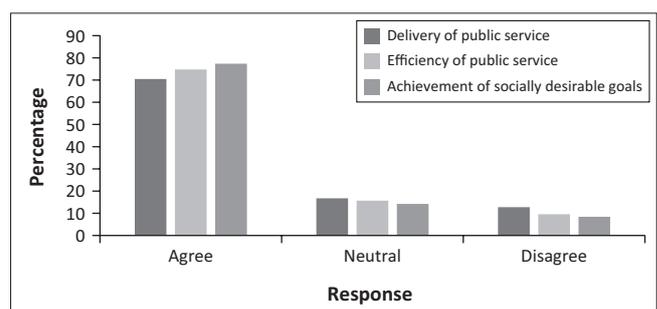

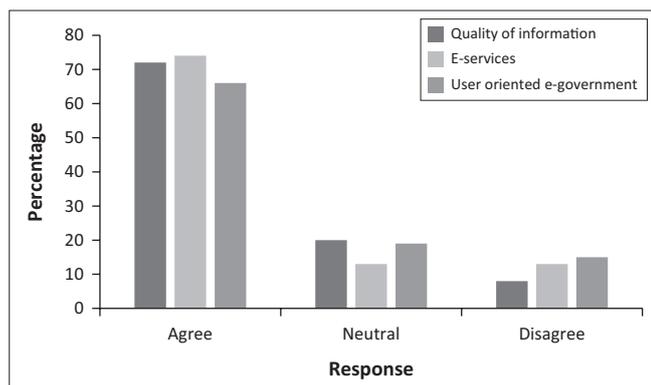**FIGURE 1:** Features of citizen-centric e-government.

FIGURE 2: The importance of public service delivery by e-government.

respondents shared this view as shown in Figure 2. This was supported by participants who stated that:

> 'I think value to the society would be determined by the type of information, channels and dissemination of e-government information to a certain society.' (Participant 4, Age 30, Female)

Similarly, at least 70% of the respondents expect 'e-services' on a citizen-centric government. Citizens expect to be able to download forms, make online payments, online applications, track applications online and have interactive information. These views were shared by participants. For example, an interviewee stated that:

> 'I expect to have a fully operational online services from application to payments without me having to apply online only without making any payment online such as those processes involved in the company registration at the Ministry of Industrialisation, Trade and SME Development, and that is not fully online services expected by the citizen at all.' (Participant 1, Age 28, Male)

These views were shared by another participant:

> 'I expect e-government to provide e-services such as fully online business registration, online permit, e-health services …' (Participant 5, Age 39, Male)

Lastly, respondents also supported the need for a 'user-oriented (ease of use)' e-government. Important features that promote ease of use include user friendly websites with a simple web address and/or one-stop shop. Little empirical evidence on this was raised from interviews except an interviewee who stated that 'at the moment e-government in Namibia is at a very slow pace and the value through the government services to the public is still at an infant stage'.

Efficiency of public organisation

This feature was evaluated by data that were gathered on efficiency, openness and responsiveness. To improve e-government 'efficacy', respondents suggested that government services need to be redesigned and be information technology (IT) enabled. Participants also observed that the government should secure funding to hire employees with the necessary skills or provide training so that the employees acquire the needed skills. During the interviews, one of the participants stated that:
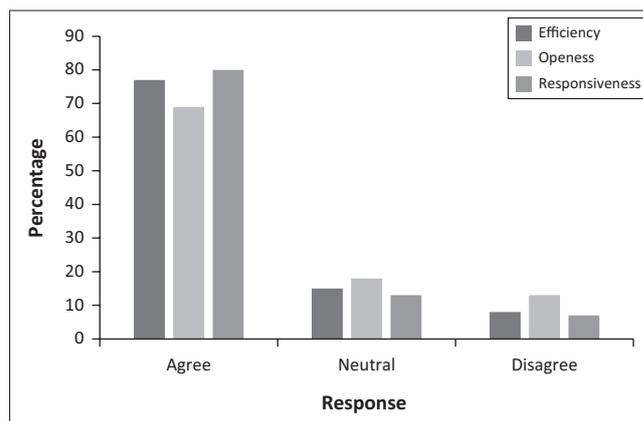

FIGURE 3: The need for efficiency in public organisation through e-government.

> 'We need proper funding … We need enough funds to be able to develop systems, and secondly it is about employment, we need to recruit the right people for the right job that is skilled one. Because the issue of funds goes hand and hand with the skills development, you may find for the last two years people don't go for training or seminars, keep them updated with technology.'

Participants also found the ability to share information across government departments to be important. However, respondents are of the view that there is need for a supporting ICT infrastructure and equipping government employees with the necessary skills if they are to be efficient in what they do. More than 75% of the respondents thought that efficacy is important for e-government as shown in Figure 3. The need for efficacy was shared by interviewees, for example:

> 'I expect customer services to be fast, flexible, and always available. Also, I expect to save time and money by having online services available to me on a 24/7 [24 *hours, seven days a week*] basis in the comfort of my own house or office.' (Participant 2, Age 35, Female)

Similarly, another interviewee stated that:

> 'Because it can improve service delivery of such organization since every process has to be automated, there would be less paperwork, reduced manual processes, save costs and time and then increase productivity.' (Participant 3, Age 65, Male)

With reference to 'openness', nearly 70% – as shown in Figure 3 – of the respondents expect to have access to the legislation, government expenditure, progress on government projects, raise complains, publish tenders and display staff contract details on e-government platforms. This view was shared by interviewees. For example, one participant stated that:

> 'My perspective would be to see the government of the Republic of Namibia adopting the open government data initiative and also promoting e-participation to ensure that the Harambee voice is heard by the entire country.' (Participant 6, Age 45, Female)

Lastly, 'responsiveness' has an average high rating compared with efficacy and openness. About 80% of the respondents expect to make online enquiries, receive follow-up emails

from government officials, are able to track services online, etc. Thus, there appears to be a popular opinion on the need for an interactive e-government platform. Interestingly, no empirical evidence was raised on this from interviewees.

Achievement of socially desirable outcomes

Respondents were asked to evaluate the importance of achieving the socially desirable outcomes on e-government. Promoting equity, self-development of citizens, trust of e-government, participation in democratic decisions and promoting environmental sustainability through e-government are the factors that were considered under this section. Figure 4 summarises the expectations of respondents on socially desirable outcomes. When it comes to 'promoting equity', approximately 75% of the respondents expect e-government platforms to be in local languages, cater for those with special needs and have content for ethnic minorities. One of the participants reinforced the need for using local languages on e-government platforms by stating that:

'But then umm if you can see this um, umm, [*there are*] different tribes here … So, if maybe that process was in their languages as well. So if it was in the various ethnic languages then, I think it would help a lot.'
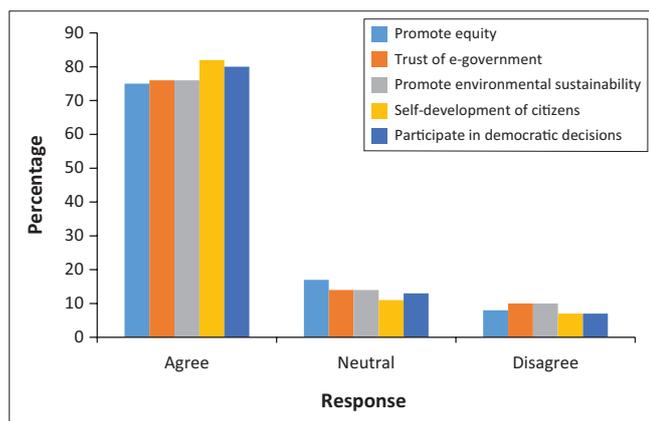

FIGURE 4: Socially desirable outcomes expected on citizen-centric e-government.

Furthermore, respondents expect to earn public value from e-government through 'self-development'. More than 75% of the respondents indicated that they expect e-government to accompany self-development capabilities that relate to access to ICTs, ICT training, access to educational material and promoting social and networking skills. In addition, 'trusting e-government' was found to be important. More than 75% of the respondents found issues to do with privacy and security, trustworthiness, protection of information, credible information and regulatory frameworks for security among important factors in e-government. Another important factor on meeting socially desirable outcomes is promoting the 'participation in democratic decisions' (e-participation). Approximately 80% of the respondents indicated that it was important for them to be informed on and participate in government policy formulation, take part in online discussions on government-related matters and post topics for discussion. Lastly, more than 80% of the participants support an e-government that 'promotes environmental sustainability'. Such an e-government limits duplication, promotes recycling of consumables, helps save energy, reduces the use of paper and promotes green IT. Participants engaged through interviews confirmed that e-government can be used to facilitate environmental sustainability initiatives. For example, one of the participants stated that:

'In terms of value towards environmental sustainability, is achievable if and only if the government can make use of e-government initiative to promote, inform and engage the society in the programs or projects that have an influence in their environment and ways of how to sustain it.'

Discussion

This study used the public value perspective to investigate features of a citizen-centric e-government for Namibia. A framework for evaluating public value in e-government that was proposed by Karunasena, Deng and Singh (2011) was used to understand respondent's expectations of a
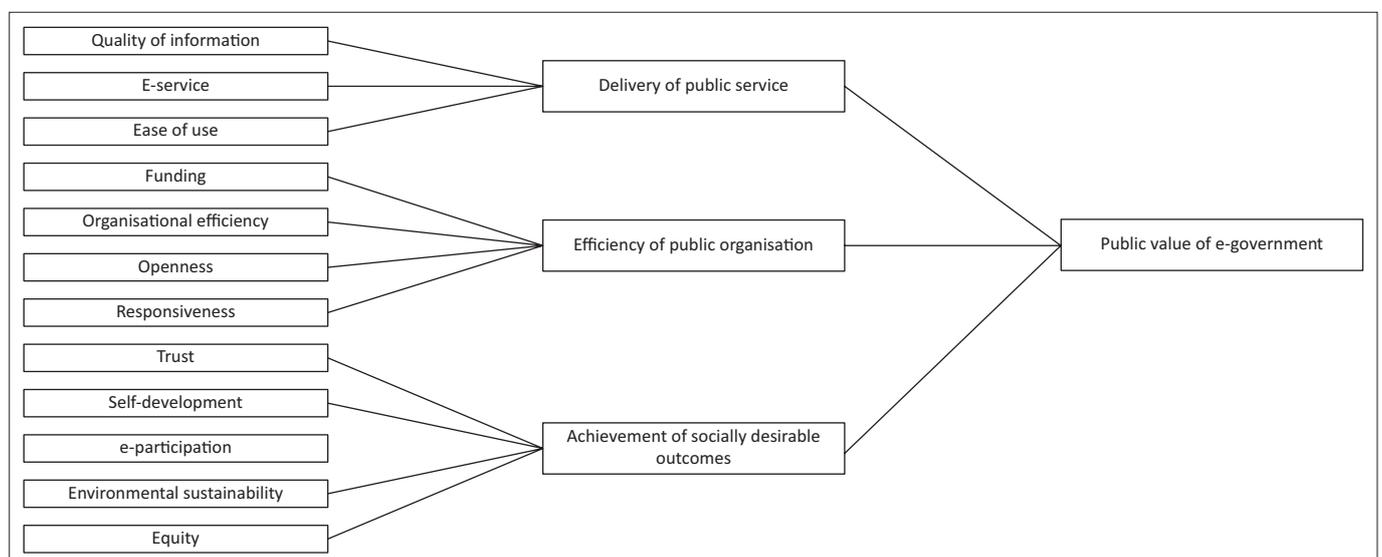

FIGURE 5: A model of citizen-centric e-government in Namibia.

citizen-centric e-government. This framework has received a fair use in other developing countries that include India and Sri Lanka (Gupta & Suri 2017; Sufna & Fernando 2015). Nonetheless, this study confirmed a low rate of e-government by respondents, as 66% indicated that they have never used these platforms. Africa remains as a low adopter of e-government (Froehlich et al. 2020; United Nations 2016). For example, Namibia was ranked 0.4554 according to the e-Government Development Index (EGDI) (United Nations 2018). This implies that Namibia fell under the second last category (middle EGDI), out of four different categories, where the EGDI ranges from 0.25 to 0.50. However, it must be highlighted that the 2018 EGDI ranking for Namibia marks a significant increase from 0.3880 that was recorded in 2014. As argued in the previous sections, a citizen-centric e-government platform may promote use.

Participants and respondents were asked for their opinion on what should constitute a citizen-centric e-government. Focus was on an e-government that delivers public service, promotes the EPOs and assists in the achievement of socially desirable outcomes. With respect to delivering public service, respondents in this study suggest that public value could be generated if e-government platforms offer quality information, e-services and are user-oriented. Sorn-in et al. (2015) noticed that governments should work on improving the provision of information online. This is important because internet users believe that e-government is 'the best source for government information' (Jaeger & Bertot 2010:2). These findings suggest that the e-government of Namibia that mainly consist of static information (69%) provision with few (32%) government websites offering a two-way communication (United Nations 2014) has room for improvements if the platforms are to generate value for respondents. With reference to e-services, respondents and participants confirmed suggestions in the literature but went further to stress the need of a 'fully operational online services from application to payments'. Thus, participants in this study expect that processing of any service online should be performed in its entirety without having to supplement segments of the service delivery process with offline activities. In support of this, Tsohou et al. (2013:242) observed that e-services delivery could progress across the stages, namely 'information provision, one-way interaction, two-way interaction, full electronic transaction or personalisation' allowing citizens perform a complete transaction with government department(s) electronically. Lastly, study findings on the delivery of public service support the literature that states that an e-government website considered to be of a high quality is easy to use, thereby resulting in a quick delivery of services, improved interactions and greater convenience for the user (Kaisara & Pather 2011).

In terms of promoting the EPOs, factors namely efficiency, openness and responsiveness were evaluated. Participants and respondents in this study are of the view that equipping staff with ICT skills, improving ICT infrastructure, IT-enabled public service and sharing public information among government agencies are key issues for promoting efficiency. For instance, the skills required for e-government are not simply technical, but also include basic understanding (IT literacy) of what is needed. The World Economic Forum indicates that IT skills are critical for knowledge-based and information-rich societies (Bilbao-Osorio, Dutta & Lanvin 2014). These views were shared by participants in this study who observed the need for funding for government to recruit the right personnel or train its personnel. Another important finding that marks a diversion from the literature is the participant's perception of the goal of efficacy. They expect the use of e-government to save time and money. The literature suggests that government service delivery has been slow as shown by the presence of long queues at government offices while the available online options are expensive (Froehlich et al. 2020). Furthermore, the Namibia Statistics Agency (2016) reported that 85% of the rural households have limited to no access to the main electricity grid. Besides, African governments often lack the necessary ICT skills to efficiently adopt and use e-government (Mayedwa & Van Belle 2021). Internet access is biased towards urban areas (Lee et al. 2008). According to Froehlich et al. (2020), different forms of digital divide have paralysed e-government implementation in Africa. These relate to poor ICT infrastructure, affordability, a lack of ICT skills, low internet speed, content and mobile access. These findings in the literature support the perception of respondents on the need to improve the ICT infrastructure. Furthermore, Estonia's X-Road provides a good example of how different departments can make use of an interconnected infrastructure and share information. With such structures, Estonia managed to record high success in its e-government without having to invest in any supporting legal frameworks to motivate the use of electronic identification or interoperable platforms (Kattel & Mergel 2019). In Africa in particular, the hopes that a high mobile phone adoption (Nkomo & Moyane 2021) could provide a viable option for e-government are being thwarted by a revelation that only 45% of these mobile devices can support 3G connectivity, the minimum required standard for supporting e-government (Froehlich et al. 2020).

Lastly, respondents are of the view that an e-government implementation should assist in the achievement of socially desirable outcomes. These relate to promoting equity, self-development of citizens, trust of e-government, participation in democratic decisions and promoting environmental sustainability through e-government. In terms of equity, one of the participants stressed the need for local languages on e-government platforms. Even though English is Namibia's official language, the country has more than 11 officially recognised languages for different ethnic groups. The importance of using local languages on e-government platforms is well pronounced in the literature (Gupta & Suri 2017; Sufna & Fernando 2015). Furthermore, even though Namibia is regarded as an upper-middle-income society (Republic of Namibia 2017), 60% of the population is based in rural areas. Those who are based in rural areas are twice as much likely to be poor (Namibia Statistics Agency 2012). In addition, African governments face various sociopolitical

challenges, some of which were inherited from the colonial era (Mayedwa & Van Belle 2021). Hence, the need to promote socially desirable outcomes within Namibian societies through e-government can play a key role towards adoption and usage.

These study findings suggest areas of improvements for African governments if their e-government is to be citizen-centric. Focus should be on measures for promoting the delivery of public service, efficiency of public service and the achievement of socially desirable outcomes. Within these factors, important elements to focus on were presented. Figure 5 shows a model that summarises the characteristics of a citizen-centric e-government for Namibia.

Conclusion and recommendation

As in other developing countries, implementation of e-government services in Namibia has been ongoing but at a slow pace. Improving service delivery through engaging ICTs has been an area of interest to the Namibian government since the year of attaining independence. While there has been a general improvement in policy frameworks for e-government, implementation remains stagnant. Service delivery of the Namibian e-government remains on the lower levels of most maturity models. E-government platforms remain highly informational with little or no transaction that could be facilitated. Further complicating e-government implementation is a wide gap in access to ICT resources between the rural and urban settings. Rural areas have poor ICT supporting infrastructure, mobile phones are the main ICT that is used to access the internet and internet access costs remain high. As such, this study took a citizen-centric approach to try and bridge the gap between the citizens and practitioners of e-government. This approach, taken from a public value point of view, managed to identify features of a citizen-centric e-government. While the core elements of the citizen-centric e-government resonate with those in the literature (Gupta & Suri 2017; Karunasena, Deng & Singh 2012; Sufna & Fernando 2015), there are instances where participants in this study suggest unique perspectives. For example, participants expect a fully online e-service instead of one that has segments with offline activities. Efficacy should lead to saving time and costs in addition to those capabilities prescribed in the literature. Lastly, there is a desire for openness that paves the way for open data government. Hence, it can be concluded that there is a need for paying attention to unique contextual characteristics when applying the citizen-centric e-government model. Furthermore, there is a need for an e-government solution that is compatible with the technologies used by the population such as smart mobile phones, feature phones and computers. There is a wide use of mobile phones – something that is supported by the literature (United Nations 2018). More efforts need to be put in place in opening the ICT sector to the private sector to promote the deployment of ICT supporting infrastructure (Stork, Calandro & Gillwald 2013; United Nations 2018). Governments need to consider findings in this study during the designing and implementation of e-government solutions if adoption and use of these platforms

is to be realised. Middle-income countries such as Namibia are strongly urged to formulate e-government policies, frameworks and strategies and partner with countries that have successfully harnessed e-government use for effective adoption to be realised (Dias 2020). Hence, this study's findings are crucial for informing policy formulation.

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Data availability
The authors confirm that the data supporting the findings of this study are available from the corresponding author, K.A.F., upon reasonable request.

Disclaimer
The views and opinions in this article are those of the authors and only meant for a purpose of adding contribution to the body of knowledge.

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Appendix

BOX 1-A: A schedule of interview questions.

1. **Perceptions on delivering quality service through e-government**
   a. Do you think delivery of quality public service through e-government is valuable to you?
   b. What do you expect from the delivery of public services through e-government?
   c. How does public service delivery through e-government in Namibia create value to you/what initiatives have been put in place?
   d. What expectations do you have about the value of quality information, e-service, channels and usability features of public service delivery channels?
   e. How do you think government should improve the delivery of public service through e-government for creating better value for you?
2. **Perceptions about the value of operating effective public organisations through e-government**
   a. Do you think operating effective public organisation through e-government is valuable to you?
   b. Why do you think operating effective public organisation through e-government is valuable?
   c. What do you expect from operating effective public organisation through e-government?
   d. How do you expect the operation of effective public organisation through e-government should create value to you?
   e. What is your perception on improving public sector efficiency, openness and responsiveness through e-government?
   f. How do you think the government should improve the value of operating effective public organisation through e-government for creating better value for you?
3. **Perception about the value of achieving socially desirable outcomes through e-government**
   a. What type of socially desirable outcomes do you expect from e-government?
   b. What type of socially desirable outcomes do you expect from e-government for your society?
   c. How ensuring equity through e-government is valuable to you and your society? Motivate your answer.
   d. How ensuring self-development of citizens through e-government is important in your society? Motivate your answer.
   e. How is building trust through e-government valuable to you and your society?
   f. How ensuring participation democracy through e-government is vital to you and your society? Motivate your answer.
   g. How is ensuring environmental sustainability through e-government valuable to you and your society?
   h. What e-government initiatives have been put in place in Namibia for ensuring equity, trust, participatory democracy, self-development and environmental sustainability?
   i. How do you think the government should improve the creation of socially desirable outcomes through e-government?